



AFAQ SUN SERIES

Lesson Plans Mathematics

6

Total: SLO = 43

Total: LPs = 210



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 1**

Unit Name: N/A **Topic:** Introduction **Date:**

Objective(s):

At the end of this period, the students will be able to:

Introduce themselves, get familiar with their fellows and learn about the rules of the classroom.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet, Wallchart of classroom rules, name tags, markers, blank sheets, Classroom Rules poster or handout

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Start with 'Bismillah' and tell them to recite it before starting any work.

Begin by introducing yourself to the class and telling them a little bit about yourself.

Explain that today's lesson is all about getting to know each other and learning the rules of the classroom.

Main Activities/Concept Building: (25 min)

Activity 1:

Hand out name tags and markers to each student.

Instruct students to write their name on the name tag and decorate it however they like.

Once everyone has finished, have students put on their name tags.

Activity 2:

Hand out a sheet of paper and a pencil to each student. Instruct students to write down five things about themselves that they think are unique or interesting. Once everyone has finished, have students stand up and walk around the room. The goal is for students to find someone who has something in common with them or who has done something they find interesting.

Activity 3:

Bring the class back together. Ask students what they think are some important rules for the classroom.

Write down their suggestions on the whiteboard. Display the "Classroom Rules" poster or handout. Discuss each rule with the class, providing examples of why the rule is important and what could happen if the rule is not followed. Ask the students to brainstorm consequences for breaking each rule.

Sum Up: (3 min)

Sum up the lesson by reminding students that it's important to get to know each other, make new friends and follow the rules of the classroom. Encourage students to continue getting to know their classmates and following the classroom rules throughout the school year.

Assessment: (5 min)

Ask each student to name one or two of their classmates and share what they learned about them.

Observe how comfortable they are interacting with others and how well they remember their classmates' information..

Homework: (2 min)

Write a short paragraph introducing yourself.

Recall the classroom rules that were discussed during the lesson and come up with one additional rule that you think would be important to have in the classroom

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Classroom Rules

Be respectful: Treat others with kindness and respect at all times.

Listen carefully: Pay attention when the teacher or a classmate is speaking.

Raise your hand: Raise your hand and wait to be called on before speaking.

Stay on task: Stay focused and work on the task at hand.

Be prepared: Come to class with all the materials you need and be ready to learn.

Follow directions: Listen to and follow the teacher's instructions.

Work quietly: Keep noise levels low so that everyone can concentrate.

Keep the classroom tidy: Clean up after yourself and help keep the classroom neat and organized.

Be honest: Always tell the truth and take responsibility for your actions.

Be a good fellow: Work well with others and be willing to help your classmates.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 2**

Unit Name: Factors and Multiples **Topic:** factors **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify and find factors of up to 2-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 1, 2, 3, 5

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

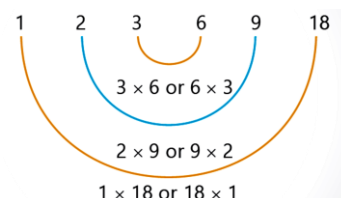
Ask the students: How are you? Encourage them to say, "Alhamdulillah". Start with 'Bismillah' and tell them to recite it before starting any work.

Have students open textbook at page 1. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those question. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: *The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.*)

Main Activities/Concept Building: (25 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Have students open textbook at page 2. Explain the example given on the page. If easy, demonstrate the example using pencils and pencil holders. Explain that 18 pencils can be arranged in different ways. As 18 can be divided by 1, 2, 3, 6, 9 and 18 completely without any remainder, so 1, 2, 3, 6, 9 and 18 are the **factors** of 18. The factor pairs of 18 are: (1, 18), (2, 9) and (3, 6). Tell them that factor pairs are two numbers that are multiplied together to get a given number. Write the definition of a factor on the whiteboard: "A factor is a number that divides another number exactly." Next, step by step explain Example 1 given on page 3.



Activity 1:

Write a few 2-digit numbers on the whiteboard. Instruct students to open notebooks and find the factors of each number using the method demonstrated. Walk around the classroom and discuss any difficulties students may have.

Sum Up: (3 min)

Sum up the lesson by re-telling students how to identify and find the factors of 2-digit numbers and explain "Note to remember" given at page 2 and 3.

Assessment: (5 min)

To assess students ask them to come up with their own 2-digit number and find its factors.

Homework: (2 min)

Solve Q2 (a, b, g, h) of "Learning check1.1" at page 5 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 3**

Unit Name: Factors and Multiples **Topic:** factors **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify and find factors of up to 3-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 3-6, Flash cards of 3-digit numbers

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

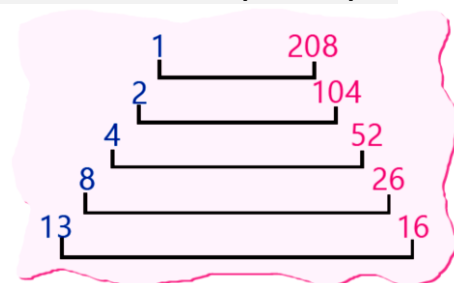
Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin by reviewing the definition of factors. Ask students if anyone knows what factors are, and have them share their definitions. Write number 42 on the board and ask the students to write down its factors.

Main Activities/Concept Building: (25 min)

Ask the students to open textbook page 3 and observe worked example 2. Write the number 208 on the board. Tell them that we can find factors of a given number by dividing it by different numbers and checking if they leave a remainder or not. Tell them to continue this process until the factors start repeating. Solve the example step by step by according to the worked solution provided. After this write factor pairs of 208. Similarly explain and solve Worked example 3 given on textbook page 3.



Activity 1:

Instruct students to open their textbook page 3 and solve "pause and try". Then ask them to solve Q8 of "Learning check 1.1" at page 6 of their textbook. Walk around the class and guide them if necessary.

Sum Up: (3 min)

Sum up the lesson by re-telling students how to find the factors of 3-digit numbers and explain the points given in "Note to remember" given at page 3 i.e.

1 is the factor of every number.

Every number is a factor of itself.

Every number is a factor of zero.

Every number has at least two factors; 1 and itself.

Assessment: (5 min)

To assess students ask them to open textbook page 5 and solve Q1 and Q3 of "Learning check1.1" in their notebook.

Homework: (2 min)

Solve Q2(c, d, e, f, i, j) and Q9 of "Learning check1.1" at page 5 and 6 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 4**

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Unit Name: Factors and Multiples

Topic: Multiples

Date:

Objective(s):

At the end of this period, the students will be able to:

Identify and find multiples of up to 1-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 4-5

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students: Who can loudly read 6 times table? Take responses. .

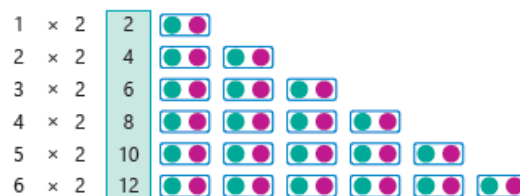
Review the concept of multiplication and multiplication tables. Tell them that we will use the times tables to learn about the concept of "multiples".

Main Activities/Concept Building:

(25 min)

Introduce the concept of multiples. Explain the definition of multiples as the products of a given number and any whole number. Show examples of multiples, such as the multiples of 3: 3, 6, 9, 12, 15, 18, and so on. Ask the students to open textbook page 4 and look at the worked example 1. Use a pictures of plants or model it to illustrate the scenario described in the example. Ask students to imagine they are looking at the garden with 6 rows of plants, with 2 plants in each row. Ask students to make predictions about how many plants are in the garden and how they arrived at their answers. Now explain the example step by step. As 2

$2 \times 6 = 12$, so there are 12 plants altogether. Tell them that the answers of the multiplication table of 2 are the multiples of 2. So, 2, 4, 6, 8, 10 and 12 are the first six multiples of 2.



Activity:

Divide the class into pairs and distribute paper and pencils to each pair. Instruct the pairs to choose a 1-digit number (i.e., 2, 3, 4, 5,...,9) to use as the base number for finding multiples. Set a timer for 5 minutes and instruct the pairs to work together to write down as many multiples of their chosen 1-digit number as they can within the time limit. Encourage the students to use different strategies to find the multiples (e.g. skip counting, multiplication, etc.). After 5 minutes, instruct the pairs to stop and count how many multiples they found. The pair that found the most multiples wins the game.

Sum Up:

(3 min)

Sum up the lesson by re-telling students what multiples are and how to find the multiples of 1-digit numbers. Explain the fact given in "Note to Remember" given on page 4.

Assessment:

(5 min)

To assess students ask them to solve Q6 of "learning check 1.1" given at page 5 of their textbook.

Homework:

(2 min)

Solve Q7 (a) of "Learning check 1.1" at page 5 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 5**

Unit Name: Factors and Multiples **Topic:** Multiple **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify and find multiples of up to 2-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 4-5

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Write a few 1-digit numbers on the board. Ask the students to quickly write first 10 multiples of each. After they are done, ask them to tell the strategy they used to find the multiples. Appreciate them for their responses by simply saying "Great job!" or "Well done!".

Main Activities/Concept Building: (27 min)

Tell students today we will learn how to identify and find the multiples of 2-digit numbers. Provide an example of a number (e.g., 12) and ask the students to identify its multiples up to 120. Write the multiples on the board as the students call them out. Repeat the exercise with a few other numbers (e.g., 15, 29, 36 etc.). Encourage students to look for patterns in the multiples. Tell them that the method to find multiples of 2-digit numbers is same as for 1-digit numbers. Ask the students to open textbook page 4 and look at the worked example 2. Solve it on board and explain the steps. Tell the students to start with the number 22 and multiply it by whole numbers 1, 2, 3, and so on till 10.

$$22 \times 1 = 22$$

$$22 \times 6 = 132$$

$$22 \times 2 = 44$$

$$22 \times 7 = 154$$

$$22 \times 3 = 66$$

$$22 \times 8 = 176$$

$$22 \times 4 = 88$$

$$22 \times 9 = 198$$

Tell that each of these $22 \times 5 = 110$

. Also tell $22 \times 10 = 220$

number is a multiple of

22, you can use division. Divide the number by 22, and if the result is a whole number, then the number is a multiple of 22. For example, to check if 154 is a multiple of 22, divide 154 by 22:

$154 \div 22 = 7$. Since the result is a whole number (7), 154 is a multiple of 22.

Activity :

Instruct students to open their textbook page 5 and solve Q4 and 5 in their notebooks. Walk around the room to help if required.

Sum Up: (3 min)

Sum up the lesson by re-telling students what multiples are and how to find the multiples of 2-digit numbers.

Assessment: (5 min)

To assess students ask them to solve "Pause and try" given at page 5 of their textbook.

Homework: (2 min)

Solve Q7 (c, c, d, e, f) of "Learning check 1.1" at page 5 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 6**

Unit Name: Factors and Multiples **Topic:** Prime Factorization **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to find prime factors of up to 4-digit numbers and express in index notation by identifying base and exponent.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 8-9, paper slips of 2-digit numbers

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking "Can anyone tell me what a prime number is?" (Pause for responses.) Tell them that a prime number is a number that can only be divided by 1 and itself. Ask the students if they know what prime factorization is. Define prime factorization as the process of finding the prime factors of a number. Explain that today, we will learn how to identify and find the prime factors of up to 4-digit numbers.

Main Activities/Concept Building:

(25 min)

Write a 2-digit number on the board and ask students to identify all its factors. Ask the students if they can tell which factors are prime? Take responses. Tell them that all the factors which cannot be further divisible by any number (except 1) are called prime factors. Guide them about finding the prime factors.

Demonstrate the process by asking them to open textbook page 7. Explain the worked example 2 given on it. Tell them that in factor **tree method**, we break down a number into its prime factors by creating a "tree" of its factors. Tell them to start by writing the number 48 at the top. Ask them to think of any two factors of 48.

Take responses. Then tell that one pair of factors is 6 and 8, so write those below 48 and draw branches connecting them. Again, ask them to look at the factors written so far. Can either of them be factored further? Take response and tell them that 6 can be factored into 2 and 3, so write those below 6 and draw branches connecting them. Similarly, 8 can be factored into 2 and 4, so write those below 8 and draw branches connecting them. Ask them to look at the numbers you have written so far. Can any of them be factored further? Take responses. Then tell that 4 can still be factored into 2 and 2, so write those below 4 and draw branches connecting them. Now all the numbers are prime, so you're done. Write the prime factors of 48 by multiplying the numbers at the bottom of each branch: $2 \times 2 \times 2 \times 2 \times 3 = 48$.

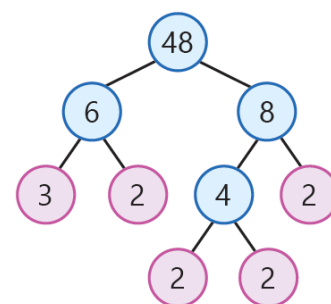
Now explain the **division method** step by step to them as following:

Choose the smallest prime number, which is 2, and divide 48 by 2. We get 24. Write down 2 as a factor of 48 and 24 as the quotient. So, $48 = 2 \times 24$. Now, we need to find the prime factors of 24. Divide 24 by 2. We get 12. Write down 2 as a factor of 24 and 12 as the quotient. So, $48 = 2 \times 2 \times 12$. Divide 12 by 2. We get 6. Write down 2 as another factor of 24 and 6 as the quotient. So, $48 = 2 \times 2 \times 2 \times 6$. Now, we need to find the prime factors of 6. Divide 6 by 2. We get 3. Write down 2 as another factor of 48 and 3 as the quotient. So, $48 = 2 \times 2 \times 2 \times 3$. The quotient obtained from the division is 3, which is a prime number. Write down 3 as another factor of 48. So, $48 = 2 \times 2 \times 2 \times 3$. Therefore, the prime factorization of 48 is $2 \times 2 \times 2 \times 3$. Explain students about index notation. Tell them that in $2 \times 2 \times 2 \times 3$, 2 is multiplied 3 times, so we write 2 raised to the power of 3. We can write it as:

$$48 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$$

$2^3 \times 3$ is called the index notation for $2 \times 2 \times 2 \times 3$.

The index form of 2^3 represents how many 2s are being multiplied together. In 2^3 , 2 is called the base and 3 is called the exponent. Here, 48 is the standard form, $2 \times 2 \times 2 \times 3$ is the expanded form and $2^3 \times 3$ is the index form.



2	48
2	24
2	12
2	6
3	3
	1

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Sum Up: (3 min)

Sum up the lesson by re-telling students how to find the prime factors of numbers by explaining worked example 3 given on page 7. Also explain “Note to remember” given at page 6 of their textbook.

Assessment: (5 min)

To assess students ask them to solve “Pause and Try” given at page 7 of their textbook.

Homework: (2 min)

Solve Q1 and 2(a, b, c, d) of “Learning check 1.2” given at page 8 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 7**

Unit Name: Factors and Multiples **Topic:** Prime Factorization **Date:**

Objective(s):

At the end of this period , the students will be able to:

Find prime factors of up to 4-digit numbers and express in index notation by identifying base and exponent.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 6-7-8-9

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask the students: How are you? Encourage them to say, “Alhamdulillah”.

Begin the lesson by asking students about their homework. Then write a number say, 1452 on the board.

Ask students to write prime factorization of this number? Take their responses and ask a volunteer student to come and solve it on board. The rest of the students will check if he/she is doing it correctly.

Main Activities/Concept Building: (25 min)

Activity 1:

Ask students to open textbook page 6. Explain and solve worked example 1 step by step on board. Tell the students to divide the given number by the smallest prime number which is its factor. Again, divide the obtained quotient by the smallest prime number and repeat the process, until the quotient becomes 1. After factorizing, ask them how to write it in index notation? Take their responses. Then tell them that in $3408 = 2 \times 2 \times 2 \times 2 \times 3 \times 71$, 2 is multiplied 4 times, so we write 2 raised to the power of 4. We can write it as: $3408 = 2^4 \times 3 \times 71$

Ask them to identify base and exponent. Take responses and then tell them that in 2^4 , 2 is called the base and 4 is called the exponent.

Also tell them that 3408 is the standard form, $2 \times 2 \times 2 \times 2 \times 3 \times 71$ is the expanded form and $2^4 \times 3 \times 71$ is the index form.

Activity 2:

Instruct students to open their textbook page 8 and solve Q2(e and f) in their notebook. Walk around and guide them where required.

Sum Up: (3 min)

Sum up the lesson by re-telling students how to find the prime factors of numbers and write in index form. Explain “Note to remember” given at page 7 of their textbook.

Assessment: (5 min)

To assess students ask them to solve Q2(g) and Q4 of “Learning check 1.2” given at page 8/9 of their textbook.

Homework: (2 min)

Solve Q2(h) and Q3 of “Learning check 1.2” given at page 8 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 1**

Unit Name: Factors and Multiples **Topic:** Prime Factorization **Date:**

Objective(s):

At the end of this period, the students will be able to:

Express numbers given in expanded form in index notation and vice versa.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 8-9, paper slips of numbers in index form and expanded form

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by reviewing what index notation is and how it is used to write numbers in a compact form. Ask students to provide examples of numbers written in index notation and ask them to identify the base and exponent of each number.

Main Activities/Concept Building: (25 min)

Start by writing a few numbers in index notation on the board, and ask students to identify the base and exponent of each number. Then explain students the base and exponent by writing an example 4^5 where 4 is the base and 5 is the exponent.

Ask students if they know what exponents are and how they are used in math. Show examples of numbers written in index notation (e.g. 2^3 , 5^2) and ask students to read them aloud and explain what they mean.

Then tell them that to write a number (given in index form) to expanded form, look at the exponents of that number. The exponent show how many time the number is being multiplied together. For example, in 2^3 , we will look at the exponent, which is 3. This means 2 is being multiplied three times. So: $2^3 = 2 \times 2 \times 2$ Similarly, preset a few more examples to show how to write the number from index notation to expanded form. Write a few numbers in expanded form on the board, and explain how to write them in index form.

Tell them to count how many times a number is being multiplied together. Then write that count as exponent of the number. For example, write $3 \times 3 \times 3 \times 3$ on the board. Ask students to tell how many times 3 is being multiplied together? Take responses. Then tell them as the number 3 is being multiplies 4 times together, so we will write 4 as exponent of 3. So: $3 \times 3 \times 3 \times 3 = 3^4$

Similarly, preset a few more examples to show how to write the number from expanded form to index notation.

Activity 2:

To check the understanding of the students, make two groups of students. Give one group the numbers in expanded form and ask them to write in index notation and identify their bases and exponents. Give the other group the prime factors in index form and instruct them to write that in expanded form. Walk around and check their work and appreciate them for their correct working.

Sum Up: (3 min)

Sum up the lesson by re-telling students how to write the expanded form of prime factors in index notation and vice versa. Explain worked example 4 given on page 8.

Assessment: (5 min)

To assess students ask them to solve Q5 (a) Q6(a) of "Learning check 1.2" given at page 9 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q5 (b, c, d) and Q6(b, c, d) of “Learning check 1.2” given at page 9 of their textbook

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 2**

Unit Name: Factors and Multiples **Topic:** Highest common factor **Date:**

Objective(s):

At the end of this period, the students will be able to:

Find H.C.F of two or three numbers (up to 3-digits) using prime factorization method (including real life situations).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 9-10-11-12

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by recalling the concept of prime factorization. Write a few numbers on the board., Ask the students to find the prime factors of these numbers. Tell them that a prime number is a number that can only be divided by 1 and itself. Ask the students if they know what prime factorization is. Define prime factorization as the process of finding the prime factors of a number.

Main Activities/Concept Building: (25 min)

Ask students to open textbook page 9. Introduce the concept of HCF as the greatest factor that divides the given numbers exactly without any remainder. Demonstrate how to find the H.C.F (highest common factor) of two or three numbers using the prime factorization method. Read the statement of worked example 1 given on page 9. Explain that in this question, we need to find the longest length of meter tape that can measure wires of 3 different lengths. Tell them that here we will calculate HCF because when working with problems that involve finding a common factor of given values, we should use HCF. Explain the process to find the HCF by prime factorization method. Tell them that we need to find common prime factors of given numbers and the highest factor among them will be the HCF of the given numbers. So, the greatest length of the metre tape that can exactly measure three wires with lengths of 100 cm, 225 cm and 260 cm is 5 cm.

Once students have understood the concept, provide them with some real-life situations where finding H.C.F. could be useful. Explain the "note to remember" given on page 9 and 10.

Activity 1:

Instruct students to open their textbook page 11. Ask them to solve the Q1(a, b, c) of "Learning check 1.3" in their notebook. Walk around the class, check their work and guide where needed.

Sum Up: (5 min)

Sum up the lesson by re-telling students what is meant by HCF . Retell the method of prime factorization to find HCF by explaining and solving Worked example 2 given on page 10.

Assessment: (5 min)

To assess students ask them to solve "Pause and try" given at textbook page 9 and Q1 (d) of "Learning check 1.3" given at page 11 of their textbook.

Homework: (2 min)

Solve Q1 (e, f), Q3 and Q4 of "Learning check 1.3" given at page 11 and 12 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 3**

Unit Name: Factors and Multiples **Topic:** Highest common factor **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Find H.C.F of two or three numbers (up to 3-digits) using division method (Including real life situations).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 10-12

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking some questions related to finding HCF by prime factorization method. Write 2 or 3 numbers on the board and ask them to calculate its HCF using prime factorization method.

Main Activities/Concept Building: (25 min)

Activity 1:

Start by telling them that we will today learn about division method of finding the HCF of numbers. Ask students to open textbook page 10 Tell them that in division method of finding HCF, first divide the larger number by the smaller number. If the remainder is zero, then the smaller number is the HCF. If the remainder is not zero, divide the divisor by the remainder obtained. Repeat this until the remainder is 0. The last divisor will be the HCF of the given numbers. Demonstrate this method by solving the worked example 1 given on page 10.

.Activity 2:

Instruct students to open their textbook page 11. Ask them to solve the Q2(a, b, c) in their notebook. Walk around the class, check their work and guide where needed.

Sum Up: (5 min)

Sum up the lesson by re-telling how to find the HCF by division method by explaining and solving Worked example 2 given on page 11.

Assessment: (5 min)

To assess students ask them to solve "Pause and try" given at textbook page 11 and Q2 (d) of "Learning check 1.3" given at page 11 of their textbook.

Homework: (2 min)

Solve Q2 (e, f), Q5 and Q6 of "Learning check 1.3" given at page 11 and 12 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 4**

Unit Name: Factors and Multiples **Topic:** Least common Multiple **Date:**

Objective(s):

At the end of this period, the students will be able to:

Find LCM of two or three numbers (up to 3-digits) using prime factorization method (including real life situations).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 12-13-14-15

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by recalling the concept of multiples. Write a number on the board and ask them to find its first 10 multiples. Next write other numbers on the board., and ask the students to find the prime factors.

Main Activities/Concept Building: (25 min)

Ask students to open textbook page 12. Introduce the concept of LCM. Tell them that the smallest number that is a multiple of two or more given numbers is called the least common multiple (LCM) of those numbers. Demonstrate how to find the LCM of two or three numbers using the prime factorization method. Read the statement of worked example 1 given on page 12. Explain that in this question, we need to find the shortest length of chain that can be exactly cut into 60 cm and 350 cm pieces. Tell them that here we will calculate LCM because working with problems that involve finding a common multiple, we should use LCM. Explain the process to find the LCM by prime factorization method. Tell them that first we need to find common prime factors of 2 or more given numbers and the non-common prime factors. Then we will find the product of common and non-common prime factor. This product will be the LCM of the given numbers. After solving the given worked example step by step, provide them with some real-life situations where finding LCM could be useful.

Activity 2:

Instruct students to open their textbook page 15. Ask them to solve the Q1(a, b, c) of "Learning check 1.4" in their notebook. Walk around the class, check their work and guide where needed.

Sum Up: (3 min)

Sum up the lesson by re-telling students what is meant by LCM . Retell the method of prime factorization to find LCM by explaining and solving Worked example 2 given on page 13-14 of textbook..

Assessment: (5 min)

To assess students ask them to solve "Pause and try" given at textbook page 13 and Q1 (d) of "Learning check 1.4" given at page 15 of their textbook.

Homework: (2 min)

Solve Q1 (e, f), Q3and Q4 of "Learning check 1.4" given at page 15 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 5**

Unit Name: Factors and Multiples **Topic:** Least common Multiple **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Find LCM of two or three numbers (up to 3-digits) using division method (including real life situations).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 14-15

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Begin the lesson by asking some questions related to finding LCM by prime factorization method. Write 2 or 3 numbers on the board and ask them to calculate its LCM using prime factorization method.

Main Activities/Concept Building: (25 min)

Start by telling them that we will today learn about division method of finding the LCM of numbers. Ask students to open textbook page 14. Tell them that in division method of finding LCM, first we write the numbers in a horizontal line, separating them by commas or space. Then divide the numbers by a suitable prime number, which exactly divides at least two of the given numbers. Continue the process until all quotients of all the numbers become '1'. Then find the product of all the prime factors. This will be the LCM. Demonstrate this method step by step by solving the worked example 1 given on page 14.

Activity 2:

Instruct students to open their textbook page 15. Ask them to solve the Q2(a, b, c) of "Learning check 1.4" in their notebook. Walk around the class, check their work and guide where needed.

Sum Up: (5 min)

Sum up the lesson by re-telling how to find the LCM by division method by explaining and solving Worked example 2 given on page 14.

Assessment: (5 min)

To assess students ask them to solve "Pause and try" given at textbook page 14 and Q2 (d) of "Learning check 1.4" given at page 15 of their textbook.

Homework: (2 min)

Solve Q2 (e, f), Q5 and Q6 of "Learning check 1.4" given at page 15 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 6**

Unit Name: Factors and Multiples **Topic:** Squares and Perfect Squares **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognise the squares of up to 2-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 16, wall chart

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Write 2×2 on the board and ask students to tell the answer. Take their responses. Next write 3×3 , 4×4 , 5×5 on the board. Ask them to tell the answer. Now ask students to tell what was similar in these questions? Appreciate if they correctly respond.

Main Activities/Concept Building: (25 min)

Introduce the concept of squares by drawing a square on the board with its length and asking students to identify its area. Ask them to open textbook page 16. Tell the students that when we multiply a number by itself, we can write that number to the power of 2. For example, when we multiply 2 by itself, i.e., $2 \times 2 = 2^2$, we read it as 2 raised to the power of 2 or 2 to the power 2 or the square of 2.

Paste the wall chart where the square of numbers are highlighted. Explain by giving different examples of squares from it. Then tell them that finding the Square of a Number is a simple method. We need to multiply the given number by itself to find its square number. For example, to find the square of numbers 3, 4 or 5, we will simply multiply each number by itself i.e. 3×3 , 4×4 , 5×5 etc. Tell them that square of any number is always represented by the number raised to the power of 2. For example, the square of 6 is 6 multiplied by 6, i.e., $6 \times 6 = 6^2 = 36$. Explain the worked example given on page 16.

Next introduce the term perfect square to them. Tell them that a number can be classified as a perfect square if it is the result of squaring another number. A perfect has a pair of identical factors. Ask them to observe the images of squares given on the page. Tell them that from the given figures we can see that the numbers 1, 4, 9, 16, 25, etc. are perfect squares of the numbers 1, 2, 3, 4, 5, and so on.

Sum Up: (3 min)

Sum up the lesson by re-telling students that when a number is multiplied by itself, the value we get is called the square of that number.

Assessment: (5 min)

To assess students, ask them to find square of numbers: 4, 7 and 10.

Homework: (2 min)

Solve "Pause and Try" given on page 16 of textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Wallchart

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 7**

Unit Name: Factors and Multiples **Topic:** Squares and Perfect Squares **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the squares of up to 2-digit numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 16-17, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask them about squares of numbers. Write some numbers on the board including perfect squares. Ask students to identify perfect squares and then explain why they are perfect squares. Take responses and appreciate their effort.

Main Activities/Concept Building: (25 min)

Begin by reviewing what it means to square a number, i.e. multiplying a number by itself.

Ask the students to provide some examples of 1-digit numbers and write them on the board or display them on a screen. Work through a few examples together as a class, demonstrating how to calculate the square of each number. For example, the square of 3 is $3 \times 3 = 9$.

Activity 1:

Divide the class into pairs. Give each pair a set of 1-digit or 2-digit numbers written on index cards or pieces of paper. Each pair takes turns drawing a card from the stack and calculating the square of the number on the card. If the pair correctly calculates the square, they earn a point. If they are incorrect, the other pair has a chance to steal the point by correctly calculating the square. The game continues until all the cards have been used. The pair with the most points at the end of the game wins. To make the game more challenging, you can also use decimals, or fractions.

Activity 2:

Ask the students to open textbook page 17 and solve Q1(a, b, c, d, e) and Q2 of Learning check 1.5 on their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (2 min)

Sum up the lesson by re-telling students what is square and perfect square by using different examples.

Assessment: (7 min)

To assess students give them worksheet and ask them to complete it by following instructions.

Homework: (2 min)

Solve Q1(f, g, h, i, j) and Q3 of "Learning check 1.5" given at page 17 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Recognise and colour the boxes that contains square of numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	

2. Calculate the square of the following numbers.

$$14 = \underline{\hspace{2cm}}$$

$$23 = \underline{\hspace{2cm}}$$

$$42 = \underline{\hspace{2cm}}$$

$$78 = \underline{\hspace{2cm}}$$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 1**

Unit Name: Factors and Multiples **Topic:** Sum Up and Unit check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 1 by solving Q1-4 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 17-18

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "factors and multiples".

Ask them the different questions that are related to "factors and multiples".

Main Activities/Concept Building: (30 min)

Activity:

Activity 1:

Have students open pages 18 of their textbooks. Ask them to solve Q1, Q2 and Q3 of "Unit Check 1". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 17.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q4 of "Unit Check 1" given at page 18 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 2**

Unit Name: Factors and Multiples **Topic:** Sum Up and Unit check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 1 by solving Q5-8 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 17-19

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "factors and multiples".

Main Activities/Concept Building: (33 min)

Activity:

Have students open page 18 of their textbooks. Ask them to solve Q5 and Q6 of "Unit Check 1" in their textbooks. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 17.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q7 and Q8 of "Unit Check 1" given at page 18 and 19 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 3**

Unit Name: Factors and Multiples **Topic:** Sum Up and Unit check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 1 by solving Q9-11 of Unit Check Exercise and by completing “Work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 17and 19, number cards (1-100), paper, pencil

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to recall all the concepts of the Unit “Factors and multiples”.

Main Activities/Concept Building: (33 min)

Activity 1:

Have students open page 19 of their textbooks. Ask them to solve Q9 of “Unit Check 1” in their textbooks. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project(work with math).

Get students into pairs. Put the number cards on the table. Member 1 picks up a card randomly. Member 2 has to find a factor or multiple of that number. The member who fails to find a factor or multiple loses a point. Repeat this activity several times with different numbers. The group or pair with most accurate method of working is the winner.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 17.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q10 and Q11 of “Unit Check 1” given at page 19 of their textbooks.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 4**

Unit Name: Integers **Topic:** integers **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize and identify integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 20-21-22 and 25

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Have students open textbook at page 20. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those question. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: *The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)*

Main Activities/Concept Building: (25 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Have students open textbook at page 21. Begin by reviewing the set of whole numbers and the closure law for addition.

Ask students if they can think of a reason why whole number subtraction does not fall under this law.

Explain that subtracting two whole numbers does not always yield a whole number. Use the example of $9 - 3 = 6$ (a whole number) and $3 - 9$ (not a whole number). Show students a number line and demonstrate how we cannot go nine steps backwards from 3 as it has no numbers before 0.

Introduce the concept of negative numbers to address mathematical problems like this. Explain that every positive number has an equal and opposite negative number. Explain that we usually don't put a plus sign with a positive integer. For example, 5 is the same as +5. But for negative integers, it is essential to put the minus sign. Define zero as an integer that is neither positive nor negative. Introduce positive integers as whole numbers that are greater than zero. All natural numbers are positive integers. A set of positive integers can be denoted by the capital letter Z^+ . Show students how $Z^+ = \{+1, +2, +3, +4, +5, \dots\}$ or $Z^+ = \{1, 2, 3, 4, 5, \dots\}$ since a positive integer may be written with or without the sign (+) before it.

Introduce negative integers as integers that are less than zero. A set of negative integers can be denoted by the capital letter Z^- . A minus sign is put before every negative integer, e.g. -3, -5, etc. So, $Z^- = \{-1, -2, -3, -4, -5, \dots\}$. Explain the real life application and use of integers using the worked examples given on page 22 of the textbook. Ask them to come up with more examples like this and share with the class.

Activity 1:

To assess students ask them to solve Q1 and 2 (a, b, c) of "Learning check 2.1" given at page 25 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (3 min)

Sum up the lesson by re-telling students about positive, negative and neutral integers. Also explain that the set of natural numbers and set of whole numbers are the subset of set of integers. Explain note to remember given at textbook page 22.

Assessment: (5 min)

To assess students Ask them to solve "Pause and Try" given at textbook page 22. Instruct to solve 2 (d, e) of "Learning check 2.1" given at page 25 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q3, Q4 and Q5 of “Learning check 2.1” given at page 25 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments: _____

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 5**

Unit Name: Integers **Topic:** Representation of integers on a number line **Date**

Objective(s):

At the end of this period, the students will be able to:

Represent integers using number line.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 23-24 -25, ruler, coloured pencils

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin by reviewing the concept of integers and the difference between positive and negative integers. Instruct students to write five positive and five negative integers. Walk around and observe their working and appreciate them for their correct response.

Main Activities/Concept Building: (25 min)

Have students open textbook page 23. Ask students if they can recall how to represent whole numbers on a number line. Tell them that the difference between representing integers and whole numbers on a number line is that integers include negative numbers, which means that the number line extends to the left of zero. Explain that a number line goes on forever in both directions and is indicated by arrows. Positive integers (greater than zero) are represented in the right direction after zero. Negative integers (less than zero) are represented in the left direction before zero. Demonstrate how to draw a number line by drawing a line and marking a point 0 on it. Mark equal intervals on both sides of 0. Label the integers to the right of 0 as 1, 2, 3, 4, ... and the integers to the left of 0 as -1, -2, -3, -4, ... as shown in the figure. Use worked examples 1 and 2 given on page 23 of textbook to help students understand how to represent integers on a number line.

Activity 1:

Divide the class into teams of 3-4 students. Draw a large number line on the whiteboard, with numbers ranging from -10 to 10. Each team selects a representative to come up to the board and stand at the 0 on the number line. Members of other teams take turns saying an integer. For example, "negative 4", "positive 2" etc. The representative will represent the number on the number line. The other team members will discuss and tell if it is correctly represented or not. Take turns. The team with quickest and accurate answers will be the winner.

Sum Up: (3 min)

Sum up the lesson by re-telling students integers and how to represent integers on number line by using worked example 3 given on page 24 of textbook.

Assessment: (5 min)

To assess students learning, ask them to solve Q6(a, b) and Q9 of "Learning check 2.1" given at page 25 of their textbook.

Homework: (2 min)

Solve Q6(c, d, e, f) of "Learning check 2.1" given at page 25 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 6**

Unit Name: Integers **Topic:** Absolute value of an integers **Date** _____

Objective(s):

At the end of this period, the students will be able to:

Calculate absolute or numerical values of integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 17-18, worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Call two students to the front. Ask them to stand beside each other. Then ask one of them to take 5 steps towards right and the other student to take 5 steps towards left. Ask the rest of the class: Who covered more distance? Take their responses. Then explain that they both have covered the same distance i.e. 5 steps, no matter in what direction they moved.

Main Activities/Concept Building: (22 min)

Explain to the students that they will be learning how to calculate the absolute value of integers. Ask them to open textbook at page 24. Read the statement of worked example 1. Explain to students that to solve the problem, we need to use a number line to represent the distance covered by Sara and Nida. Draw a number line on the whiteboard with zero in the middle. With the help of students mark positive and negative integers on the number line with equal intervals. Then ask them to locate 4 and -4 on the number line, showing that they are equidistant from the starting point but in opposite directions. Define the absolute value of a number as the distance between that number and zero on the number line which is always positive. Write the expression $|4| = 4$ and $|-4| = 4$ on the board. Tell them that absolute value of any integer is represented by the symbol " $|$ ". Explain that since the absolute value of 4 and -4 is the same, Sara and Nida covered the same distance.

Write a few numbers on board and with the help of students, find their absolute value to clarify the concept. E.g.: The absolute value of 10 is 10. We write this $|10| = 10$

The absolute value of -2 is 2. We write this $|-2| = 2$

The absolute value of -16 is 16. We write this $|-16| = 16$

Activity 1:

Hand out worksheets that have absolute value questions, and have the students complete them in pairs or individually. As the students work, walk around the room and help those who need it.

Sum Up: (3 min)

Sum up the lesson by re-telling students about the absolute value of the integers and how we find the absolute value of the integers. Also explain the "Note to Remember" given at page 24 of their textbook.

Assessment: (5 min)

To assess students ask them to solve "Pause and Try" given at textbook page 24.

Homework: (2 min)

Solve Q7 and Q8 of "Learning check 2.1" given at page 25 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

Write the absolute value of the given integers.

1) $|-25| =$ _____

2) $|1| =$ _____

3) $|88| =$ _____

4) $|-1| =$ _____

5) $|3| =$ _____

6) $|30| =$ _____

7) $|8| =$ _____

8) $|-92| =$ _____

9) $|-3| =$ _____

10) $|2| =$ _____

11) $|40| =$ _____

12) $|-8| =$ _____

13) $|5| =$ _____

14) $|-13| =$ _____

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 7**

Unit Name: Integers **Topic:** Comparing and ordering Integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Compare integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 25-26-27 -28,

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by reviewing the concept of integers with the students. Ask them to give examples of integers and explain what integers are. Draw a number line on the whiteboard and demonstrate how to plot integers on the number line.

Main Activities/Concept Building: (22 min)

Ask the students to open textbook page 25. Explain to students that they will be learning how to compare integers. Explain the points given on page 25-26 of textbook related to comparison of numbers on a number line. Use and compare them on board using number line to demonstrate the method. Next have the students open textbook page 27 and explain the rules of comparing integers without using a number line. Demonstrate the method by explaining the worked example 1 given on page 27.

Activity:

To assess students ask them to solve Q1 (a, b, c) and Q4(a, b, c) of "Learning check 2.2" given at page 28 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (3 min)

Sum up the lesson by re-telling students about the rules that are used to compare integers with and without using number line.

Assessment: (5 min)

To assess students Ask them to solve "Pause and Try" at page 26 and Q5 of "Learning Check 2.2" given at page 28 of their textbook.

Homework: (2 min)

Solve Q1(d, e, f, g, h) and Q4(d, e, f) of "Learning check 2.2" given at page 28 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 1**

Unit Name: Integers **Topic:** Comparing and ordering Integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Compare and arrange a given list of integers and their absolute value in ascending and descending order.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 27 -28

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by writing some integers on the board and call a student to the front of the class and ask him/her to compare the given integers by using rule of comparing integers and then arrange these integers in ascending order. Take his/her response and appreciate if he/she arrange the given integers in correct order.

Main Activities/Concept Building: (22 min)

Tell them that to arrange numbers in any order, we first need to compare their values of the integers to determine which is greater or less than the other. Explain them that one integer is greater than the other, it will be placed after the smaller integer in ascending order and before the smaller integer in descending order. Tell them to keep comparing and arranging all the integers in the list until they are all in ascending or descending order. Similarly explain that to find the absolute value of each integer in the list, compare the absolute values of the integers to determine which is greater or less than the other and then simply write them in order.

Write a few integers on the board. E.g. 5, -2, 7, 0, -8, 3. Demonstrate that to arrange them in ascending order, start by comparing 5 and -2. Since 5 is greater than -2, we write -2, 5. Next, compare 7 and 5. Since 7 is greater than 5, we write -2, 5, 7. Compare 0 and 7. Since 0 is greater than -2, we write -2, 5, 7, 0. Compare -8 and 0. Since -8 is smaller than 0, we write -8, -2, 5, 7, 0. Finally, compare 3 and 0. Since 3 is greater than 0, we write -8, -2, 0, 3, 5, 7. The integers are now arranged in ascending order. Also tell them that to arrange them in descending order, simply reverse the order of the list: 7, 5, 3, 0, -2, -8.

Activity 1:

To assess students ask them to solve Q2 (a, b) and Q3(a, b) of "Learning check 2.2" given at page 28 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (3 min)

Sum up the lesson by re-telling students about the rules that are used to arrange integers in order and by explaining the worked example 2 given on page 27.

Assessment: (5 min)

To assess students Ask them to solve "Pause and Try" at page 27 and Q2(c) and Q3(c) of "Learning Check 2.2" given at page 28 of their textbook.

Homework: (2 min)

Solve Q2(d, e, f), Q3(d, e, f) and Q6 of "Learning Check 2.2" given at page 28 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 2**

Unit Name: Integers **Topic:** Addition of integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Identify the rules to add integers through various solved examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 29-30-31, 33

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students to think about real-life situations where they might need to add positive and negative numbers. For example, if Harris owe Rs 50 and he borrowed Rs 20 from his friend, what is his new balance? This will help students to see the relevance of adding integers and motivate them to learn the rules for doing so.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about the rules to add like and unlike integers. Tell them that like integers are integers that have the same sign, either both positive or both negative. For example, 4 and 7 are like integers because they are both positive. Also tell them that unlike integers are integers that have different signs, one positive and one negative. For example, -3 and 5 are unlike integers because one is negative and, one is positive.

Have them open textbook page 29. Discuss the rules for adding integers one by one.

Demonstrate the process of adding integers by using the worked examples given on page 29 and 30. Draw number line on the board and step by step explain the addition of integers by using rules. Have them move to page 30 and explain the rules to add integers without using the number line. Demonstrate the method by using worked examples given on page 30 and 31. Encourage students to ask questions if they have any ambiguity.

Activity 1:

Have students open textbook page 33. Write Q1(a) $-3 + 4$ on the board. Solve it on the board by asking students to tell the steps of solving it. Appreciate them for their correct steps. Similarly solve part b with the help of students. Then ask students to copy the solution on their notebook and ask questions if they are not clear about anything,

Sum Up: (3 min)

Sum up the lesson by re-telling students about the rules of addition of integers with and without using number line. Also explain "Note to Remember" given at page 29 and 30 of their textbooks.

Assessment: (5 min)

To assess students ask them questions related to rules of addition of integers, e.g.:

- What is the result of the addition of two positive integers(like integers)?
- What is the result of the addition of two negative integers(like integers)?
- What is the result of the addition of a positive and a negative integer(Unlike integers)? etc.

Homework: (2 min)

Revise the class work by practicing the examples.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 3**

Unit Name: Integers **Topic:** Addition of integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Add up to 2-digit like and unlike integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 29-31, 33-34,

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students if they remember what an integer is and how to add them. What are the rules of addition of integers using number line? Ask students about like and unlike integers. Recall with them about the rules to add the integers.

Main Activities/Concept Building: (25 min)

Activity 1:

Divide students into groups of four or five. Write multiple questions related to addition of like and unlike integers on the board(or paper). Call each group one by one and have them line up facing the whiteboard. The first player in each group is given a dry erase marker and a problem is displayed on the board.

The first player solves the problem and passes the marker to the second player in line.

The second player checks the first player's answer, writes the correct answer on the board, and solves the next problem. The relay race continues until all players have had a turn. The group that completes all problems correctly and in the shortest amount of time wins.

Activity 2:

To assess students ask them to solve Q1 (c, d) and Q4(a) and Q5 of "Learning check 2.3" given at page 33 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (2 min)

Sum up the lesson by re-telling students about the rules of addition of integers and by explaining "Note to Remember" given at page 30 of their textbook.

Assessment: (9 min)

To assess students ask them to solve "Pause and try" given at page 29 and 31 of their textbook.

Homework: (2 min)

Solve Q1 (e, f, g, h) and Q7 of "Learning check 2.3" given at page 33 and 34 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 4**

Unit Name: Integers **Topic:** Subtraction of integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Identify the rules to subtract integers through various solved examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 31-32-33

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Ask students if they have ever received change after making a purchase. Ask them if they have ever had to pay back a debt or loan. These are real-life situations where subtracting integers is necessary. Write an example on the board, such as "If you buy a Rs 4510 item with a Rs 5000 bill, how much change do you receive?" Ask the class how they would solve this problem. Explain that today's lesson will focus on rules to subtract integers by solving various examples.

Main Activities/Concept Building: (22 min)

Tell students today we will learn about the rules to subtract like and unlike integers. retell them that like integers are integers that have the same sign, either both positive or both negative. For example, 4 and 7 are like integers because they are both positive. Also tell them that unlike integers are integers that have different signs, one positive and one negative. For example, -3 and 5 are unlike integers because one is negative and, one is positive.

Have them open textbook page 31. Explain them that to subtract integers, change the sign of subtraction to addition and change the sign of the integer that is to be subtracted..

Demonstrate the process of subtracting integers by using the worked examples given on page 31 and 32 using the above-mentioned rule. Next demonstrate how to subtract integers on a number line. Draw number line on the board and step by step explain the subtraction of integers. Have them move to page 33 and demonstrate the method by using worked examples 4 given. Next explain the worked example 5 on page 33 by explaining it step wise. Encourage students to ask questions if they have any ambiguity.

Activity 1:

Have students open textbook page 33. Write Q2(a) on the board. Solve it on the board by asking students to tell the steps of solving it. Appreciate them for their correct steps. Similarly solve part b with the help of students. Then ask students to copy the solution on their notebook and ask questions if they are not clear about anything,

Sum Up: (3 min)

Sum up the lesson by re-telling students about the rules of subtracting integers with and without using number line. Also explain "Note to Remember" given at page 32 and 33 of their textbooks.

Assessment: (5 min)

To assess students ask them questions related to rules of subtractions of integers.

Homework: (2 min)

Revise the class work by practicing the examples.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 5**

Unit Name: Integers **Topic:** Subtraction of integers **Date**

Objective(s):

At the end of this period, the students will be able to:

Subtract up to 2-digit like and unlike integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 33-34

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students if they remember what an integer is and how to subtract them. What are the rules of subtraction of integers using number line? Ask students about like and unlike integers. Recall with them about the rules to subtract the integers.

Main Activities/Concept Building: (25 min)

Activity 1:

Divide students into groups of four or five. Write multiple questions related to subtraction of like and unlike integers on the board(or paper). Call each group one by one and have them line up facing the whiteboard.

The first player in each group is given a dry erase marker and a problem is displayed on the board.

The first player solves the problem and passes the marker to the second player in line.

The second player checks the first player's answer, writes the correct answer on the board, and solves the next problem. The relay race continues until all players have had a turn. The group that completes all problems correctly and in the shortest amount of time wins.

Activity 2:

To assess students ask them to solve Q2(c, d) and Q4(b) and Q6 of "Learning check 2.3" given at page 33 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (2 min)

Sum up the lesson by re-telling students about the rules of subtraction of integers.

Assessment: (9 min)

To assess students ask them to solve "Pause and try" and given at page 32 and 33 of their textbook.

Homework: (2 min)

Solve Q2 (e, f, g, h) and Q8-9-10 of "Learning check 2.3" given at page 33 and 34 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 6**

Unit Name: Integers **Topic:** Laws of Integers under Addition **Date**

Objective(s):

At the end of this period, the students will be able to:

Verify closure law and commutative law, associative law of integers under addition.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 34-35, 37

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students how we can add two like and unlike integers. Ask them to tell the rules to add the like and unlike integers with and without using number line. Take their responses and tell them that today we will learn about laws of addition of integers.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about closure law, commutative law and associative law. Write an addition problem on the board (e.g. $-4 + 11 = ?$) and ask the students to solve it.

Have a volunteer come to the board to show their work and explain how they solved the problem.

Tell them that the result of addition of two given integer is also an integer and this law is known as closure law. Demonstrate the law by using worked example given on page 34.

Next introduce the commutative law of addition, which states that changing the order of numbers in addition does not change the sum. Write an example on the board (e.g. $9 + 4 = 4 + 9$) and have the class repeat it. Demonstrate the law by using worked example given on page 35.

Similarly explain the associative law of addition, which states that the grouping of integers does not affect the sum. Write an example on the board (e.g. $4 + (7 + 2) = (4 + 7) + 2$) and have the class repeat it.

Demonstrate the law by using worked example given on page 35.

Activity 2:

Instruct students to open their textbook page 36. Ask them to solve Q1(a, b, c, d, f) and Q2(a), Q3(a) and Q4(a) of "Learning check 2.4". Walk around and check their work and guide them if required.

Sum Up: (3 min)

Sum up the lesson by re-telling students about closure law, commutative law and associative law. Explain that these are important laws in mathematics that help us solve problems quickly and accurately. Also explain "Note to Remember" give at page 34.

Assessment: (5 min)

To assess students ask them to solve "Pause and try" of their textbook page 35 in their notebook.

Homework: (2 min)

Solve Q2(b, c, d), Q3(b, c, d) and Q4(b, c, d) and Q7 of "Learning check 2.4" given at page 36-37 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 7**

Unit Name: Integers **Topic:** Laws of Integers under Addition **Date**

Objective(s):

At the end of this period, the students will be able to:

Recognize additive identity and additive inverse for integers under addition.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 36-37

Teaching & Learning Activities:

Opening Activities/Warm-up: (6 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students about closure law, commutative law and associative law of integers. Take their responses and instruct them to write three integers of their own choice and prove these laws and then randomly call students to the front of the class to show their working.

Main Activities/Concept Building: (24 min)

Begin the lesson by reviewing the concept of addition and asking students what the sum of any integer and 0 is. Emphasize that this is called the additive identity. Tell them that we add the additive identity 0 to any integer, we get the same integer as the answer. Explain the concept by using worked examples 1 and 2 on page 36 of textbook and explain how 0 is the additive identity in each case. Ask students to provide more examples of adding an integer and 0 to reinforce the concept.

Introduce the concept of additive inverse and explain that two integers that add up to 0 (the additive identity) are called additive inverses of each other. Show students the worked example of additive inverse page 36 of textbook. Explain the students how the sum of an integer and its additive inverse is always 0. Ask them to provide more examples.

Activity:

Have students work in pairs. Write the following questions on the board and ask them to solve.

- Prove that 0 is the additive identity for the following integers:
 - 2
 - 7
 - 10
- Find the additive inverse of each of the following integers:
 - 5
 - 4
 - 14
- Prove that 8 is the additive inverse of +8.

Walk around and observe their working. Help them where they needed.

Sum Up: (3 min)

Sum up the lesson by re-telling students what is meant by additive identity and additive inverse for the integers with the help of examples.

Assessment: (5 min)

To assess students ask them to solve Q1(e) and Q5(a, b) and Q6 of the "Learning Check 2.4" given at page 36 and 37 of their textbook.

Homework: (2 min)

Solve Q5(c, d, e) and Q8 of "Learning check 2.4" given at page 37 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 1**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Factors and Multiples”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Factors and Multiples”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Write all the factors and factor pairs of the given numbers.

a) 72

b) 324

c) 900

2. Find the multiples of 72 greater than 200 but less than 500.

3. A gardener wants to grow 114 plants in such a way that there are equal numbers of plants in each row. In how many ways he can grow the plants.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 2**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Factors and Multiples”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Factors and Multiples”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the prime factors of the given numbers by using factor tree method.

a) 420

b) 625

2. Find the prime factors of the following by using prime factorization method and write the factors in index form.

b) 6224

a) 9552

3. Write each in expanded form.

a) $3^4 \times 7^2 \times 11^3 =$

b) $2^5 \times 3^6 \times 13^2 =$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 3**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Factors and Multiples”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Factors and Multiples”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the HCF of 108, 320 and 100 by using prime factorization method.

2. Find the HCF of 17, 238 and 850 by using division method.

3. Ahmad has three wires of length 78 m, 112 m and 212m. Find the length of longest measuring tape that can measure the three pieces of the wire exactly.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 4**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Factors and Multiples”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Factors and Multiples”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the LCM of 50, 355 and 600 by using prime factorization method.

2. Find the LCM of 225, 125 and 525 by using division method.

3. Find the least volume of water that can be put into containers with capacities of 18 litres, 110 litres and 200 litres exactly.?"

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 5**

Unit Name: Integers **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Identify and separate out the positive and negative integers.

+3, -7, 11, 67, -86, +94, -12, +65

Positive integers: _____ Negative integers: _____

2. Write integers that come between the given integers.

a) -3 to +2

b) +8 to -15

3. Draw a number line and show the given integers on number line.

-5, +7, -3, -11, +15

4. Find the absolute value of the given integers.

a) -6 and +6

b) -4 and +4

5. Kamal has Rs 890 and he borrowed Rs 600 from his father. Show this in form of integers.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 6**

Unit Name: Integers **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Compare and tell which one smaller: -5 or +4 (by using number line).

2. Compare and tell which one greater; -11 or -7.

3. Arrange the given numbers in ascending order.

a) +6, +24, -15, -12, +1, -1, +4

b) -33, +98, -45, -66, +78, -114

4. Arrange the given numbers in descending order.

a) -16, +4, -22, +14, -17

b) -55, -34, -22, -41, +23, +14, -44

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 7**

Unit Name: Integers **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Add the following.

a) -5 and -11

b) -45 and $+78$

2. Subtract the following.

a) -7 from -18

b) $+36$ from -15

3. Verify the closure property for integers; -11 and $+7$

4. Verify the commutative property for integers; -9 and -14 .

5. Verify the associative property for integers; -6 , $+4$ and -17 .

6. What is the additive inverse of -34 ?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 1**

Unit Name: Integers **Topic:** Multiplication of Integers **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the rules to multiply integers through various examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 37-38, 39

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students to think about real-life situations where they might need to multiply positive and negative numbers. For example, if Ahmad bought 5 packs of jellies and there are 7 jellies in each pack. Then how many jellies are in 5 packs? This will help students to see the relevance of multiplying integers and motivate them to learn the rules for doing so.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building: (25 min)

Tell students today we will learn about the rules to multiply integers. Recall with them the difference between like and unlike integers by writing different like and unlike integers on the board. Tell them that like integers are integers that have the same sign, either both positive and both negative and unlike integers are integers that have different signs, one positive and one negative.

Instruct students to open textbook page 37. Discuss with them the rules for multiplying integers one by one. Demonstrate the process of multiplying integers by using the worked examples given on page 38.

Explain the multiplication of like and unlike integers by using rules. Encourage students to ask questions if they have any ambiguity.

Activity 1:

Have students open textbook page 39. Write Q2 (a) $(-3) \times (-4) \times (-2)$ on the board. Solve it on the board by asking students to tell the steps of solving it. Appreciate them for their correct steps. Similarly solve part b and c with the help of students. Then ask students to copy the solution on their notebook and ask questions if they are not clear about anything,

Sum Up: (3 min)

Sum up the lesson by re-telling students about the rules of multiplication of integers. Also explain "Note to Remember" given at page 37 of their textbooks.

Assessment: (5 min)

To assess students ask them questions related to rules of multiplication of integers, e.g.:

- What we get when we multiply two integers of same sign?
- What is the result of multiplication of two integers of opposite sign?

Homework: (2 min)

Solve Q2(c, d, e, f) of "learning check 2.5" given textbook page 39 in their notebooks.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 2**

Unit Name: Integers **Topic:** Multiplication of Integers **Date:**

Objective(s):

At the end of this period, the students will be able to:

Multiply up to 2-digit like and unlike integers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 38, 39

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students how we multiply the integers. What are the rules of multiplication of integers? Ask students about the result of multiplication of like and unlike integers. Recall with them about the rules to multiply the integers.

Main Activities/Concept Building: (25 min)

Activity 1:

Tell students today we will learn to multiply like and unlike integers. Now divide the students of the class into small groups of 4 to 5 students in each group according to the strength off the class. Prepare paper slips of sets of questions of multiplication of like and unlike integers. Call each group one by one and have them line up facing the whiteboard. Provide the first participant of a group a dray eraser board and a marker. He/she solve the question and then passes marker to the next member of the group. The second member checks the solution of the question of the first member and then solves the next question. This process can continue until all the members of the group have their turn. Repeat this activity to all groups. The group that solves all the questions correctly in in short period of time announced to be the winner.

Activity 2:

Ask students to open their textbook page 39. Instruct them to solve Q1 of "Learning check 2.5" given at page 39 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (2 min)

Sum up the lesson by re-telling students about the rules of multiplication of integers.

Assessment: (9 min)

To assess students ask them to solve "Pause and try" given at page 38 of their textbook.

Homework: (2 min)

Solve Q5 of "Learning check 2.5" given at page 39 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 3**

Unit Name: Integers **Topic:** Division of Integers **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Identify the rules to divide integers through various solved examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 38, 39

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's work. Ask students if they have ever encountered situations where they needed to divide quantities or share items equally. Discuss situations such as dividing a set of resources among a group, distributing a fixed amount of money among multiple people, or dividing a pizza into equal slices for a party. These are real-life situations where the division of integers comes into play.

Write an example on the board, such as "If you have 16 cupcakes and need to divide them equally among 8 children's, how many cupcakes does each child get?" Ask the class how they would they solve this problem. Explain that today's lesson will focus on identifying the rules and strategies to divide integers through various examples.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about the rules to divide the like and unlike integers. Retell them that like integers are integers that have the same sign, either both positive and both negative by giving examples on board. Also tell them that unlike integers are integers that have different signs, one positive and one negative by writing examples of unlike integers on board. Have them open textbook page 38. Explain them the rules of dividing like and unlike integers.

Demonstrate the process of dividing integers by using the worked examples given on page 38 and 39 using the rules. Next demonstrate how to divide the absolute value of integers Have them move to page 39 and demonstrate the method by using worked examples 4 given by explaining stepwise. Encourage students to ask questions if they have any ambiguity.

Activity 1:

Have students open textbook page 39. Write Q3 (a) on the board. Solve it on the board by asking students to tell the steps of solving it. Appreciate them for their correct steps. Similarly solve part b with the help of students. Then ask students to copy the solution on their notebook and ask questions if they are not clear about anything,

Sum Up:

(3 min)

Sum up the lesson by re-telling students about the rules of dividing integers and absolute value of integers. Also explain "Note to Remember" given at page 39 of their textbooks.

Assessment:

(5 min)

To assess students ask them questions related to rules of divisions of integers.

Homework:

(2 min)

Revise the class work by practicing the examples.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 4**

Unit Name: Integers **Topic:** Division of Integers **Date:**

Objective(s):

At the end of this period, the students will be able to:

Divide integers by solving exercise questions.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 39

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students if they remember what an integer is and how to divide them. Discuss the concept of division and its importance in real-life situations.

Ask students about like and unlike integers and how they relate to division. Encourage them to recall the rules of dividing integers and discuss the strategies they can use.

Main Activities/Concept Building: (25 min)

Activity 1:

Divide the students into groups of four or five and ensure each group has a designated area in the classroom. Write a series of division questions related to integers on the whiteboard or chart paper. Include a mix of problems involving both like and unlike integers. Line up the groups facing the whiteboard, with the first member from each group at the front of the line. Give the first member in each group a dry erase marker. Start the relay race by displaying the first division problem on the whiteboard.

The first member solves the problem as quickly as possible and passes the marker to the second member in line. The second member checks the first member's answer, correct if required, and solves the next problem. Set a timer to track the time taken by each group to complete the relay race. Once all members in a group have had a turn, stop the timer and record the time taken.

Announce the winning group based on the accuracy of their answers and the shortest completion time.

Activity 2:

To assess students ask them to solve Q3(c, d, e, f, g) and Q 4 of "Learning check 2.5" given at page 39 of their textbook. Walk around and check their work and guide them if required.

Sum Up: (2 min)

Sum up the lesson by re-telling students about the rules of division of integers.

Assessment: (9 min)

To assess students ask them to solve "Pause and try" and given at page 39 of their textbook.

Homework: (2 min)

Solve Q3(h, i, j) of "Learning check 2.5" given at page 39 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 5**

Unit Name: Integers **Topic:** Laws and properties of integers under Multiplication **Date:**

Objective(s):

At the end of this period, the students will be able to:

Verify closure law and commutative law, associative law of integers under multiplication.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 40-41, 43

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students:

How we can multiply like and unlike integers?

What are rules of multiplication of like and unlike integers?

Take their responses and tell them that today we will learn about laws of multiplication of integers.

Main Activities/Concept Building:

(25 min)

Begin the lesson by explaining to students that today we will be learning about three important laws of multiplication that is closure, commutative, and associative. Write an example multiplication problem on the board, such as -2×-5 , and ask students to solve it individually. Select a volunteer to come to the board and demonstrate their work, explaining how to solve the given example. Discuss with the class that the result of multiplying two given integers is also an integer, and this property is known as the closure law of multiplication. Explain the law by solving worked example given at textbook page 40. Now explain the commutative law of multiplication, explaining that changing the order of the numbers being multiplied does not affect the product. Write an example on the board, such as $7 \times 2 = 2 \times 7$, and have the class repeat it to reinforce the concept. Explain that the product remains the same regardless of the order of the integers. Demonstrate the commutative law using a worked example from the textbook page 40.

Introduce the associative law of multiplication, stating that the grouping of numbers being multiplied does not affect the result. Write an example on the board, such as $2 \times (-5 \times (-8)) = (2 \times (-5)) \times (-8)$, and have the class repeat it. Explain that the way the numbers are grouped does not change the final product.

Explain the associative law with a worked example from the textbook page 40 and 41.

Activity:

Instruct students to open their textbook page 43. Ask them to solve Q1 (b, d, e) and Q2 (a), Q3 (a) and Q4 (a) of "Learning check 2.6". Walk around and check their work and guide them if required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about closure law, commutative law and associative law of integers under multiplication. Explain that these are important laws in mathematics that help us solve problems quickly and accurately. Also explain "Note to Remember" give at page 40.

Assessment:

(5 min)

To assess students ask them to solve Q2 (b) and Q3 (b) of "Learning check 2.6".

Homework:

(2 min)

Solve Q2(c, d), Q3(c, d) and Q4(b, c, d) of "Learning check 2.6" given at page 43 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 6**

Unit Name: Integers **Topic:** Laws and properties of integers under Multiplication **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize multiplicative identity and multiplicative inverse for integers under multiplication.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 41-43

Teaching & Learning Activities:

Opening Activities/Warm-up:

(6 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Begin the lesson by asking students about closure law, commutative law and associative law of integers under multiplication. Take their responses and instruct them to write three integers of their own choice and prove these laws and then randomly call students to the front of the class to show their working.

Main Activities/Concept Building:

(24 min)

Begin the lesson by reviewing the concept of multiplication and asking students what the product of any integer and 1 is. Highlight that this is known as the multiplicative identity. Explain to them that when we multiply any integer by the multiplicative identity 1, the result is always the same integer. Explain this concept by using worked examples 1 and 2 from page 41 of the textbook, emphasizing how 1 serves as the multiplicative identity in each case. Encourage students to provide additional examples of multiplying an integer by 1 to reinforce the concept.

Introduce the concept of multiplicative inverse and explain that two numbers that multiply to give 1 (the multiplicative identity) are called multiplicative inverses of each other. Show students the worked example of multiplicative inverse on page 41 of the textbook. Explain to students that the product of an integer and its multiplicative inverse is always 1. Ask them to provide more examples of finding the multiplicative inverse of an integer and multiplying it to demonstrate the concept further.

Introduce the distributive law of multiplication under addition and subtraction, stating that when multiplying an integer by a group of integers added or subtracted together, it is the same as doing each multiplication separately and then adding or subtracting their products. Write an example on the board, such as $5 \times (9 + (-8)) = (5 \times 9) + (5 \times (-8))$, and have the class repeat it. Explain the distributive law with worked examples from the textbook page 41 and 42.

Activity:

Instruct students to open their textbook page 43. Ask them to solve Q1 (a, c, f, g) and Q5 (a), Q6 (a) and Q7 (a) of "Learning check 2.6". Walk around and check their work and guide them if required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students what is meant by multiplicative identity and multiplicative inverse for the integers with the help of examples.

Assessment:

(5 min)

To assess students ask them to solve "Pause and Try" given at textbook page 42.

Homework:

(2 min)

Solve Q5 (b-d), Q6 (b-d), Q7 (b - e) and Q8 of "Learning check 2.6" given at page 43 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 7**

Unit Name: Integers **Topic:** Order of Operations **Date:**

Objective(s):

At the end of this period , the students will be able to:

Recognise the order of operations and use it to solve mathematical expressions involving whole numbers.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 43-45, 47

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask the students: How are you? Encourage them to say, “Alhamdulillah”.

Begin the lesson by asking students about their homework. Ask students, they have ever been confused about the order in which to solve a mathematical expression. Then write an expression that involves addition, subtraction, multiplication, and division operation. Ask students to look at the expression and tell which operations should be solved first. Take their responses and then discuss with the class the importance of following a specific order when solving such expressions to ensure accurate results.

Main Activities/Concept Building: (25 min)

Instruct students to open their textbook page 43 and 44. Introduce the concept of the order of operations or BODMAS rule and explain that it provides a set of rules to determine the correct sequence for performing operations within an expression. Show the BODMAS Rule wallchart as given on textbook page 44 and go over each operation, explaining what they mean. Describe to students that if there are multiple brackets and operations in an expression, the correct order to solve them is to start inside the vinculum, line, or bar bracket, solve the round bracket, curly bracket, square bracket, and order (which means roots and power) before solving division, multiplication, addition, and subtraction. Tell them that if we do not follow the BODMAS rule, we may get an incorrect answer for a mathematical expression by point towards the example given on textbook page 44.

$$\begin{aligned}
 &4 + 6 \times 2 \text{ (First add 4 and 6)} \\
 &= 10 \times 2 \text{ (Next multiply 10 and 2)} \\
 &= 20
 \end{aligned}$$

$$\begin{aligned}
 &4 + 6 \times 2 \text{ (First multiply 6 and 2)} \\
 &= 4 + 12 \text{ (Next add 4 and 12)} \\
 &= 16
 \end{aligned}$$

The BODMAS rule ensures that the operations are performed in a specific order, so that the answer obtained is accurate and consistent. Demonstrate the rule by step by step explaining the worked example 1 and 2.

Next ask students to open textbook page 47. Write Q1 (a and b) on the board. Step by step solve it and explain the method to students. If possible, ask students to guide you through the process so that you may check their understanding as well.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of recognizing and applying the order of operations when solving mathematical expressions involving whole numbers.

Assessment: (5 min)

To assess students ask them to solve ‘part a’ of “Pause and Try” given at textbook page 45.

Homework: (2 min)

Solve Q2 and Q3 of “Learning check 2.7” given at page 47 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 1**

Unit Name: Integers **Topic:** Order of operations **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognise the order of operations and use it to solve mathematical expressions involving decimals and fractions.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 45-47

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about their homework. Ask students: How we can solve the mathematical expressions involving whole numbers that involving multiples operation? Take their responses and now write a mathematical expression on the board and call a random student on the board and ask them to solve it in correct sequence. Ask the rest of the class too observe and correct if needed.

Main Activities/Concept Building: (25 min)

Tell students today we will learn to solve mathematical expressions involving decimals and fractions in correct order or by using BODMAS rule. Tell them that rules that we used to simplify mathematical expression involving whole numbers, is used to solve the mathematical expression involving decimals and fractions. Ask students to open their textbook page 44 and recall the rules to solve the expression using BODMAS rule.

Describe to students that if there are multiple brackets and operations in an expression, the correct order to solve them is to start inside the vinculum, line, or bar bracket, solve the round bracket, curly bracket, square bracket, and order (which means roots and power) before solving division, multiplication, addition, and subtraction. Tell them that if we do not follow the BODMAS rule, we may get an incorrect answer for a mathematical expression. Demonstrate the rule by step by step explaining the worked example 3 and 4 on textbook page 45 and 46. Tell students BODMAS rule help us to solve many of our real-life situations by demonstrating the worked example 5 on page 46.

Next ask students to open textbook page 47. Write Q1 (c, d and e) on the board. Step by step solve it and explain the method to students. If possible, ask students to guide you through the process so that you may check their understanding as well.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of recognizing and applying the order of operations when solving mathematical expressions involving fractions and decimals.

Assessment: (5 min)

To assess students ask them to solve 'part b' of "Pause and Try" at textbook page 45 and Q1 (f) of "Learning check 2.7" given at page 47.

Homework: (2 min)

Solve Q1 (g-j) and Q4 of "Learning check 2.7" given at page 47 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 2**

Unit Name: Integers **Topic:** Sum up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 2 by solving Q1-8 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 47-49

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Integers".

Ask them the different questions that are related to "Integers".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 48 of their textbooks. Ask them to solve Q1 to Q5 of "Unit Check 2". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 47 and 48.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q6-8 of "Unit Check 2" given at page 48 and 49 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 3**

Unit Name: Integers **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 2 by solving Q9-17 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 47, 48 and 49

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Integers".

Ask them the different questions that are related to "Integers".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 49 of their textbooks. Ask them to solve Q9 -12 of "Unit Check 2". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 47 and 48.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q13-17 of "Unit Check 2" given at page 49 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 4**

Unit Name: Integers **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 2 by solving Q18-22 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 47, 48 and 49, Glue stick, Integer cards, Chart paper, 4 baskets

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Integers”.

Ask them the different questions that are related to “Integers”.

Main Activities/Concept Building: (30 min)

Activity 1:

Have students open pages 49 of their textbooks. Ask them to solve Q18 and Q19 of “Unit Check 2”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

Divide the students into groups of 4. Place 4 baskets with cards of negative and positive integers in them.

Label each basket with the +, −, × and ÷ signs. Students from each group will come forward and pick 2 integers cards from each of the 4 baskets. They will paste the relevant sum of each operation on the chart paper. At the end, each group will present their work and the other groups will check if they solved it correctly or not.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “integers”.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q20 - 22 of “Unit Check 2” given at page 50 of their textbooks.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 5**

Unit Name: Ratio, Rate and Percentage **Topic:** Percentage **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recall percentage as a special fraction with denominator 100.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 51-52

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students what does fraction means? Explain to the child that fractions represent parts of a whole. Have students open textbook at page 51. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building: (25 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students today we will learn about percentage as a special fraction with denominator 100. Paste a wallchart of square with 100 equal parts and introduce the idea of percentages as a way to express fractions with a denominator of 100. Explain that percentages are a special type of fraction where the denominator is always 100. Explain the concept of percentage by Shading one part of the square and discuss with them 1 part out of 100 equal parts is shaded means $\frac{1}{100}$ parts is coloured or in percentage form we can say that 1% square box is coloured. Explain the concept of percentage by using the example given on page 52. Engage the child in a discussion and ask them to provide examples of situations where percentages are commonly used, such as test scores, discounts, or measuring ingredients for a recipe. Discuss how percentages are used to describe a part or portion of something in these scenarios. Instruct students to open their textbook page 52. Explain the concept of percentage by solving worked examples 1 and 2 given in the textbook page 52.

Activity 2:

Have students to work in pairs. Give each pair some cards of square boxes with hundred equal parts. Instruct them to colour different parts of it and then represent that coloured parts in form of fraction and also show the percentage of uncoloured parts. After completing the task instruct to display their cards with percentage on the board. The pair with accurate and correct working will announced as winner.

Sum Up: (5 min)

Sum up the lesson by re-telling about percentage is a special kind of fraction with denominator 100. Explain the "Note to Remember" given at page 52 of their textbook.

Assessment: (5 min)

To assess students ask them to apply their understanding of percentages in real-life situations. Give them a list of marks obtained by students in mathematics exams out of 100. Ask them to find the percentage marks obtained by the students.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Revise the concept of percentage.

Teacher’s Self-Evaluation:

Target: Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 6**

Unit Name: Ratio, Rate and Percentage **Topic:** Percentage of a quantity **Date:**

Objective(s):

At the end of this period, the students will be able to:

Express one quantity as a percentage of another.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 53, 54, 55

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students some questions related to percentage:

What is meant by percentage? Why percentage is a special kind of fraction?

Provide some hundred parts square cards to them and instruct them to write the percentage for the coloured and uncoloured parts and then randomly call students to the front of the class to show their working.

Main Activities/Concept Building: (22 min)

Instruct students to open their textbook page 53. Tell students today we will learn how to express one quantity as a percentage of another. Ask them do you know how we can express one quantity as percentage of another quantity. Take their responses and tell them as we know that percent means out of one hundred. Tell them that to express one quantity as a percentage of another, write the two quantities as a fraction then convert the fraction to a percentage by multiplying by 100%. Read the statement of the worked example 1, where total marks and marks got by Salma is given and we have to find the percentage of the marks he got. Tell them that to find the percentage it is necessary that both quantities have same units. Now find the percentage marks step by step and explain each step to them. Engage students in interactive practice exercises, where you guide them through the process of expressing one quantity as a percentage of another. Start with easier examples and gradually increase the complexity, allowing students to gain confidence and proficiency.

Activity 1:

Ask students to open their textbook page 54. Write Q2 (a) of 'Learning check 3.1' on the board. Call a random student to the front and instruct to solve it on the board. Ask the rest of the class to look at the solution and if find any mistake correct it. Now instruct students to solve Q2(a-f) in their notebook. Walk around and check their work and correct where needed.

Sum Up: (3 min)

Sum up the lesson by re-telling students how to express one quantity as percentage of another and also explain "Note to remember" given at page 53 of the textbook.

Assessment: (8 min)

To assess students, ask them to solve "Pause and try" given at page 54, Q2 (g-l) and Q4 of "Learning Check 3.1" given at page 55 of their textbook.

Homework: (2 min)

Solve Q6 and Q8 of "Learning Check 3.1" given at page 54 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 7**

Unit Name: Ratio, Rate and Percentage **Topic:** Percentage of a quantity **Date:**

Objective(s):

At the end of this period, the students will be able to:

Find the given percentage of a quantity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 53, 54, 55

Teaching & Learning Activities:

Opening Activities/Warm-up: (6 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students: how we can find the percentage of a quantity? Write the steps to express one quantity as percentage of another. Write "In a class of 40 students, 12 students are wearing glasses. What percentage of the class is wearing glasses?" Ask students to find the percentage and share their result with their fellows.

Main Activities/Concept Building: (22 min)

Tell students today we will learn how to find the given percentage of a quantity. Ask them do you how to find the given percentage of a quantity. Take their responses recall with them that as percentage represent parts out of 100. Remind students of the symbol "%" used to represent percentages. Explain that finding the given percentage of a quantity means calculating a specific portion of a given quantity. Tell them about the real-life example where percentage is given for example find the number of students present in a class when percentage of students given, percentage discount on bills in restaurant, etc. Now ask them to open their textbook page 53. Explain the concept of finding given percentage by solving worked example 2 and 3 step by step. Ask them to ask question related to concept if they find any confusion. Now instruct them to give more examples from their daily life that is related to find the given percentage of a quantity.

Activity 1:

Ask the students to open textbook page 54. Write Q1 (a) on the board. Call a student and ask him/her to find the value of 25% of 50. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (a, b, c, d, e) and Q3 of "Learning check 3.1" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (2 min)

Sum up the lesson by re-telling students how we can find the given percentage of a quantity.

Assessment: (8 min)

To assess students ask them to solve Q1 (f, g and h) and Q5 of "Learning check 3.1" in their notebooks given at textbook page 54 and 55.

Homework: (2 min)

Solve Q1 (i-l), Q7 and Q9 of "Learning check 3.1" given at page 55 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 1**

Unit Name: Ratio, Rate and Percentage **Topic:** Comparing Two quantities **Date:**

Objective(s):

At the end of this period, the students will be able to:

Compare two quantities by percentage.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 56, 57 and 59

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students:

What is meant by percentage and symbol used for it?

How we can find the percentage of a quantity?

How we can find the given percentage of a quantity?

Take their responses and Give each student two paper slips of two questions one for finding percentage and the other one have to find the given percentage of the quantity. Walk around and check their work and appreciate them for their correct work.

Main Activities/Concept Building: (22 min)

Tell students today we will learn to compare two quantities by using percentage. Tell students as percentages represent a portion or fraction of a whole, expressed as parts per hundred. Tell them that when comparing quantities using percentages, we calculate the percentage change between the two values to understand how much one quantity differs from the other in terms of a percentage. This comparison helps us evaluate the relative change or difference between the quantities and determine which one has a greater or lesser. Ask students to open their textbook page 56. Instruct students to read the statement of the worked example 1. Ask them after reading tell what is given and what we have to find. Take their responses and tell them that verses read by Nida and Arham of Surah Rehman is given and we have to find who read more verses by calculating percentage. Then calculate the percentage and find the difference between percentages step by step and explain each step to them. Instruct students to ask question if they find any difficulty. Explain the comparison of quantities by using percentage by solving worked example 2, 3 and 4 given on textbook page 56 and 57.

Activity 1:

Ask the students to open textbook page 59. Write Q1 (a) on the board. Call a student and ask him/her to find the percentage of the given quantities for comparing. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (a, b, c, d, e) and Q3 of "Learning check 3.2" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (2 min)

Sum up the lesson by re-telling students how we can compare two quantities by using percentages by giving examples from their daily life.

Assessment: (6 min)

To assess students ask them to "Pause and Try" given at page 56 and 57 of their textbook.

Homework: (2 min)

Solve Q1 (f-h), Q4 and Q7 of "Learning check 3.2" given at page 59 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 2**

Unit Name: Ratio, Rate and Percentage **Topic:** Change in Two Quantities **Date:**

Objective(s):

At the end of this period, the students will be able to:

Increase or decrease a quantity by a given percentage.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 57-60

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students how we can compare two quantities by using percentage. Take their responses then write a question on the board related to comparing quantities by using percentage. Instruct to solve it in their notebook. Walk around and check their work and correct if required. Appreciate them for their correct response.

Main Activities/Concept Building: (23 min)

Tell students today we will learn to find the increase and decrease in quantity if the percentage increase or decrease is given. Ask students: How we can find the given percentage of a quantity? Take their responses and tell them that when we find the given percentage of a quantity then if the quantity increases, then we add that percentage increase into it and if the quantity decreases then we subtract. Ask students to open their textbook page 57 and read the statement of the worked example 1. Ask students to tell what are given and what we have to find. Take their responses and tell them that Abdul Ahad's weight is given and we have to find his weight if his weight increases by 4% and when his weight decreased by 3%. Tell them that first we find the 4% of 30 kg and as the weight increases it means we add the increase in weight in 30 kg. Then we find the 3% of his weight and as the weight decrease so we subtract the decrease in weight in 30kg. Explain and solve the example step by step on the board. Instruct students to ask question if they find any difficulty. Explain the concept by solving worked example 2, 3 and 4 on the board and

Activity 1:

Ask the students to open textbook page 59. Write Q2 (a) "20 increased by 5%" on the board. Call a student and ask him/her to find the value of 5% of 20. Ask the rest of the class to check and correct if required. Then instruct them to Q2 (b, c, d) and Q5 of "Learning check 3.2" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (3 min)

Sum up the lesson by re-telling students how we can find the change (increase and decrease) in two quantities if the percentage increase or decrease is given.

Assessment: (7 min)

To assess students ask them to solve "Pause and Try" on page 58 and Q2 (e, f) of "learning Check 3.2" given at page 59 of their textbook in their notebook. Walk around and check their work and guide where needed.

Homework: (2 min)

Solve Q2 (g, h), Q6, Q8 and Q9 of "Learning check 3.2" given at page 59 and 60 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 3**

Unit Name: Ratio, Rate and Percentage **Topic:** Ratio **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify ratios as comparison of two or more quantities of the same kind.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 60, cards that have two sets of objects

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask Students: How we can compare quantities by using percentage? How can find increase and decrease in quantity if percentage increase or decrease is given? Take their responses and appreciate them for their correct response.

Main Activities/Concept Building: (25 min)

Ask students have they compare quantities before. Take their responses and give example when they compare marks of two more students gained in math test, number of boys and girls in their class, etc. Tell students today we will learn another method to compare two or more quantities that is called ratio. Tell them that ratio is the way to compare two or more quantities that are of same kind or of same unit as we compare the number of boys and girls in a class, compare the weight of two students, compare the length of two rods, etc. in these situations we use ratio to compare the quantities. Tell them that we use symbol ":" this to represent ratio between two quantities. Ask students to open their textbook 60 and explain about the term ratio. Tell them that ratio represent the comparison of two quantities of same kind. If we say that 'a' and 'b' are two quantities then the ratio between them can be represented by a: b, read it as "a to b" where the first term a is called antecedent and the second term b is called consequent. Tell them that we can represent it in fraction form as $\frac{a}{b}$. explain the concept of ratio by giving different real-life examples to them.

Activity 1:

Get students into pairs. Give each pair picture cards of two quantities of same kind. Instruct them to observe and identify the quantities that to be compared in the picture cards. Ask them to write the ratio of the given quantities below each picture card. Walk around and monitor their working. Instruct to raise hand when complete the work. After that each pair share their picture cards to other pairs of the class. Appreciate them for their good work.

Sum Up: (3 min)

Sum up the lesson by re-telling students that ratio is used to compare two or more quantities of same kind and also explain "Note to Remember" given at page 60.

Assessment: (5 min)

To assess students ask them to write some examples from their real life where they use ratio for comparison of two or more quantities of same kind.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 4**

Unit Name: Ratio, Rate and Percentage **Topic:** Ratio **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the ratio of two numbers (up to 3 digits) and simplify ratios including real-world word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 60-61, 63-64

Teaching & Learning Activities:

Opening Activities/Warm-up:

(7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students:

What is meant by ratio? Where we use Ratio? Can we find the ration of quantities of different units? What is meant by antecedent and consequent? Take their responses and appreciate them for their correct answers and call a student to the front and instruct to write two numbers in form of ratio and fraction form. Also write which one is antecedent and consequent.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn how to calculate the ratio of two numbers and then simplify ratio if possible. Ask students: how we can calculate the ratio between to quantities. Take their responses and then instruct them to open their textbook page 60.

Ask them to observe the number of glasses and spoons. As there are 6 glasses and 8 spoons so we can write this in ratio form as 6: 8 (read it as 6 to 8). Ask



them to look at the numbers 6 and 8 that have common divisor 2, its means we can simplify the given ratio by dividing it by 2.

Simplified form of 6: 8 is 3: 4. Similarly the ratio of spoons to glasses is 4: 3

Explain also the fraction form of the ratio. Tell them that ratio of glasses to spoon is not the same as ratio of spoons to glasses. Solve and explain the worked example 2 on the board and instruct students to ask questions if they find any confusion. Give different real-life examples of calculating ratios to students for more clarification that where and how we use ratio in our daily life problems.

Activity 1:

Ask the students to open textbook page 63. Write Q1 (a) "30 to 80" on the board. Call a student and ask him/her to find the ratio of given quantities. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (b, c, d) and Q2(a, b, c, d) and Q4 of "Learning check 3.3" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up:

(2 min)

Sum up the lesson by re-telling students how we can calculate the ratio of two numbers up to 3-digit numbers and also explain "Note to remember" on page 61.

Assessment:

(7 min)

To assess students ask them to solve "Pause and try" given on textbook page 61, Q4 and Q6 of "Learning check 3.3" on page 63 and 64.

Homework:

(2 min)

Solve Q1 (e-h), Q2 (e-h) and Q9 of "Learning check 3.3" given at page 63 and 64 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 5**

Unit Name: Ratio, Rate and Percentage **Topic:** Continued Ratio **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify continued ratio as comparison of more than two quantities.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 62

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students: how we can calculate the ratio of two numbers? How we can simplify the given ratios? Take their responses and write real life problem for example "The weight of Ayesha is 50 kg and weight of Musa is 75 kg. Calculate the ratio and simplify if possible." on the board. Call a student to the front of the class and ask him/her to solve it. Ask the rest of the class to check and correct him/her if needed. Appreciate them for their correct working.

Main Activities/Concept Building: (25 min)

Tell students today we will learn continued ratio as comparison of more than two quantities. Ask students: Do you know about continued ratio? Take their responses and tell them that as we know that the ratio is used when we compare two quantities of same kind. For example when compare weight of two persons, length of two rods, height of two boys etc. but in many of life situation we have to compare more than two quantities for example when we compare the saving of three months, marks of three students, height of three students, etc. Tell them that when we want to compare three quantities we use continued ratio. Tell them that if a, b and c are three quantities then continued ration among them can be written as $a : b : c$

Activity 1:

Divide the students into pairs or small groups. Provide each group with a different real-life scenario that involves continued ratios. For example: A recipe that requires a specific ratio of ingredients (e.g., 2 cups of flour to 1 cup of sugar to 0.5 cup of butter). A road trip where the distance traveled each day follows a specific ratio (e.g., 100 miles on the first day, 150 miles on the second day, 200 miles on the third day). A savings plan where the amount saved each month follows a specific ratio (e.g., Rs 2450 in the first month, Rs 1975 in the second month, Rs 2500 in the third month). Instruct each group to analyze their given scenario and identify the continued ratios present. Encourage students to discuss and collaborate within their groups, sharing their ideas and reasoning. Bring the groups back together as a whole class. Ask each group to share the continued ratios they identified in their scenario. Write their responses on the whiteboard or chart paper. Discuss and clarify any misconceptions or questions that arise.

Sum Up: (2 min)

Sum up the lesson by emphasizing that continued ratios allow us to compare multiple quantities in various real-life situations. Ask students to open their textbook page 62 and learn about continued ratio.

Assessment: (7 min)

To assess students ask them to write one real life situation where they use continued ratio.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 6**

Unit Name: Ratio, Rate and Percentage **Topic:** Continued ratio **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate continued ratio including real-world word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 62, 63, 64

Teaching & Learning Activities:

Opening Activities/Warm-up:

(7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students:

What is meant by ratio? What is meant by continued ratio? What is the difference between ratio and continued ratio? Ask randomly from students the real-life situation where they use ratio and continued ratio. Take their responses and appreciate them for their correct answers.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn to calculate the continued ratio. Instruct students to open their textbook page 62 and read the worked example 1. Ask them after reading what they have observed in the example. Take their responses and tell them that ratio between the ages of Amir and Imran is 7 to 5 and the ratio between the ages of Imran and Ali is 3 to 2 and we have to find the continued ratio among the ages of Amir, Imran and Ali.

Ratio between the ages of Amir and Imran = 7 to 5 = 7 : 5

Ratio between the ages of Imran and Ali = 3 to 2 = 3 : 2

Tell them that in the given example Imran's age is common in both so to calculate the continued ratio we have to make the age of Imran same in both ratios. To make the Imran age same in both ratio multiply first ratio by 3 and the second ratio by 5.

Ratio between the ages of Amir and Imran = 21 : 15 Ratio between the ages of Imran and Ali = 15 : 10

Now we can calculate the continued ratio as:

$$\begin{array}{ccccc} \text{Amir's age} & : & \text{Imran's age} & : & \text{Ali's Age} \\ 21 & : & 15 & : & 10 \end{array}$$

Explain each and every step to calculate continued ratio to students. To demonstrate the method of calculating continued ratio by using worked examples 2 stepwise. Encourage students to ask questions if they have any ambiguity.

Activity 1:

Ask the students to open textbook page 63. Write Q3 (a) on the board. Call a student and ask him/her to find the continued ratio if $a : b = 1 : 3$ and $b : c = 2 : 4$ the find $a : b : c$. Ask the rest of the class to check and correct if required. Then instruct them to Q3 (a, b, c, d, e) and Q7 of "Learning check 3.3" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up:

(2 min)

Sum up the lesson by re-telling students how we can calculate the continued ratio by giving examples.

Assessment:

(7 min)

To assess students ask them to solve "Pause and Try" given at page 62 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q3 (e-h) and Q9 of “Learning check 3.3” given at page 63 and 64 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 7**

Unit Name: Ratio, Rate and Percentage **Topic:** Rate **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify rate as a comparison of two quantities (where one quantity is 1) with different units.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 64

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students: what is meant by continued ratio? How we can calculate the continued ratio? Call a student to the front of the class and ask him/her to write a real-life situation where continued ratio is used. Then calculate the continued. Ask the rest of the class to check and correct him/her if needed. Appreciate them for their correct working.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about the concept rate. Ask students: Do you know about rate? Take their responses and tell them that as we know that the ratio is used when we compare two quantities of same kind. For example when compare weight of two persons, length of two rods, height of two boys etc. but in many of life situation we have to compare two quantities of different kinds, for example when we compare speed of a vehicles with unit time, work done in unit time, per kg price of rice, etc. Tell them that when we want to compare two quantities of different units we use rate. As in the example we compare speed with time, work with time, and price per kg. Tell them that when we compare quantities by using rate, one quantity fixed at unit rate or in other words we can say that as rate can be written in fraction form so the denominator of the fraction is always 1. Ask students to open their textbook page 64 and learn about rate.

Activity 1:

Write several life situations on the board that involves rates, such as:

"A car travels 200 miles in 4 hours. What is the rate of the car's speed?"

"Sarah bought 5 apples for Rs 560. What is the rate of the price per apple?"

Instruct the students to work individually or in pairs to identify the rates in each situation. Encourage them to think about the units involved and how they can compare the quantities effectively. Circulate among the students to provide assistance and monitor their progress. Once students have identified the rates, have them share their answers with the class. Discuss the solutions as a class, emphasizing the correct units and the meaning of the rates obtained.

Sum Up: (2 min)

Sum up the lesson by emphasizing that rate is the comparison of two quantities of different kinds by giving different real-life examples.

Assessment: (7 min)

To assess students ask them to reflect on real-life situations where rates are commonly used and how understanding rates can help in solving problems.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 1**

Unit Name: Ratio, Rate and Percentage **Topic:** Rate **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate unit rates including real-world word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 65-66

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students:

What is meant by ratio? What is meant by rate? What is the difference between ratio and rate? Ask randomly from students the real-life situation where they use ratio and rate. Take their responses and appreciate them for their correct answers. Recall with them rate as a comparison of two quantities (where one quantity is 1) with different units.

Main Activities/Concept Building: (25 min)

Tell students today we will learn to calculate the rate. Instruct students to open their textbook page 65 and read the worked example 1. Ask them after reading what they have observed in the example. Take their responses and tell them that the bus fare for the group of 25 people is given and we have to find the unit rate or per person fare. Tell them that to find the unit rate we have to convert 25 by 1. First write the values in fraction form by removing the units. After this we have to divide numerator and denominator by 25. Explain each and every step to calculate rate per person. To demonstrate the method of calculating the unit rate explain worked examples 2 and 3 stepwise. Encourage students to ask questions if they have any ambiguity. Ask student for more clarification of calculating rate find some real-life situations and calculate the rate.

Activity 1:

Ask the students to open textbook page 66. Write Q1 (a) "Rs 150 for 3 sacks of biscuits" on the board. Call a student and ask him/her to find unit rate or the price of one pack of biscuits. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (a, b, c, d, e) and Q2 of "Learning check 3.4" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (2 min)

Sum up the lesson by re-telling students how we can find the unit rate of the quantities by giving different real-life situation and finding unit rates.

Assessment: (7 min)

To assess students ask them to solve "Pause and Try" given at page 65 and Q3 of "learning check 3.4" at page 66 of their textbook.

Homework: (2 min)

Solve Q4-Q7 of "Learning check 3.3" given at page 66 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 2**

Unit Name: Ratio, Rate and Percentage **Topic:** Sum up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 3 by solving Q1-7 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 67-68

Teaching & Learning Activities:

Opening Activities/Warm-up: (3 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Ratio, Rate and Percentage".

Ask them the different questions that are related to "Ratio, Rate and Percentage".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 67 and 68 of their textbooks. Ask them to solve Q1 to Q4 of "Unit Check 3".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 67.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q5-7 of "Unit Check 3" given at page 68 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 3**

Unit Name: Ratio, Rate and Percentage **Topic:** Sum up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 3 by solving Q8-14 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 67-68

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Ratio, Rate and Percentage".

Ask them the different questions that are related to "Ratio, Rate and Percentage".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 68 of their textbooks. Ask them to solve Q8 -11 of "Unit Check 3". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 67.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q12-14 of "Unit Check 3" given at page 68 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 4**

Unit Name: Ratio, Rate and Percentage **Topic:** Sum up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 3 by solving Q15-18 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 67 and 69, Price tags, coins and notes, Flash cards /name of foods/grocery/stationary items

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Ratio, Rate and Percentage”.

Ask them the different questions that are related to “Ratio, Rate and Percentage”.

Main Activities/Concept Building: (30 min)

Activity 1:

Have students open pages 69 of their textbooks. Ask them to solve Q15 and Q16 of “Unit Check 3”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

Have students pretend to be customers and shopkeepers. One student will play the shopkeeper role and open the tuck shop. He will offer food items at prices that are a fraction of what they were originally priced at. Other students purchase those items by determining the new prices. Students line up and wait for their turn before going one by one to the tuck shop to purchase items at a discount. Tell them the rate of one item and instruct them to determine the ratio between the old and new prices of the food they purchase.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “Ratio, rate and percentage”.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q17-18 of “Unit Check 3” given at page 69 of their textbooks.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 5**

Unit Name: Sets **Topic:** Set and its Notation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define set and recognize its notation.

Resource Material:

Chalk/Marker, White/Blackboard, picture cards textbook page 70-72, 74

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by show different pictures of groups of objects such as grade 6 books, groups of friends, collection of toys etc. and ask them about characteristic of these collections of objects. Have students open textbook at page 70. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building:

(20 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students today we will learn about the concept of set. Ask the students if they have heard about sets before and if they know what they are. Encourage discussion and share their responses. Now ask students to open their textbook page 71. Paste the flash cards of different flavours of tea on the board. Instruct students to observe the flash cards. Explain to them as all the flavours of tea are different and unique so it becomes a set. Tell them that a collection of objects that are distinct and well defined is called a set. Explain the term distinct and well defined to students by giving different example from their daily life. Point out towards the different flavours of tea and tell them that as all the flavours of tea are different from each other no one is common so it means the flavours of tea are distinct, as these are flavours of tea so these are also well-defined. As it fulfill the two characteristics of set so the collection different flavours of tea is a set. Explain to students that element of the set may or may not be in order because the sequence does not affect the set, only the element of the set are not repeated and well-defined otherwise it is not a set. Explain that the elements of a set are enclosed in curly braces { }, each element is separated by commas and the set is represented by the capital letter A, B, C, etc. Ask students to read the statement of the worked example 1. then by explaining each part to students that the group of objects is a set or not. For more explanation solve the worked example 2, 3 and 4 on the board. Throughout the lesson, encourage students to ask questions and actively participate in discussions. Engage in dialogue to clarify any misconceptions and deepen their understanding of sets.

Sum Up:

(3 min)

Sum up the lesson by re-telling about set and its notation and explain "Note to Remember" to them

Assessment:

(7 min)

To assess students ask them to solve "Pause and try" given at page 72 and Q1 (a-d) of "Learning check 4.1" given at page 74 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework: (2 min)

Solve Q1 (e-l) of “Learning check 4.1” given at page 74 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 6**

Unit Name: Sets **Topic:** Set and its Notation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognise elements of a set and its cardinality.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 73-74, objects or pictures (animals, fruits or shapes)

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin by reviewing the concept of sets briefly. Remind students that a set is a collection of distinct objects or elements. Write different collection of objects on the board. Call a student to the front of the class and ask him/her to identify the collection of objects that are set and then represent that collection of objects in form set (enclosed by brackets and give them name).

Main Activities/Concept Building: (21 min)

Instruct students to open their textbook page 73. Tell them that today we will learn about element of the set and its cardinality. Ask them do you know about elements of a set and its cardinality. Encourage discussion and share their responses. Now write the worked example 1 on the board that is "How many elements are in the set of odd numbers less than 16?" first write the odd numbers that are less than 16 in a curly brackets and give them name capital letter O.

$O = \{1, 3, 5, 7, 9, 11, 13, 15\}$

Tell them that 1, 3, 5, 7, 9, 11, 13 and 15 are called the element of the set. Ask students to count the number of elements that are present in a set that are 8 so the cardinality of set O is 8. Tell them that total number of elements that are present in any set is called the cardinality of the set. Explain the concept of cardinality of set by writing different sets on the board and by counting the total number of elements of those sets.

Activity 1:

Display or distribute objects or pictures representing different categories, such as animals, fruits, and shapes. Divide the class into pairs or small groups. Instruct each pair/group to choose one category and gather a set of objects or pictures that belong to that category. Give the pairs/groups time to collect and arrange the objects or pictures to create their sets. Once they have prepared their sets, instruct them to write down the elements by ensuring each element is listed only once. Have each pair/group exchange their set of objects or pictures with another pair/group. Instruct the receiving pair/group to count the elements in the set and determine its accurate cardinality. Ask pairs/groups to share their experiences in counting the elements and determining the cardinality. Appreciate them for their correct working.

Sum Up: (3 min)

Sum up the lesson by re-telling about elements of the set and cardinality of the set.

Assessment: (7 min)

To assess students ask to solve "Pause and try" given at age 73 and Q2 of "learning check 4.1" at page 74 of their textbook.

Homework: (2 min)

Solve Q3 and Q4 of "learning check 4.1" at page 74 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 7**

Unit Name: Sets **Topic:** Types of Sets **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and demonstrate finite and infinite sets through examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 74, 75, 76 and 80, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students: What does meant by a set? Define element of a set and cardinality of a set? Take their response and Call a student to the front of the class and ask him/her to write a set and also tell the cardinality of that set. Ask the rest of the class to check and correct if required.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about types of set that are finite and infinite. Ask them: Do you know about finite and infinite sets? Take their responses and ask them to open their textbook page 74 and 75. Instruct them to read the statement "Harris has an aquarium filled with different red, blue, green, yellow, purple and brown coloured fish." given at page 74. Write the set for the given fish of different colours as:

$$F = \{\text{red, blue, green, yellow, purple, brown}\}$$

Ask students to count the number of fish in the aquarium. Tell them that as number of fish in the aquarium is countable so the given set is finite set. Explain the finite set by explain examples given on page 75 and also solve worked example 1 and 2. Now ask students; can you count the number of stars in the sky? Take their responses that must be no. Tell them that when the number of elements in a set is not countable then that set is called infinite set. Write the set of whole numbers on the board and tell them that as number of element in the set of whole number is not countable so set of whole numbers is infinite set. Also give different examples to explain the infinite set as given on page 76. Solve worked example 1 and 2 to explain them about infinite set.

Activity 1:

Divide the students into small groups. Distribute small pieces of paper to each group. Instruct each group to create three sets, two of which are finite and one is infinite. They can write down the elements or use objects/pictures to represent the sets. Once the groups have completed their sets, have them exchange with another group. Ask each group to examine the sets they received and determine which ones are finite and which one is infinite. They should write their answers on the paper. Discuss the answers as a whole class, allowing each group to share their findings.

Sum Up: (5 min)

Sum up the lesson by emphasizing the definitions and characteristics of finite and infinite sets. Explain "Note to Remember" given at page 75.

Assessment: (5 min)

To assess students ask them to solve "Pause and Try" given at page 75 and 76 of their textbook.

Homework: (2 min)

Solve Q1 of "Learning check 4.2" given at page 80 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 1**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Multiply the given integers.

a) -3 and $+9$

b) -11 and -9

c) $+13$ and -22

2. Find the product of first 5 even negative integers.

3. Divide the following.

a) -6 by -2

b) $+72$ by -9

c) -72 by $+3$

4. If the product of two integers is 91. If one integer is 7 then find the other integer.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 2**

Unit Name: Factors and Multiples **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Verify the closure law and commutative law for the integers under multiplication.

a) -9 and -32

b) +15 and -2

2. Verify the associative law for the integers -13 , -10 and $+5$.

3. Verify the distributive property for the given integers under addition and subtraction.

$+11$, -4 and -17

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 3**

Unit Name: Factors and Multiples **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Integers”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Integers”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Simplify the following.

a) $115 - \{32 + 3 \div (6 + 3 \times 2)\}$

b) $6.8 \times [1.2 + \{1.9 - (4.6 - 3.4 \div \frac{1}{6})\}]$

c) $3\frac{1}{3} + \frac{7}{11} \times \{14 - (\frac{5}{6} + \frac{3}{7} \times \frac{1}{2})\}$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 4**

Unit Name: Ratio, Rate and Percentages **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Ratio, Rate and Percentages".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Ratio, Rate and Percentages".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the value of the following.

a) 30% of 680

b) 24.5 % of 520

2. Express the following.

a) 4.5 as a percentage of 230

b) 330 as a percentage of 750

3. Out of 200 pages of the storybook, 45% of the pages read by Ahmad. How many pages read by the Ahmad and how many pages left?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 5**

Unit Name: Ratio, Rate and Percentages **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Ratio, Rate and Percentages".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Ratio, Rate and Percentages".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Compare the quantities by using percentage.

a) 54 out of 90 and 35 out of 50

b) 87 out of 150 and 90 out of 200

2. Calculate the increase and decrease in quantity.

a) 300 increased by 40%

b) 90 decreased by 2.7%

3. Find the ratio of the following and simplify if possible.

a) 17 to 51

b) 14: 98

4. Hareem bought a shirt for Rs 2500. Find the price of the shirt if price increased by 12%. Also find the price of the shirt if the price decreased by 7.5%.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 6**

Unit Name: Ratio, Rate and Percentages **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Ratio, Rate and Percentages".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Ratio, Rate and Percentages".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the continued ratio for the following values.

If $x : y = 7 : 4$ and $y : z = 3 : 11$ then find $x : y : z$

2. Find the unit rate for the following.

a) Rs 250 for 5 kg of melons

b) Rs 9800 for 7 peoples

3. The ratio among the height of Amara and Sara is 3: 4 and the ratio between Amara and Hadia height is 5: 2. Find the continued ratio among their heights.

4. Yasir filled 12 litres of juice in 8 bottles. How much quantity of juice in one bottle.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 1 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 7**

Unit Name: Sets **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Sets”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Sets”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Identify if the collection of given objects is a set or not. Give reason.

a) The collection of fruits in winter season

b) The collection of provinces of Pakistan.

c) The collection interesting books

d) The collection of multiples of 7 between 14 and 100.

2. Write the difference between finite and infinite sets and give one example of each set.

3. Write the cardinality of the given sets.

a) The set of prime numbers less than 5

b) The set of whole numbers greater than 4 and less than 12.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 1**

Unit Name: Sets **Topic:** Empty set **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and demonstrate empty sets through examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 76, 77 and 80, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students: Do you know: what is meant by set and elements of a set? What is meant by finite and infinite set? Take their responses and then call a student to the front of the class and ask him/her to write an example of finite and infinite set. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct response.

Main Activities/Concept Building: (25 min)

Begin the lesson by informing the students that they will be learning about a type of set called the empty set. Ask them if they are familiar with the concept and encourage them to share their ideas and explanations. Instruct the students to open their textbooks to page 76 and look at the statement that says "set of common points of parallel lines." Ask them to read this statement carefully. Create a visual representation of parallel lines on the board. Explain to the students that parallel lines never intersect and point towards the lines to emphasize this fact. Discuss the concept of the set of common points of parallel lines and ask the students to share their thoughts on what this set would look like. Guide the discussion towards the conclusion that the set of common points of parallel lines is actually an empty set, as there are no points of intersection. Explain that an empty set is a set with no elements in it, like an empty bucket. Provide the students with the definition of an empty set, emphasizing that it has no elements. Instruct the students to turn to page 76/77 in their textbooks, where they will find examples of empty sets. Encourage them to examine these examples. Introduce the two common notations used to represent an empty set: $A = \{ \}$ or $A = \emptyset$. Explain that these symbols indicate an empty set. Present different examples of empty sets from the textbook on page 77. Take a moment to discuss each example with the students, helping them understand why these sets are considered empty. To reinforce the concept further, work on a worked example together. Refer to worked example 1 on page 77 of the textbook and solve it step by step. Encourage student participation and address any questions or concerns they may have.

Activity 1:

Divide the students into small groups of 3-4 students each. This will encourage collaboration and active participation. Provide each group with small pieces of paper or index cards. These will be used to create and represent sets. Instruct each group to create three sets using the provided materials. One of the sets they create should be an empty set. They can write down the elements of the sets or use objects/pictures to represent them. Once the groups have completed their sets, have them exchange their sets with another group. This step will introduce an element of surprise and exploration. Instruct each group to carefully examine the sets they received and determine which one is the empty set. They should write their conclusions on the paper provided. Bring the groups back together as a whole class and initiate a discussion. Ask each group to share the sets they received and their conclusions about which set is the empty set. This will foster communication and critical thinking. Facilitate a discussion to ensure that students understand the characteristics of an empty set. Encourage students to explain their reasoning and provide examples to support their answers. Address any misconceptions that may arise during the discussion and reinforce the concept of empty sets using the explanations provided earlier in the lesson.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Sum Up: (5 min)

Sum up the lesson by emphasizing the definitions and characteristics of empty set. Explain “Note to Remember” given at page 76.

Assessment: (5 min)

To assess students ask them to solve “Pause and Try” given at page 77 of their textbook.

Homework: (2 min)

Solve Q2 of “Learning check 4.2” given at page 80 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 2**

Unit Name: Sets **Topic:** Singleton set **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Define and demonstrate singleton sets through examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 77, 78 and 80, Paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (2 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students: Do you know: what is meant by set and elements of a set? What is meant by empty set? Take their responses and then call a student to the front of the class and ask him/her to write an example of empty set. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building: (25 min)

Start the lesson by informing the students that today they will learn about a specific type of set called a singleton set. Ask them if they are familiar with this concept and encourage them to share their ideas and explanations. Allow the students to respond and take note of their answers. Acknowledge their contributions and build upon their existing knowledge. Instruct the students to open their textbooks to page 77. Ask them to locate and read the statement that says "set of prime numbers between 5 and 10." Engage the students in a discussion about prime numbers. Ask them: "What are prime numbers?" Allow the students to share their responses and explanations. Recall the definition of prime numbers with the students. Explain that prime numbers are the numbers that have only two divisors: 1 and the number itself. Provide the students with the numbers between 5 and 10, which are 6, 7, 8, and 9. Explain that we need to determine which of these numbers are prime numbers. Guide the students through the process of identifying the prime numbers between 5 and 10. Help them understand that 6, 8, and 9 have more than two divisors, so they are not prime numbers. The only prime number in the set is 7. Explain to the students that the set of prime numbers between 5 and 10 has only one element, which is 7. Emphasize that a set with only one element is called a singleton set. Instruct the students to open their textbooks to page 77 and learn more about singleton sets. Allow them some time to read and understand the content provided. To further reinforce the concept, solve worked examples 1, 2, and 3 given on pages 77 and 78 of their textbooks. Walk the students through the solutions, explaining the concept of singleton sets in each example.

Activity 1:

Divide the students into small groups of 3-4 students each. This will encourage collaboration and active participation. Provide each group with small pieces of paper or index cards. These will be used to create and represent sets. Instruct each group to create three sets using the provided materials. One of the sets they create should be a singleton set. They can write down the elements of the sets or use objects/pictures to represent them. Once the groups have completed their sets, have them exchange their sets with another group. This step will introduce an element of surprise and exploration. Instruct each group to carefully examine the sets they received and determine which one is the singleton set. They should write their conclusions on the paper provided. Bring the groups back together as a whole class and initiate a discussion. Ask each group to share the sets they received and their conclusions about which set is the singleton set. This will foster communication and critical thinking. Facilitate a discussion to ensure that students understand the characteristics of a singleton set. Encourage students to explain their reasoning and provide examples to support their answers. Address any misconceptions that may arise during the discussion and reinforce the concept of singleton sets using the explanations provided earlier in the lesson.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Summarize the discussion by restating the definitions and characteristics of a singleton set, reinforcing the content covered during the activity.

Sum Up: (5 min)

Sum up the lesson by emphasizing the definitions and characteristics of singleton set. Explain “Note to Remember” given at page 77.

Assessment: (5 min)

To assess students ask them to solve “Pause and Try” given at page 78 of their textbook.

Homework: (2 min)

Solve Q3 of “Learning check 4.2” given at page 80 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 3**

Unit Name: Sets **Topic:** Universal set **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and demonstrate universal set through examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 78 and 80

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by asking students what they have learnt yesterday. Ask students: How many types of sets? What is meant by finite and infinite sets? What is meant by empty and singleton set? Take their responses and then call a student to the front of the class and ask him/her to write one example of each type of these sets. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Begin the lesson by informing the students that today they will learn about a specific type of set called a universal set. Ask them if they are familiar with this concept and encourage them to share their ideas and explanations. Allow the students to respond, and take note of their answers. Acknowledge their contributions and build upon their existing knowledge. Instruct the students to open their textbooks to page 78. Ask them to locate the sets given on the page: Set A, Set B, and Set C. Write these sets on the board for all students to see:

$A = \{2, 4, 6, 8, 10\}$ $B = \{1, 3, 5, 7, 9\}$ $C = \{0, 1, 2, 3, \dots, 10\}$

Guide the students to observe these sets. Explain that we need to identify which set is the universal set. Direct their attention to Set A and Set C. Explain that since all the elements of Set A and Set B are present in Set C, we can conclude that Set A and Set B are subsets of Set C. Emphasize that a set that contains all the elements of the sets under consideration in a particular context is called a universal set. In this case, Set C contains all the elements from Sets A and B, so it is considered the universal set. Instruct the students to open their textbooks to page 78 and learn more about the universal set. Allow them some time to read and understand the content provided. To provide further clarification, solve worked example 1 on the board. Use this example to explain the concept of a universal set in a step-by-step manner, involving the students in the process.

Activity 1:

Divide the students into small groups of 3-4 students each. This will encourage collaboration and active participation. Provide each group with small pieces of paper or index cards. These will be used to create and represent sets. Instruct each group to create three sets using the provided materials. One of the sets they create should be a universal set. They can write down the elements of the sets or use objects/pictures to represent them. Once the groups have completed their sets, have them exchange their sets with another group. This step will introduce an element of surprise and exploration. Instruct each group to carefully examine the sets they received and determine which one is the universal set. They should write their conclusions on the paper provided. Regroup the students as a whole class and initiate a discussion. Ask each group to share the sets they received and their conclusions about which set is the universal set. This will foster communication and critical thinking. Facilitate a discussion to reinforce the concept of universal sets. Encourage students to explain their reasoning and provide examples to support their answers. Address any misconceptions that may arise during the discussion and reinforce the concept of universal sets using the explanations provided earlier in the lesson. Summarize the discussion by restating the definition and characteristics of a universal set, reinforcing the content covered during the activity.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Sum Up: (5 min)

Sum up the lesson by emphasizing the definitions and characteristics of universal set. Explain “Note to Remember” given at page 78.

Assessment: (5 min)

To assess students write different sets on the board and ask students to observe those sets and tell which one is the universal set.

Homework: (2 min)

Revise the classwork.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 4**

Unit Name: Sets **Topic:** Venn diagram **Date:**

Objective(s):

At the end of this period, the students will be able to:

Represent sets using Venn diagram.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 79 and 80

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

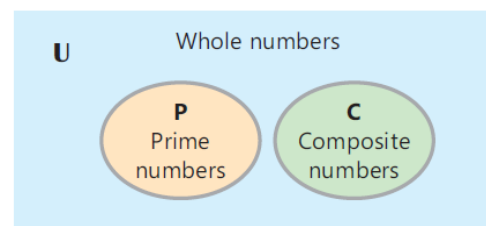
Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day work. Write three sets on the board. Call a student to the front of the class and ask him/her to observe the sets and tell which one is the universal set? Take his/her response and appreciate them for their correct response.

Main Activities/Concept Building:

(22min)

Tell students today we will learn about how to represent sets through Venn diagram. Instruct students to open their textbook page 79. Write three sets, set of whole numbers, set of prime numbers and set of composite numbers on the board. As the set of prime numbers and set of composite numbers are the subsets of the set of whole numbers, so the set of whole number is the universal set. Tell students we can show these sets using Venn diagram. Ask them: Do you know about Venn diagram? Take their responses and tell them that a Venn diagram usually represents the relationship between two or more sets. In Venn diagram circles present the subsets and the rectangle shows the universal set. Point out towards the Venn diagram given at page 79 and tell them that the blue rectangle show the universal set that is the set of whole numbers, the set of prime numbers and the set of composite numbers are shown by drawing two circles inside the rectangle. For more clarification solve the worked example 1 on the board and explain it to students. Instruct students to ask questions if they have any confusion.



Activity 1:

Have students to work in pairs. Distribute paper sheets to each pair. Instruct each pair to write different sets on the paper and then identify which one is the universal set. Instruct them to show that sets using Venn diagram. Once the pairs have completed their work, have them exchange with another group. Ask each pair to examine the Venn diagram. Appreciate the pair that work correctly in short time. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by emphasizing by re-telling students how to represent different sets using Venn diagram by demonstrating different examples on the board. Also explain the "Note to remember" given at page 79 of their textbook.

Assessment:

(8min)

To assess students ask them solve "Pause and Try" given at page 79 of their textbook in their notebook. Walk around and check their work and guide them where required.

Homework:

(2 min)

Solve Q4 of "Learning check 4.2" given at page 80 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher's Self-Evaluation: **Target:** Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 5**

Unit Name: Sets **Topic:** Sum Up and Unit Check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 4 by solving Q1-3 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 81 and 82

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Sets".

Ask them the different questions that are related to "Sets".

Main Activities/Concept Building:

(30 min)

Activity:

Have students open pages 81 and 82 of their textbooks. Ask them to solve Q1 and Q2 of "Unit Check 4".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 81.

Assessment:

(0 min)

N/A

Homework:

(2 min)

Solve Q3 of "Unit Check 4" given at page 82 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 6**

Unit Name: Sets **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 4 by solving Q4-6 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 81, 82 and 83

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Sets".

Ask them the different questions that are related to "Sets".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 82 of their textbooks. Ask them to solve Q4 and Q5 of "Unit Check 4". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 81.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q6 of "Unit Check 4" given at page 82 and 83 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 7**

Unit Name: Sets

Topic: Sum up and Unit Check

Date:

Objective(s):

At the end of this period , the students will be able to:

Revise the concepts of Unit 4 by solving Q7-8 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 83, Paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Sets”.

Ask them the different questions that are related to “Sets”.

Main Activities/Concept Building:

(30 min)

Activity 1:

Have students open pages 83 of their textbooks. Ask them to solve Q7 of “Unit Check 4”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

Get students into groups or pairs. Each pair or group will make paper slips and mention a different collection of items (in any form) on them. Exchange paper slips with other pairs or groups. The other group or pair will separate out the slips that fulfill the conditions of sets and will define the types of set. Share the method of working with each other when the task is completed. The group or pair with the most accurate method of working is the winner.

Sum Up:

(3 min)

Sum up the lesson by repeating the important points of the whole unit “Sets”.

Assessment:

(0 min)

N/A

Homework:

(2 min)

Solve Q8 of “Unit Check 4” given at page 83 of their textbooks.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 1**

Unit Name: Patterns and Algebra **Topic:** Number Patterns **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Recognise simple patterns from various number sequences.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 84 and 85, Number cards

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking them if they have ever noticed any patterns in numbers. Engage in a brief discussion about what a pattern is and examples of patterns in their daily lives. Have students open textbook at page 84. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building: (25 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students today we will learn to recognise simple patterns from various number sequences. Ask students to open their textbook page 85. Ask them: Do you know about patterns of numbers? Take their responses and tell them that number patterns are all around us. They can be found in everyday objects, shapes, and even in nature. Define patterns as arrangements or sequences of numbers that follow a specific rule or operation. Write the term "pattern" on the board and discuss its meaning with the class. Provide simple examples of number patterns to illustrate the concept. For instance, you can show the pattern 2, 4, 6, 8, ... and explain that each number increases by 2 so the rule of this pattern of numbers is adding 2. Another example could be 10, 7, 4, 1, ..., where each number decreases by 3 and rule of this pattern is subtract 3. Explain that patterns can involve different operations (addition, subtraction, multiplication, or division) and can have different types of sequences (increasing, decreasing, repeating). Ask students to open textbook page 85 and learn more about patterns.

Activity 1:

Divide the class into pairs or small groups. Provide each group with a set of number cards. Instruct each group to select one person as the "Pattern Master" for the first round. The Pattern Master secretly arranges the number cards in a specific pattern or sequence. The other group members must observe the arrangement of the cards and try to guess the pattern or rule followed by the Pattern Master. Allow a few minutes for the groups to discuss and make their guesses. Each group presents their pattern guess, explaining the reasoning behind it. The Pattern Master reveals the actual pattern and discusses it with the class. Rotate the role of Pattern Master within each group and repeat the process with new number patterns.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of number pattern and explain the "Note to Remember" to students given at page 85.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Assessment: (5 min)

To assess students ask them to about number pattern and instruct to write some number patterns.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 2**

Unit Name: Patterns and Algebra **Topic:** Number pattern **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify term to term rule to continue a given number sequence.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 85 and 88, number cards

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students what is meant by number sequence or number pattern. Take their responses that should be "The arrangement of numbers in specific patterns that follow some rules" the patterns of numbers may be increasing or decreasing. Now ask students what is meant by increasing and decreasing patterns? Take their responses and appreciate them for their correct responses.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about term-to-term rule. Ask students: Do you know about term-to-term rule. Encourage students to share their ideas and explanations. Instruct them to open their textbook page 85. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that number of packed boxes in stack 1st, 2nd and 3rd are 3, 5 and 7 respectively and we have to find the number of boxes in stack 4th and 5th stack if this pattern continues. Tell them that the term-to-term rule is a mathematical rule that allows us to generate each term in a number sequence based on the previous term(s). To identify the term-to-term rule for the given number of boxes first we write the number of boxes in each stack in sequence that is: 3, 5, 7, _____, _____

Now to find the next two terms of the given sequence first find the difference between the given terms. By observing we have each next term will be obtained by adding 2 to the previous term. This is an increasing sequence so we get the next term by adding 2 to the last term to get the next term: $7 + 2 = 9$, $9 + 2 = 11$. So the numbers of boxes in 4th and 5th stack are 9 and 11 respectively. Explain the term-to-term rule by writing different number sequence on the board and then finding the rule of the given pattern continue the patterns.

Activity 1:

Divide the class into pairs or small groups. Provide each group with a set of number cards containing a sequence with missing terms. Instruct each group to select one person as the "Sequence Creator" for the first round. The Sequence Creator secretly arranges the number cards in a specific order based on a term-to-term rule. The other group members must observe the arrangement of the cards and try to guess the term-to-term rule followed by the Sequence Creator. Allow a few minutes for the groups to discuss and make their guesses. Each group presents their guess for the term-to-term rule, explaining the reasoning behind it. The Sequence Creator reveals the actual term-to-term rule and discusses it with the class. Rotate the role of Sequence Creator within each group and repeat the process with new number sequences.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of number pattern and explain the "Note to Remember" to students given at page 85.

Assessment: (5 min)

To assess students ask them to create their own number patterns and instruct to your class mates to identify the rule of the given pattern and then continue the given sequence.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework: (2 min)

Solve Q1 of “Learning Check 5.1” given at page 88 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 3**

Unit Name: Patterns and Algebra

Topic: Number Patterns

Date:

Objective(s):

At the end of this period, the students will be able to:

Continue a given number sequence and find term-to-term rule (including real life problems).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 86 and 88

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah. Ask the students: How are you? Encourage them to say, “Alhamdulillah”. Ask students about their previous day homework. Ask students: Do you know about term-to-term rule? Encourage students to share their ideas and explanations. Tell them that the term-to-term rule is a mathematical rule that allows us to generate each term in a number sequence based on the previous term(s). Write the any number sequence on the board and ask students to identify the term-to-term rule for this sequence. Take their responses and appreciate them for their correct response.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about find the term-to-term rule and then continue the given number sequence. Instruct students to open their textbook page 86 and read the statement of the worked example 2. Tell students we have to find the next three terms by finding the term-to-term rule. Write the example on the board, solve and explain it step by step. Instruct students to ask questions if they have any confusion. For more explanation solve the worked example 3 step by step on the board and explain it. Instruct students to ask questions if they have any confusion.

Activity 1:

Divide the class into small groups of 3-4 students. Distribute index cards or slips of paper to each group. On each card, write a different incomplete number sequence and real-life situations involving number sequence (growth of a plant's height over time or calculating the distance covered by a moving vehicle, vocabulary words learn by a kid over the time). Instruct the groups to work together to continue the number sequence and identify the term-to-term rule. Circulate around the room, providing guidance and support as needed. Ask groups to share their completed sequences, real-life situations and term-to-term rules with the class. Encourage discussions and comparisons between different groups' findings. Emphasize that there may be multiple correct answers as long as the term-to-term rule is logical and consistent.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of term-to-term rules in understanding and continuing numbers sequences and explain the “Note to Remember” to students given at page 86.

Assessment: (5 min)

To assess students ask them to solve Q3 of “Learning Check 5.1” given at page 88 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q4 of “Learning Check 5.1” given at page 88 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 4**

Unit Name: Patterns and Algebra **Topic:** Number Patterns **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify position to term rule to continue a given number sequence.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 86 and 87, number cards

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students what is meant by number sequence or number pattern? What is term-to-term rule to find the missing term of the sequence? Encourage students to share their ideas and explanations. Discuss with them that term-to-term rules describe the relationship between consecutive terms in a number sequence. Write some number sequence with missing terms on the board. Ask students to find the term-to-term rule for these number patterns and then continue the given sequences. Take their responses and appreciate them for their correct response.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about position to term rule. Ask students: Do you know about position-to-term rule. Encourage students to share their ideas and explanations. Instruct them to open their textbook page 86. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a number sequence is given and we have to find the 10th term of the sequence by using position to term rule. Tell students that term-to-term rules focus on the relationship between consecutive terms, position-to-term rules describe the relationship between the position of a term in a sequence and the term itself. Now write number sequence on the board and ask students to observe the sequence.

5, 9, 13, 17, ...

Tell students by observing the given sequence we came to know that terms of the given sequence are obtained by multiplying the position of the term by 4 and then add 1 to it. As 5 is the 1st number in the sequence, then: $5 = 1 \times 4 + 1$ similarly: $9 = 2 \times 4 + 1$ $13 = 3 \times 4 + 1$ $17 = 4 \times 4 + 1$
So, we can find the 10th term by multiplying 10 by 4 and adding 1 to it.

10th term = $10 \times 4 + 1 = 40 + 1 = 41$

The 10th term of the given sequence is 41.

For more explanation write some sequences of numbers on the board and solve it by using the position-to-term rule.

Activity 1:

Divide the class into small groups. Instruct each group to create a number sequence of their own using a position-to-term rule. Explain that they should come up with a rule that connects the position of a term to its value, similar to the example discussed of the textbook. Each group should write down their number sequence on a sheet of paper. Encourage creativity and challenge them to create sequences with different patterns and rules. After the allocated time, have each group present their number sequence and the position-to-term rule they used. As each group presents, ask other students to identify the rule based on the given sequence.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of identifying Position-to-term rule to continue the number sequence. Explain the "Note to Remember" to students given at page 86.

Assessment: (5 min)

To assess students write number sequences on the board and ask students to identify the position to the term rule for the given sequences.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 5**

Unit Name: Patterns and Algebra **Topic:** Number Patterns **Date:**

Objective(s):

At the end of this period, the students will be able to:

Continue a given number sequence and find position to term rule (including real life problems).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 87 and 88

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about what they have learnt yesterday. Ask students: Do you know about position-to-term rule? Encourage students to share their ideas and explanations. Tell them that the position-to-term rule is a mathematical rule that allows us to generate each term in a number sequence based on the previous term(s). Write the any number sequence on the board and ask students to identify the term-to-term rule for this sequence. Take their responses and appreciate them for their correct response.

Main Activities/Concept Building: (22 min)

Tell students today we will learn about find the position-to-term rule and then continue the given number sequence. Instruct students to open their textbook page 87 and read the statement of the worked example 2. Tell students we have to find the 34th term of the given pattern by finding the position-to-term rule. Write the example on the board, solve and explain it step by step. Instruct students to ask questions if they have any confusion. For more explanation write more examples related position to term rule and find different terms of the sequences by finding the position to term rule. Solve these examples step by step on the board and explain it. Encourage them to discuss and clear their mind if they have any confusion and any difficulty.

Activity:

Divide the class into small groups of 3-4 students. Distribute index cards or slips of paper to each group. On each card, write a different incomplete number sequence and real-life situations involving number sequence. Instruct the groups to work together to continue the number sequence and identify the position-to-term rule. Circulate around the room, providing guidance and support as needed. Ask groups to share their completed sequences, real-life situations and position-to-term rules to complete that sequences with the class. Encourage discussions and comparisons between different groups' findings. Emphasize that there may be multiple correct answers as long as the position-to-term rule is logical and consistent.

Sum Up: (3 min)

Sum up the lesson by emphasizing the importance of position-to-term rule in understanding and continuing numbers sequences.

Assessment: (8 min)

To assess students ask them to solve "Pause and Try" and Q2 (a, b, c) of "Learning Check 5.1" given at page 88 of their textbook.

Homework: (2 min)

Solve Q2 (d, e, f) of "Learning Check 5.1" given at page 88 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Term: 2 Periodic Unit: 1 Week: 2 Lesson Plan: 6
Unit Name: Patterns and Algebra Topic: Algebra Date:

Objective(s):

At the end of this period, the students will be able to:

Explain the term algebra as an extension of arithmetic, where letters, numbers and symbols are used to construct algebraic expressions.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 89 and 92, worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up:

(6 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students some questions to recall what they have learnt before: What is meant by number sequence? What is meant by term-to-term rule? What is the position to term rule to continue the number sequence? What is the difference between term-to-term rule and position to term rule? Take their responses and appreciate them for their correct answers.

Main Activities/Concept Building:

(22 min)

Begin the lesson by engaging students in a discussion about arithmetic and its role in solving mathematical problems. Ask questions like: What do we typically use numbers for in math? How do we perform calculations using arithmetic operations? Allow students to share their responses and provide examples to reinforce the concept of arithmetic. Explain to students that algebra is an extension of arithmetic that use letters, numbers, and symbols to represent quantities and express relationships between them. Tell them that Muhammad ibn Musa al-Khwarizmi, a well-known Muslim mathematician introduced the Algebra. A book titled "Hisab al-Jabr wal-Muqabala, was his most significant contribution. He was also referred to as the "Father of Algebra." Explain to students that algebra provides a more flexible and general approach to solving mathematical problems compared to arithmetic. Give examples of how algebraic expressions can represent real-world situations, such as finding the cost of items based on the number of items purchased or determining the perimeter of a shape with unknown side lengths. Write a simple arithmetic expression on the board, such as " $2 + 3 = 5$," and explain that in algebra, we can replace the numbers with letters or symbols to create algebraic expressions. Ask students to open their textbook page 89 and learn more about algebra. For more explanation instruct students to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that the length of the piece of ribbon is given and we have to find the total length of 21 such pieces. Solve the example on the board step by step and explain each step to them. Tell them that as the number of ribbons is changing so, we can assign any letter say " x " to the number of ribbons so the length of x ribbons is $8x$ cm. Tell students as the value of ' x ' is not constant and may take different values so the letter x is called variable. Small letters of the English alphabet ($a, b, c, \dots, x, y, z$) are commonly used in algebra to show variable quantities. Give different examples to explain variable to students. For more explanation ask them to learn more about variable quantities at page 89 of their textbook.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about importance of Algebra and also explain "Note to remember" given at page 89 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Assessment: (7 min)

To assess students, ask them to solve the given worksheet. Walk around and check their work and guide them where needed. Discuss with them about their common mistakes.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Define algebra.

2. What is the difference between arithmetic and algebra?

3. Replace the symbols with known variables.

a) $\square + 5 = 2$

b) $7 - \square = 11$

c) $4 + 6 - \square = 15$

4. Underline the variables in each of the following.

a) $x + 5 = 2$

b) $2t + 5 = 9$

c) $6y + 4 = -2$

d) $3h - 2 = 1$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 7**

Unit Name: Patterns and Algebra **Topic:** Algebraic Expression **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define algebraic expressions, its parts.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 90, 91 and 92

Teaching & Learning Activities:

Opening Activities/Warm-up:

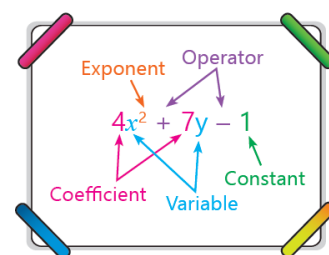
(6 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by asking students about previous day work. Ask students: What is meant by algebra? Name the Muslim mathematician who introduced the algebra? What is variable quantity? Which letters or symbols are used to represent unknown value? Take their responses and discuss about it to students for more clarification.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about algebraic expression and parts of algebraic expression. Begin the lesson by asking students if they have heard the term "algebraic expressions" before. Discuss any prior knowledge they may have about algebraic expressions and their significance in mathematics. Explain that algebraic expressions are an essential part of algebra and are used to represent mathematical relationships and calculations. Engage in a class discussion and guide students to understand that algebraic expressions are mathematical phrases that consist of numbers, variables, and operations. Tell them that algebraic expression is a combination of the variables, constants, coefficients and exponents. For more explanation write an algebraic expression as given in textbook page 90 on the board and label its parts. Tell them that x and y are the variables as the value of x and y are not known, the number 1 is the constant as its value not change and it is without variable. The numbers that are multiplied by the variables are called co-efficients so 4 and 7 are coefficients as these are multiplied by x and y . Tell students exponent represents the result of repeated multiplication of same variable. So here exponent is 2 as variable 'x' is repeated or the power of x is 2. The variables or numbers are separated by operators (+, -) are called the terms of the expression. Here $4x^2$, $7y$ and 1 are three terms of the algebraic expression. Ask students to open their textbook page 90 and learn more about algebraic expressions and its parts. For more clarification solve the worked example 1 and 2 on the board and explain each step to them.



Activity:

Instruct students to open their textbook page 92 and solve Q1 and Q2 of "Learning check 5.2" in their notebooks. Walk around and check their work and guide and correct them where required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about algebraic expression and its parts.

Assessment:

(7 min)

To assess students ask them to solve 'Pause and try' given at page 90 and Q3 of "Learning check 5.2" at page 92 in their notebooks.

Homework:

(2 min)

Solve Q4 and Q5 of "Learning check 5.2" at page 92 in their notebooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 1**

Unit Name: Patterns and Algebra **Topic:** Like and Unlike terms of an Algebraic expression **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and identify like and unlike terms of an algebraic expression.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 91

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by asking students about previous day work. Ask students: what is meant by algebraic expression? Take their responses and write an algebraic expression on the board. Call a student to the front of the class and ask him/her to label its parts. Ask the rest of the class to check whether he/she correctly label the parts of the algebraic expression. Appreciate him/her for their correct labeling. Repeat this activity by writing different algebraic expressions on the board and call random students for labeling those expressions.

Main Activities/Concept Building: (22 min)

Tell students today we will learn to define and identify like and unlike terms of an algebraic expression. Ask students if they have heard the terms "like terms" and "unlike terms" in relation to algebraic expressions. Take their responses and recall with them about the terms of the algebraic expression. Write an algebraic expression on the board:

$$3x^2 + 5x^2 - 2x^2$$

Instruct students to observe the terms of the expressions. Tell them that as in the given expression variables of three terms are same and exponent of all the variables "x" are also same that is 2. Tell them that in an algebraic expression, the terms whose variables as well as the exponents of those variables are the same are called like terms. The coefficients of the like terms may or may not be the same. Like terms can be reduced to a single term through addition and subtraction. As the above expression can be reduced by adding and subtracting $6x^2$. Tell students unlike terms have different variables or if the variables are same then their exponents are different. Ask students to open their textbook page 91 and look at the worked example 1 part a. In the given algebraic expression $3x - 4y + 5x$, $3x$ and $5x$ have same variables and same exponents so these two are like terms where as in $4y$ the variable is different so it is unlike term. But in part b, $5a^2 - 2a + 3a^2$, the variable in three terms are same but the exponent in $5a^2$ and $3a^2$ are same but in $2a$ exponent is different so $5a^2$ and $3a^2$ are like terms where as $3a^2$ and $2a$ and $5a^2$ and $2a$ are unlike terms.

Activity:

Divide the class into small groups. Distribute paper slips to each group. Instruct the groups to write down various terms on the slips, both like and unlike terms. Encourage students to exchange slips within the group to mix up the terms. Instruct the groups to sort the terms into two categories: like terms and unlike terms. Circulate around the room, providing guidance and support as needed. After the activity, ask groups to share their sorted terms with the class and explain their reasoning.

Sum Up: (3 min)

Sum up the lesson by re-telling students like and unlike terms of the algebraic expression.

Assessment: (5 min)

To assess students ask them to complete the given worksheet.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Define like and unlike terms of an algebraic expression.

2. Separate out like and unlike terms in the given algebraic expressions.

a) $5y + 2x + 3x^3$

b) $6y^3 + 9y + 4y^3$

c) $7a^2 + 2a^2 + 9a$

d) $4xy + 3y + 8y$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 2**

Unit Name: Patterns and Algebra **Topic:** Change in Two Quantities **Date:**

Objective(s):

At the end of this period, the students will be able to:

Evaluate algebraic expressions by substitution of variables with numerical values.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 92-94

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by asking students about previous day work. Ask students: What is the difference between like and unlike terms of an algebraic expression? Take their responses and ask them to write an algebraic expression involving like and unlike terms and then explain with reasoning why the terms are like and unlike. Take their responses and appreciate them for their correct responses.

Main Activities/Concept Building: (23 min)

Tell students today we will learn how to evaluate the algebraic expression. Tell students as we know that algebra is an extension of arithmetic. In arithmetic we add the numbers but in algebra we use letters or variables to denote different numbers. Tell students to find the value of an algebraic expression if the values of the variables involved are known then we can evaluate the given expression. Tell them that the process of finding the numerical value of an algebraic expression by substituting the specific numerical values for the variables is known as the evaluation of the algebraic expression. To evaluate the algebraic expression first rewrite the expression by replacing the variable with the given values then carry out the operation in the correct order and simplify the expression to find a single numerical value. For more clarification ask students to open their textbook page 92 and read the statement of the example 1 and tell what is given and what we have to find. Take their responses and tell them that per kg price of apple and banana in dozen is given that is 'x' and 'y' and daily average sale of apple and banana is given. We have to find an expression for his sales per day and evaluate the sale price for one day if he sale apples for Rs 40 per kg and banana for Rs 20 per dozen. Solve the example step by step on the board and explain it to them. For more explanation solve the worked example 2, 3 and 4 on the board. Instruct students to ask question if they have any confusion.

Activity:

Ask the students to open textbook page 94. Write Q1 (a) on the board. Call a student and ask him/her to evaluate the given expression. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (b, c, d) and Q3 of "Learning check 5.3" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (3 min)

Sum up the lesson by re-telling students how we can evaluate the given expression also explain the "Note to Remember" given at page 92 of their textbook.

Assessment: (7 min)

To assess students ask them to solve "Pause and Try" on page 93 and Q1 (e, f) of "learning Check 5.3" given at page 94 of their textbook in their notebook. Walk around and check their work and guide where needed.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q2 of “Learning check 5.3” given at page 94 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 3**

Unit Name: Patterns and Algebra **Topic:** Addition of Algebraic Expression **Date:**

Objective(s):

At the end of this period, the students will be able to:

Manipulate simple algebraic expressions using addition.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 94, 95 and 97

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask Students: How we can evaluate the algebraic expression. Write an algebraic expression on the board and the values of the variables and ask students to evaluate the given expression in their notebooks. Walk around and check their work and guide them where required.

Main Activities/Concept Building: (23 min)

Tell students today we will learn to add the algebraic expressions. Ask students: Do you know how to add the algebraic expressions. Encourage students to share their ideas and explanations. Then instruct students to open their textbook page 94 and read the statement of the example and tell what is given and what we have to find. Take their responses and tell them that 5 sheep and 2 goats were grazing and three more sheep joined them. We can write this in expression form as: 5 sheep + 2goats + 3 sheep

Here sheep are added in sheep (5 sheep + 3 sheep = 8 sheep) but goats cannot be added in sheep. If we represent sheep by 'x' and goat by 'y' then the above expression can be written as: $5x + 2y + 3x = 8x + 2y$

From this we conclude that the same variables are added with each other but unlike terms cannot be added with each other. Tell them that algebraic expressions are added vertically and horizontally. Now solve the worked example 1, 2, 3 and 4 horizontally on the board step by step and explain each step to them. Tell students algebraic expression can be add vertically. To add algebraic expression vertically first write the expression in vertical form in such a way that like terms are in the same column and then add them. Solve the worked example 5 vertically and explain it to students. Instruct to ask question if they any confusion.

Activity:

Ask the students to open textbook page 97. Write Q1 (a) on the board. Call a student and ask him/her to add the given expression. Ask the rest of the class to check and correct if required. Then instruct them to solve Q1 (b, c, d) and Q2 (a-b) of "Learning check 5.4" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (3 min)

Sum up the lesson by re-telling students how we can add the algebraic expression vertically and horizontally by giving examples.

Assessment: (7 min)

To assess students ask them to solve "Pause and Try" on page 95 and Q1 (e, f, g, h) of "learning Check 5.4" given at page 97 of their textbook in their notebook. Walk around and check their work and guide where needed.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q2 (c-h) of “Learning check 5.4” given at page 97 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 4**

Unit Name: Patterns and Algebra **Topic:** Subtraction of Algebraic expressions **Date:**

Objective(s):

At the end of this period, the students will be able to:

Manipulate simple algebraic expressions using subtraction.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 94, 95 and 97

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask Students: How we can add the two algebraic expressions? Take their responses and then instruct to write two algebraic expressions in their notebooks of your own choice and then add them. Walk around and check their work and correct them where needed. Appreciate them for their good work.

Main Activities/Concept Building:

(23 min)

Begin the lesson by telling students today we will learn to subtract the algebraic expressions. Ask students: Do you know how to subtract the algebraic expressions. Encourage students to share their ideas and explanations. Tell students we can subtract algebraic expression by following the same rule as those used for solving the subtraction of integers. We can subtract the like terms from each other and unlike terms remains the same. We can subtract the algebraic expression horizontally and vertically. Ask students to open their textbook page 96 and solve the worked example 1, 2, 3 and 4 on the board and explain each step of solving them horizontally. Tell students to subtract the algebraic expressions vertically first write the algebraic expression in vertical form in such a way that like terms are in the same column. Then subtract them by changing the signs of the lower terms. Solve the worked example 5 vertically on the board for more clarification. Instruct students to ask question if they have any confusion.

$$\begin{array}{r}
 7x^2 - 2xy^2 + y^2 \\
 - 3x^2 + 2xy^2 + 3y^2 \\
 \hline
 10x^2 - 4xy^2 - 2y^2
 \end{array}$$

Change sign

Activity:

Ask the students to open textbook page 97. Write Q3 (a) on the board. Call a student and ask him/her to subtract the given expression. Ask the rest of the class to check and correct if required. Then instruct them to Q3 (b, c, d) and Q4 (a-b) of "Learning check 5.4" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students how we can subtract the algebraic expression horizontally and vertically.

Assessment:

(7 min)

To assess students ask them to solve "Pause and Try" on page 96 and Q3 (e, f) and Q4(c, d) of "learning Check 5.4" given at page 97 of their textbook in their notebook. Walk around and check their work and guide where needed.

Homework:

(2 min)

Solve Q4 (e, f), Q5, Q6 and Q7 of "Learning check 5.4" given at page 97 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 5**

Unit Name: Patterns and Algebra **Topic:** Simplification of Algebraic Expressions **Date:**

Objective(s):

At the end of this period, the students will be able to:

Simplify algebraic expressions.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 97 and 98

Teaching & Learning Activities:

Opening Activities/Warm-up: (7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by asking students about previous day work. Ask students: how we can subtract the algebraic expression vertically and horizontally. Write two algebraic expressions on the board and instruct students to subtract these algebraic expressions vertically and horizontally step by step in their notebook. Walk around and check their work and guide them where required. Appreciate them for their good work.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about simplification of algebraic expressions. Ask students: Do you know how we can simplify the given algebraic expressions. Take their responses and appreciate if someone gives the correct answer. Tell students we can simplify algebraic expressions in the same way as we simplify arithmetic operations. When we simplify an algebraic expression, we combine like terms by writing them aside and then adding or subtracting them based on their signs. To simplify the algebraic expressions involving brackets, we follow the same order of preference as we do in whole numbers. When simplifying algebraic expressions, must follow given points: If there is no sign between the number and the bracket, it means multiplication for example $5y$ or $5(y) = 5 \times y$. If there are more than one term inside the bracket and there is a number or variable outside the bracket in right side then multiply the number with the terms that are inside the brackets and remove the brackets. For example $x(y + z) = xy + yz$ or $-x(y + z) = -xy - yz$. Ask students to open their textbook page 98 and solve the worked example part a, b and c on the board step by step and explain each step to them. Encourage them to ask questions if they have any confusion.

Activity:

Ask the students to open textbook page 98. Write Q1 (a) on the board. Call a student and ask him/her to simplify the given algebraic expression. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (b-g) of "Learning check 5.5" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up: (3 min)

Sum up the lesson by re-telling students how we can simplify the given algebraic expressions by solving examples on the board.

Assessment: (7 min)

To assess students ask them to solve "Pause and Try" and Q1 (h-j) of "learning Check 5.5" given at page 98 of their textbook in their notebook. Walk around and check their work and guide where needed.

Homework: (2 min)

Solve Q2 of "Learning check 5.5" given at page 98 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 6**

Unit Name: Patterns and Algebra **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 5 by solving Q1-4 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 99 and 100

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Patterns and Algebra".

Ask them the different questions that are related to "Patterns and Algebra".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 99 and 100 of their textbooks. Ask them to solve Q1 to Q3 of "Unit Check 5".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 99.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q4 of "Unit Check 5" given at page 100 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 7**

Unit Name: Patterns and Algebra **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 5 by solving Q5-8 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 99 and 100

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Patterns and Algebra".

Ask them the different questions that are related to "Patterns and Algebra".

Main Activities/Concept Building: (30 min)

Activity:

Have students open page 100 of their textbooks. Ask them to solve Q5 to Q7 of "Unit Check 5". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 99.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q8 of "Unit Check 5" given at page 100 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 1**

Unit Name: Patterns and Algebra **Topic:** Sum Up and unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 5 by solving Q9-10 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 100 and 101, Question cards/slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Patterns and Algebra”.

Ask them the different questions that are related to “Patterns and Algebra”.

Main Activities/Concept Building: (30 min)

Activity 1:

Have students open page 100 of their textbooks. Ask them to solve Q9 of “Unit Check 5”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

- Paper slips should be given to each group.
- Each group will write at least ten questions on their slips. For example “Evaluate $4(x^2 + 5x) - 2x$ ” “Simplify $x^4 + 2x^3 - 6x^4 + 8$ ”, and so on.
- After that, exchange the question slips with each other to solve them.
- The group with the quickest and most accurate solutions wins.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “Patterns and Algebra”.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q10 of “Unit Check 5” given at page 101 of their textbooks.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 2**

Unit Name: Linear Expressions and Equations **Topic:** Algebraic Equation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and identify an algebraic equation and differentiate between an equation and expression.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 102, 103, 104 and 105

Teaching & Learning Activities:

Opening Activities/Warm-up:

(7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students if they remember what an algebraic expression is. Give them a brief recalling by writing algebraic expression on the board and identify the parts of the algebraic expressions. Have students open textbook at page 102. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building:

(20 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students today we will learn about algebraic equation. Ask students if they have heard the term "equation" before. Encourage them to share their understanding of what an equation might be. Write an algebraic expression on the board, such as $3x + 5$, and ask students to identify it as an expression. Explain to students that an equation is a mathematical statement that shows that two expressions are equal. It contains an equal sign (=) in between two expressions. Write an equation on the board, such as $2x + 3 = 9$, and explain that this is an equation because it shows that the expression $2x + 3$ is equal to the expression 9. If one side is not equation to the other side then that is not an equation. Instruct students to open their textbook page 103 and read the statement of the worked example 1 where we identify and tell which one is the equation and which one is not. Write the part a on the board that is " $6 - 3 = 3$ " tell students as left hand side is equal to the right hand side so this is an equation. Now write part b on the board that is " $8 + 2 - 1$ " as there is no equality sign so this is not an equation. Similarly explain the part c to students that is equation. Explain the concept of equation by weighing balance. If the weights on both sides of the balance are same, we can say that the balance is level, in the same way the values of both sides of the equation must be equal. For more clarification solve the worked example 2 on the board and explain it to students. Instruct students to open their textbook page 103 and 104 and learn more about algebraic equation. Instruct students to learn about the difference between algebraic equation and expression given on textbook page 104. Encourage them to ask question if they have any confusion.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about the difference between the algebraic equation and expression. Also explain "note to Remember" given at page 103.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Assessment: (8 min)

To assess students ask them to solve “Pause and try” given at textbook page 103. Walk around and check their work and guide them where needed.

Homework: (2 min)

Solve Q1 of “Learning check 6.1” given at textbook page 105.

Teacher’s Self-Evaluation:

Target: Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 3**

Unit Name: Linear Expressions and Equations **Topic:** Linear equation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define and identify a linear equation and linear equation in one variable.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 104 and 105

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: What is an algebraic expression? What is an algebraic equation? What is the difference between the algebraic equation and expression? Take their responses and then call a student to the front of the class and ask him/her to write an equation and an algebraic expression on the board. Ask the rest of the class to check whether he/she correct or not. Repeat this activity to some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about linear equation and linear equation in one variable. Begin the lesson by asking students if they have heard the term "equation" before. Write the word "equation" on the board and ask students if they can provide any examples. Once students have shared their examples, explain that an equation is a mathematical statement that shows that two things are equal. Next, introduce the concept of a linear equation. Write the term "linear equation" on the board and ask students if they can guess what it means. After gathering their responses, explain that a linear equation is an equation in which the highest power of the variable(s) is 1. Write the definition of a linear equation on the board: "A linear equation is an equation that can be written in the form $ax + b = c$, where 'a,' 'b,' and 'c' are constants, and 'x' is the variable." Provide examples of linear equations, such as: $2x + 3 = 7$, $5y - 4 = 16$ and $3z + 2 = 0$. Instruct students to observe these examples and all the variables involved in these equations is 1. Ask students to open their textbook page 104 and learn more about linear equation. For more explanation solve the worked example 1 on the board and explain to them which is linear equation and which one is not. Now explain to students if the linear equation has only one variable then that equation is called linear equation in one variable. Point out towards the above examples and tell them that in all equation the variable is one so these equations are linear equation in one variable. Ask students to open their textbook page 104 and 105 and learn more about linear equation in one variable.

Sum Up:

(3 min)

Sum up the lesson by be re-telling students about linear equation and linear equation in one variable.

Assessment:

(8 min)

To assess students ask them to solve Q2 of "Learning check 6.1" given at page 105 of their textbook in their notebook. Walk around and check their work and guide them where required.

Homework:

(2 min)

Solve Q3 of "Learning Check 6.1" given at textbook page 105.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 4**

Unit Name: Linear Expressions and Equations **Topic:** Constructing Linear equations **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct linear expressions and equations in one variable from the given mathematical statements and phrases.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 105-107, 110 and 111

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Begin the lesson by recalling the concept of variables, coefficients, and constants. Remind students that a variable is a symbol used to represent an unknown value, a coefficient is the number multiplied by a variable, and a constant is a number without a variable. Recall with students the linear equation and linear equation in one variable. Write different equations on the board and ask students to identify which one is the linear equation in one variable. Take their responses and appreciate them where required.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn how to construct linear expression and equation in one variable from the given mathematical statements and phrases. Instruct students to open their textbook page 105 and read the statement of the worked example 1. Ask them what is given and what we have to find. Take their responses and tell them that capacity tub and bucket is given and their total capacity is given and we have to construct the linear equation for the given statement. Tell students if we suppose the capacity of the bucket as 'x' litres and the capacity of the tub is 3 times the capacity that is '3x'. As the sum of capacity of tub and bucket is equal to 12 litres so we can write as

Suppose the capacity of a bucket = x litres.

The capacity of a tub is three times x = $3 \times x = 3x$.

The sum of their capacities = $3x + x$.

The sum of their capacities given, i.e., 12 litres, so $3x + x = 12$.

Tell students in this way we can construct linear equation from the given statement. For more explanation solve worked example 2, 3 and 4 on the board. Ask students to open their textbook page 107 and observe the examples to construct linear equation. Encourage students to ask questions if they have any confusion.

Activity:

Ask the students to open textbook page 110. Write Q1 (a) on the board. Call a student and ask him/her to write the algebraic expression for the following phrase. Ask the rest of the class to check and correct if required. Then instruct them to Q1 (b-d) and Q2 (a-c) of "Learning check 6.2" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students how to construct linear expressions and equations from the given statements or phrases.

Assessment:

(5 min)

To assess students learning ask them to solve "Pause and Try" at page 106 and Q1 (e, f, g) and Q2 (d, e) of "Learning Check 6.2" given at page 110 and 111.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q2 (f-j) of “Learning Check 6.2” given at page 111.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 5**

Unit Name: Linear Expressions and Equations **Topic:** Constructing Linear equations **Date:**

Objective(s):

At the end of this period, the students will be able to:

Write the given algebraic expressions and equations as statements and phrases.

Resource Material:

Chalk/Marker, White/Blackboard, picture cards textbook page 111, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students how we construct linear expression and equation from the given statement or phrases. Take their responses and then write a statement "Three times a number increased by 4 is equation 9." Call a student to front of the class and ask him/her to write the linear equation from the given statement. Ask the rest of the class to check and tell he/she correct or not. Repeat this activity to some other students by writing different statements or phrases.

Main Activities/Concept Building:

(20 min)

Begin the lesson by reminding students about the use of variables and expressions in mathematics. Discuss with them how algebraic expressions and equations help us solve problems and represent relationships. Explain that in this lesson, they will learn how to translate algebraic expressions and equations into statements and phrases. Write a simple algebraic expression on the board, such as " $3x + 5$." Ask students to think about what this expression might represent in a real-life context. Once they suggest an idea (e.g., thrice a number more than 5 or sum of thrice of a number with 5), write the corresponding statement or phrase on the board, explaining how the expression can be described in words. Repeat this process with a few more examples, using different expressions. For instance, present expressions like " $2y - 7$ " or " $4z + 2$ " and encourage students to translate them into descriptive statements or phrases. Write a simple equation on the board, such as " $2a = 10$." Explain that this equation can be interpreted as a relationship between two quantities. Ask students to think about what this equation might represent in a real-life scenario. Once they provide a suggestion (e.g., "Twice a number is equal to 10"), write the corresponding statement or phrase on the board. Repeat this process with a few more examples, using different equations. For example, present equations like " $b + 3 = 7$ " or " $5c - 2 = 13$ " and help students translate them into descriptive statements or phrases.

Activity:

Divide the students into pairs or small groups. Provide each group with a set of algebraic expressions or equations on slips of paper. Instruct the groups to choose one paper slip at a time and work together to create a algebraic expression or equation. Encourage the groups to share their working with the class, allowing them to explain how create the statements or phrases. Appreciate them for their correct work.

Sum Up:

(3 min)

Sum up the lesson by re-telling how to write the given algebraic expressions and equations in statement and phrases.

Assessment:

(7 min)

To assess students ask them to solve Q3 (a-f) of "Learning check 6.2" given at page 111 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q3 (g-l) of “Learning check 6.2” given at page 111 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 6**

Unit Name: Linear Expressions and Equations **Topic:** Solution of Linear Equation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify and describe the solution of a linear equation as the value of the variable involved.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 107

Teaching & Learning Activities:

Opening Activities/Warm-up:

(7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by recalling with students what is the linear equation and expression.

How we construct the linear equation or expression from the given statements or phrases? How we can write the statement or phrase from the given algebraic expression or equation? Share different examples with students to recall the concepts.

Main Activities/Concept Building:

(21 min)

Tell students today we will learn about identify and describe the solution of a linear equation as the value of the variable involved. Recall with students the concept of variables and equations. Remind students that an equation is a statement that shows two expressions are equal, and a variable is a symbol used to represent an unknown value. Ask students if they are familiar with the term "solution" in the context of equations. Have a brief discussion about what they think it means. Explain that in mathematics, a solution refers to the value(s) of the variable(s) that make an equation true. Ask students to open their textbook page 107. Instruct them to read the statement given. Explain to them Hamza has two erasers and his sister has 3 erasers. There are 5 erasers in all.

Tell them that if we write it in equation form we can write it as $2 + 3 = 5$. Tell students the solution of linear equation can be better understand by using the example of the weighing balance. Place a weighing balance on the table. Now place erasers according to the given condition on both sides. Explain to students by placing 2 and 3 erasers on one pan and 5 erasers on other pan the weighing balance is in balance form or both pans are balance. If we add 2 erasers on both side of the weighing balance, we can see that the equation is still "balanced." Both sides have equal erasers, i.e., 7. From this we conclude that we must do the same operation on both sides of the equation to keep it equal.

Provide an example of a simple linear equation, such as " $2x = 10$." Ask students to think about what value of 'x' would satisfy this equation. Discuss their responses, and then reveal that the solution to this equation is ' $x = 5$ ' because when 'x' is equal to 5, the equation becomes true: $2(5) = 10$. Emphasize that the solution is the value that satisfies the equation and makes it a true statement. Tell students during this, we try to separate the variable on one side of the equation and gather the remaining terms, constants and coefficients on the other side. This process of separating the variable on one side of the equation is called "isolation of a variable". Tell students about some important equality properties before solving equation that is an equation remains the same if the same number is added, subtracted, multiplied and divided on both sides of the equation. Explain it through different examples.



$$2 + 3 + 2 = 5 + 2$$

Sum Up:

(3 min)

Sum up the lesson by re-telling that finding the value of a variable in a linear equation is called solving a linear equation .

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Assessment: (7 min)

To assess students write a linear equation on the board. Ask them to identify the solution, and describe its meaning in the given context.

Homework: (2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 7**

Unit Name: Linear Expressions and Equations **Topic:** Solution of Linear Equation **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify different techniques to solve linear equations (involving real-life situations).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 108, 109 and 111

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day work. Begin the lesson by asking students: what does mean by solution of equation? What is meant by isolation of variable? Take their responses and appreciate them for their correct response. Tell students today we will learn about different techniques to solve linear equation.

Main Activities/Concept Building:

(25 min)

Instruct students to open their textbook page 108. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that Saba age is 3 times to her daughter's age and sum of their ages is 48 years. We have to find the age of her daughter. First we construct the equation for the given statement. Suppose if x is the age of her daughter. As we know that the age of Saba is thrice the age of her daughter so Saba's age is 3x. so according to the given condition is:

$$3x + x = 48 \text{ or } 4x = 48$$

Tell students to find the solution of the given equation we know that for balance equation we have to add, subtract, multiply or divide same numbers on both sides of the equation. Ask students to observe the equation and tell what we have to do to isolate the given variable 'x'. Take their responses and explain to them to isolate the variable x we have to divide both sides by 4.

$$\frac{4x}{4} = \frac{48}{4} \Rightarrow x = 12$$

Tell them that the value of x is 12 which show that the age of Saba's daughter is 12 years. Explain to them in this way we can find the solution of the given equation. For more explanation solve the worked example 2, 3 and 4 on the board step by step and explain each step in detail to students. Encourage students to ask questions if they have any confusion.

Activity:

Ask the students to open textbook page 111. Write Q4 (a) on the board. Call a student and ask him/her to find the solution of the given equation. Ask the rest of the class to check and correct if required. Then instruct them to Q4 (b-e) and Q5 of "Learning check 6.2" in their notebooks. Walk around the class, monitor their working and guide them where required.

Sum Up:

(5 min)

Sum up the lesson by emphasizing different methods of solving linear equations and explain "Note to Remember" given at page 108 and 109.

Assessment:

(5 min)

To assess students ask them to solve Q6 and Q7 of "Learning check 6.2" given at page 111 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework: (2 min)

Solve Q4(f-i) and Q8 of "Learning check 6.2" given at page 111 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 1**

Unit Name: Sets **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Sets".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Sets".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐ Not Achieved ☐ Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Define empty set with example.

2. Identify which one is the empty set. Give reason to your answer.

a) The set of even prime numbers except 2.

b) The set of multiples of 20 between 30 and 40.

3. Define singleton set with example.

4. Identify which one is the singleton set. Give reason to your answer.

a) The set of months of the year start with letter M.

b) The set of composite numbers greater than 4 and less than 10.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 2**

Unit Name: Sets **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Sets".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Sets".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Define universal set with example.

2. Which one is the universal set?

- a) A = set of natural numbers B = set of even numbers
C = set of composite numbers

- b) $X = \{2, 3, 4, 5, 6\}$ $Y = \{1, 2, 3, 4, \dots, 10\}$ $Z = \{7, 8, 9\}$

3. Identify which one is the universal set and then show the given sets using Venn diagram.

- A = Set of whole numbers less than 50 B = Set of odd numbers less than 30 C = Set of prime numbers less than 40

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 3**

Unit Name: Patterns and Algebra **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Patterns and Algebra".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Patterns and Algebra".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Identify the term-to-term rules for the following patterns and write the next three terms.

a) 7, 15, 23, ...

b) 279936, 46656, 7776, 1296, ...

2. By using the position-to-term rule, find the 9th, 17th, 45th and 88th term of the following patterns.

a) 14, 15, 16, 17,

b) 4, 7, 10, 13, 16, ...

3. Fawaz take two rounds on Monday in morning walk, 4 rounds on Tuesday, 6 rounds on Wednesday. If he keep increasing his rounds how many round he takes on Thursday and Friday?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 4**

Unit Name: Patterns and Algebra **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Patterns and Algebra".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Patterns and Algebra".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Add the following algebraic expressions.

a) $15x - 2y$ and $3x + 5y$

b) $2a^2 + 5a - 5$ and $3a^3 + 2a^2 - 4a + 9$

c) $x + y$, $2x - 6y + 3z$, $2x - y + z$

d) $7x^2 + y^4 + 2xy$ and $x^2 + 3y^3 + x^2y - xy$

2. Subtract the first algebraic expression from the second one.

b) $7xy - 2x$, $5xy - 3y$

b) $7x^2 + 5y^3 + 2x^2y$, $4x^2 - 3y^3 - 2xy^2$

c) $a + 2b - c$, $8a + 5b - 9c$

d) $6x^3 + 2x^2 + 5x + 4$, $3x^3 - 4x^2 + 9x + 11$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 5**

Unit Name: Patterns and Algebra **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Patterns and Algebra".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Patterns and Algebra".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Evaluate the given algebraic expressions.

a) $-4(x + y) - 2(2x + 4y) - 6x$ when $x = 2$ and $y = -4$

b) $\frac{x^3 + 4x^2 - 2xy + y^3}{3x^4 - x^3 + 2x^2 + yx^2 - xy^3}$ when $x = -1$ and $y = 3$

2. Simplify the given algebraic expressions.

a) $13x - 5[3x + 4\{9x + 3(6x + 7)\}]$

b) $3p - 2q[2r - \{5p + 2q(1 + 2p) - 3r\} + 4q]$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 6**

Unit Name: Linear Expressions and Equations **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Linear expressions and equations”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Linear expressions and equations”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Identify which one is the algebraic equation and give reason for it.

a) $2x + 5$

b) $5x + 4 = 9$

2. Define linear equation and give 5 examples of linear equation.

3. Define linear equation in one variable and give 5 examples of it.

4. Identify linear equations from the given equations.

a) $4x^2 + 7 = 2$

b) $10 + 4x = 15$

c) $t + 5 = 1$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 7**

Unit Name: Linear expressions and equations **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Linear Expressions and Equations”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Linear Expressions and Equations”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (30 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (5 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Write the algebraic expressions and equation for the following phrases and statements.

a) 14 is subtract from two-third of the number

b) Thrice a number decreased by 12 is equal to 15.

c) One-half times the result of the subtraction of 5 from a number is 4 times the sum of 6 and thrice of the number.

2. Write the algebraic equation “ $5t - \frac{1}{4} = \frac{2}{3}$ in statement form.

3. Find the solution of the given equation.

a) $5a + 7 = 9$

b) $3(7 + x) + 4 = 4(2x + 5)$

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 1**

Unit Name: Linear Expressions and Equations **Topic:** Solving Linear Equations **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Solve linear equations involving integers, fractions and decimals coefficient.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 109, 110 and 111

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day work. Begin the lesson by asking students how we can find the solution of the linear equation. Take their responses and write an equation $3x + 4 = 7$ on the board and ask students to find the solution or value of the variable x. Walk around and check their work and guide them where required.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about solving the linear equations involving integers, fractions and decimals coefficient. Tell students we have already learn about finding the solution of linear equation. Now we will learn to find the solution of the linear equation involving fraction and decimals. Ask students to open their textbook page 109 and read the statement of the worked example 5 that $5x + 0.5 = 6.0$. Tell students here we find the value of x by solving the given linear equation involving decimals coefficients. Now solve the example on the board step by step and explain each step to them. Explain to them first we have to subtract 0.5 from both sides.

$$5x + 0.5 - 0.5 = 6.0 - 0.5$$

$$5x = 5.5$$

Now divide both sides by 5 we get.

$$\frac{5x}{5} = \frac{5.5}{5} \Rightarrow x = 1.1$$

Solve and explain each step to them and encourage them to ask questions if they have any confusion. To check our answer is correct or not verify the answer by putting the value of x in the original equation and find the answer that is $5(1.1) + 0.5 = 6.0$ or $5.5 + 0.5 = 6.0$ or $6.0 = 6.0$ (true)

For more explanation solve the worked example 6 on the board step by step and explain each step in detail to students. Encourage students to ask questions if they have any confusion.

Activity:

Ask the students to open textbook page 111. Instruct them to solve Q4 (k, l) of "Learning check 6.2" in their notebooks. Walk around the class, monitor their working and guide them where required. Discuss with them about their common mistakes.

Sum Up: (3 min)

Sum up the lesson by emphasizing the definitions and examples of linear equation in one variable. Explain "Note to Remember" given at page 109.

Assessment: (5 min)

To assess students ask them to solve "Pause and Try" given at page 110 of their textbook.

Homework: (2 min)

Solve Q9 of "Learning check 6.2" given at page 111 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 2**

Unit Name: Linear Expressions and Equations **Topic:** Solving Linear Equations **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Solve real world situations involving linear equations.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 112

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day work. Begin the lesson by asking students: How can we solve the linear equation involving integers, fractions, or decimal coefficients? Take their responses and appreciate them for their correct response.

Now write an equation involving decimal number as co-efficient and instruct them to solve and find the value of the variable. Walk around and check their work and then instruct them to write a linear equation involving fractional co-efficient and find the value of the variable and then verify your answer. Appreciate them for their good work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn to solve real world situations involving linear equation. Ask students to share their experience where they use linear equation in their daily life. Take their experience and instruct students to open their textbook page 112. Read the statement of the Q10 "The sum of the marks of Sara and Amara is 54. If Sara's marks are 12 less than the marks obtained by Amara, then find the marks of Amara and Sara." and ask students what is given and what we have to find. take their responses and tell them that sum of Sara and Amara marks is given and Sara's marks 12 less than the marks obtained by Amara and we have to find how many marks does Sara and Amara has.

Now solve the question step by step on the board and explain it to them. Encourage them to ask question if they have some confusion.

Activity:

Instruct students to work in pairs. Assign each pair to create a real life situation where we use the linear equation. Walk around and monitor their working. After completing the task instruct to share their real-life situation to other pairs. Call one by one each pair to present their work to other students and then solve it. Check their working and guide them where needed. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by emphasizing the how to solve the real-life situations where we use linear equation.

Assessment:

(5 min)

To assess students ask them how to solve the linear equation and the real-life situations where linear equations involved.

Homework:

(2 min)

Solve Q11 of "Learning check 6.2" given at page 112 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 3**

Unit Name: Linear Expressions and Equations **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 6 by solving Q1-5 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook pages 112 and 113

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Linear Expressions and Equations".

Ask them the different questions that are related to "Linear Expressions and Equations".

Main Activities/Concept Building: (25 min)

Activity:

Have students open pages 112 and 113 of their textbooks. Ask them to solve Q1 to Q3 of "Unit Check 6".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 112.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q4 and Q5 of "Unit Check 6" given at page 112 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 4**

Unit Name: Linear Expressions and Equations **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 6 by solving Q6-10 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Linear Expressions and Equations".

Ask them the different questions that are related to "Linear Expressions and Equations".

Main Activities/Concept Building: (25 min)

Activity:

Have students open pages 113 of their textbooks. Ask them to solve Q6 to Q8 of "Unit Check 6". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 112.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q9 and Q10 of "Unit Check 6" given at page 113 of their textbooks.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 5**

Unit Name: Linear Expressions and Equations **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 6 by solving Q11-12 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 113 and 114, Envelops, Linear equation slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Linear Expressions and Equations”.

Ask them the different questions that are related to “Linear Expressions and Equations”.

Main Activities/Concept Building:

(25 min)

Activity 1:

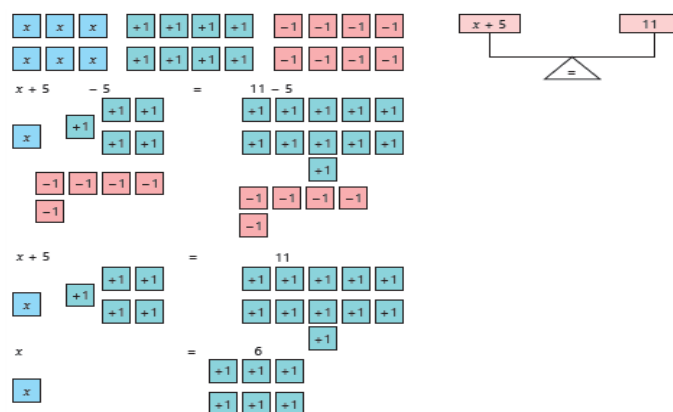
Have students open pages 113 of their textbooks. Ask them to solve Q11 of “Unit Check 6”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math) given at page 114.

Work in teams

- Envelopes with slips of various linear equations involving one variable will be provided by the teacher to each team.
- The envelopes will be distributed among the group’s members randomly.
- Each group will work in collaboration to solve the variable.
- The group with the most correct answer will win.



Sum Up:

(3 min)

Sum up the lesson by repeating the important points of the whole unit “Linear Expressions and Equations”.

Assessment:

(5 min)

N/A

Homework:

(2 min)

Solve Q12 of “Unit check 6” given at page 113 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 6**

Unit Name: Surface Area and Volume **Topic:** Perimeter and Area **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate area and perimeter of a square including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 115 and 116

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students if they remember what is the area and perimeter of a squared - shape. Give them a brief recalling by drawing a square on the board and identify the length and width of the square shape. Have students open textbook at page 115. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building: (22 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students today we will learn to calculate the area and perimeter of square shape. Ask students to open textbook page 116. Introduce the concept of perimeter and area to students. Tell them that perimeter is used to measure the outer length of 2D shapes. Instruct them to read the statement of worked example 1 and tell what is given and what we have to find. We have to find the perimeter of a plot whose length is 4.5m per side. Explain to them we can find the perimeter of square by adding length of all its sides or by multiplying length of one side by 4 as the length of all sides of the square is equal in length.

Perimeter of square = $L + L + L + L = 4.5m + 4.5m + 4.5m + 4.5m = 18m$

Tell students now we find the area of the square shape. In perimeter we find the length of the boundary whereas area is the amount of space occupied by the surface of any shape or object. Tell them that to find the area of the square we have to find the product of length and width of the square, as square has 4 equal sides so we multiple length with length. So Area = width $\times$ length = $L \times L$.

Now find the area of the square plot in worked example 1 step by step on the board and explain it to them.

Encourage them to ask questions if they have any confusion. Tell students that perimeter is measured in linear units, such as metres (m), centimetres (cm), and area in square metre and square centimetres.

Activity 1

Divide students into five equal groups and ask each group to solve parts of Q2 of "Learning check 7.1" given at page 118. Like group A will solve part (a), group B will solve part (b), group C will solve part (c), group D will solve part (d) and group E will solve part (e). Walk around the class, check their work and guide where needed.

Sum Up: (3 min)

Sum up the lesson by recalling the concept of area and perimeter with students. Also explain "Note to Remember" given at page 116.

Assessment: (5 min)

To check students' understanding ask them to solve Q1 (Part b) and Q4 of "Learning check 7.1" given at page 118 of their textbook.

Homework: (2 min)

Solve Q5, Q6 and Q7 of "Learning check 7.1" given at page 118 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 7**

Unit Name: Surface Area and Volume **Topic:** Perimeter and Area **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate area and perimeter of a rectangle including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 116, 117 and, 118

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by recalling the concepts of perimeter and area. Ask students to recall the formulas and units of perimeter and area. Also draw a square on the board and write a length on its one side. Ask the students to find the perimeter and area of the square.

Main Activities/Concept Building: (25 min)

Tell students today we will learn to calculate the area and perimeter of rectangle. Ask students to open textbook page 116. Tell them that as you know that perimeter is used to measure the outer length of 2D shapes. So according to Worked Example 2 on page 116, we have to find the perimeter of a rectangular wooden table whose length is 1.3 m and width is 0.9 m. Explain to them we can find the perimeter of rectangle by adding all of its sides or by multiplying sum of length and width by 2.

Perimeter of rectangle = $L + W + L + W = 2L + 2W = 2(L + W)$

Now to find the perimeter of that rectangular table we will sum up the length and width of all sides as $1.3 \text{ m} + 0.9 \text{ m} + 1.3 \text{ m} + 0.9 \text{ m} = 4.4 \text{ m}$ or we can simply multiply 2 with the sum of length and width as $2(1.3 \text{ m} + 0.9 \text{ m}) = 4.4 \text{ m}$. Now ask the students if they have any question regarding to perimeter of rectangle. Recall that perimeter is measured in linear units, such as metres (m), centimetres (cm), and so on. Now move to the second part of the topic that is Area. Ask them what is area? Take responses. Tell them that the amount of space occupied by the surface of any shape or object is called area. Now explain them that area of a rectangle can be found by multiplying its length by its width. Area of rectangle = $L \times W$. Now according to the Worked Example 2 on page 116, we have to find the area of a rectangular wooden table whose length is 1.3 m and width is 0.9 m. So, according to the formula, area of a rectangular table = $1.3 \text{ m} \times 0.9 \text{ m} = 1.17 \text{ m}^2$. Recall that area is measured in squared units, such as square metres (m^2), square centimetres (cm^2), and so on. Similarly explain Worked Example 3 and 4 on textbook page 117.

Activity 1:

Instruct students to open their textbook page 117. Ask them to solve "Pause and Try" and "Talk over and write" on their notebook. Walk around the class, check their work and guide where needed.

Sum Up: (5 min)

Sum up the lesson by revising the concepts of finding Perimeter and Area of rectangle and recall their formulas as well.

Assessment: (5 min)

To assess students ask them to solve Q1 (a, c) and Q3 (a, b, c, d) of "Learning Check 7.1" given at page 118 of their textbook.

Homework: (2 min)

Solve Q8, Q9 and Q10 of "Learning check 7.1" given at page 118 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 1**

Unit Name: Surface Area and Volume **Topic:** Area of a Path **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a path (inside or outside) a rectangle or square.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 118, 119 and 125

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: What is meant by area and perimeter of any shape? How we can find the area and perimeter of the square and rectangle? Take their responses and then draw square and rectangle of different lengths and instruct them to find the area and perimeter of the given square and rectangle. Walk around and monitor their working and appreciate them for their good work.

Main Activities/Concept Building: (25 min)

Tell students that today we will learn about the finding the area of the path of a rectangle or a square. Ask them: Do you know the how to find the area of the path inside or outside any square and rectangle shape? Encourage students to share their ideas and explanations. Take their responses and ask them to open their textbook on page 118. Instruct them to look at the playground, which is rectangular in shape. It has a path for walking. Tell them to find the area of a path, first we find the area of the rectangle that is outside, and then we find the area of the inside rectangle. Then subtract the area of the inner rectangle from the area of the outer rectangle to get the area of a path, as given below.

Area of a path around a shape = Area of the outer shape – Area of the inner shape

Tell the students that if length and width are missing in the inner or outer shape, then we use the following formulas to find the area of the inner or outer figures of a path.

Length of the outer shape = length of the inner shape + 2 × (width of the path or border)

Width of the outer shape = width of the inner shape + 2 × (width of the path or border)

Instruct students to open their textbook page 119. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a rectangle ABCD that is 200 cm long and 100 cm wide is given and there is a path towards the inner side of the rectangle that is 5 cm wide. We have to find the area of the path, for this first we find the area of the outer rectangle.

Then we find the length and width of the inner rectangle by subtracting two times the width of the path.

After this we find the area of the inner rectangle and then we find the area of the path by subtracting the area of the inner rectangle from the area of the outer rectangle. Solve step by step on the board and explain each step to them. For more explanation solve the worked example 2 on the board step by step and explain each step in detail to students. Encourage students to ask questions if they have any confusion.

Sum Up: (3 min)

Sum up the lesson by emphasizing the different examples related to finding the area of a path in a square or rectangle.

Assessment: (5 min)

To assess student's understanding ask them to solve "Pause and Try" given at page 119 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q1 (a) of “Learning check 7.2” given at page 125 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 2**

Unit Name: Surface Area and Volume **Topic:** Area of a triangle **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a triangle.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 120, 121 and 125, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: How can we find the area of a path of a square or rectangle? How can we find the area of a path in a rectangle if the length and width of an outer rectangle are not given? Take their responses, and then call a student to the front of the class and ask him or her to write the formula to find the area of a rectangular path. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about the area of triangular shapes. Ask them: Do you know about the area of a triangle? Encourage students to share their ideas and explanations. Take their responses and tell them that a triangular shape has three sides and three angles. Tell students as the area of any shape is the space occupied by it so to find the area of the triangle we have to find the space occupied by that triangle. Tell them that first we find the formula to find the area of the triangle. Instruct students to open their textbook page 120 and observe the rectangle LMNO. When we divide it into two equal parts diagonally, we get two triangles MLO and MNO. As we know that the formula to find the area of the rectangle is $l \times w$. Tell them that as the triangle MNO is exactly half of the rectangle LMNO, so the half of the area of the

rectangle is the area of the triangle that is $\frac{1}{2} (l \times w)$. Tell students we

will find area of this triangle using the given formula. Tell students that width is actually the altitude and length is actually the base of the triangle. Ask students do they know what is meant by altitude? Take their responses and tell them that altitude is the shortest distance between the base and top of the triangle or any shape. Instruct students to open their textbook page 120. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Display the problem on the whiteboard and guide students through solving it step by step. Take their responses and tell them that the base is 12 m and altitude is 4 m of the given triangle. We have to find the area of a given triangle by using the formula.

$$\text{Area of the triangle} = \frac{1}{2} (\text{altitude} \times \text{base}) = \frac{1}{2} (4 \text{ m} \times 12 \text{ m}) = \frac{1}{2} (48 \text{ m}^2) = 24 \text{ m}^2$$

Encourage students to ask questions if they have any confusion. For more clarification solve different examples of finding area of the triangle and explain each step to them.



Sum Up:

(3 min)

Sum up the lesson by re-telling students how to find the area of the triangle and explain "Note to Remember" given at page 120 and 121.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 120 of their textbook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Homework:

(2 min)

Solve Q2 and Q3 of “Learning check 7.2” given at page 125 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 3**

Unit Name: Surface Area and Volume **Topic:** Area of a triangle **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a path (inside or outside) a triangle.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 120, 121 and 125, flash cards of triangles shape and path around them

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

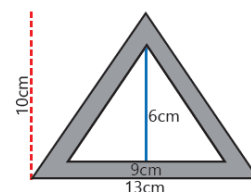
Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: How can we find the area of triangular shapes? Take their responses, and then call a student to the front of the class and ask him or her to write the formula to find the area a triangle on the board. Ask the rest of the class to check whether he/she correct or not. Now draw a triangle and instruct students to find the area of the given triangle in their notebooks by using the formula. Walk around and check their work and correct them where needed..

Main Activities/Concept Building:

(24 min)

Tell students today we will learn about to find the area of the path inside or outside a triangle. Draw a triangle on the board and mention its base and altitude length and ask students to tell how we find the area of that triangle. Take their responses and appreciate for their correct answers. Now instruct students to open their textbook page 120 and read the statement of the worked example 2 where we have to find the area of the path around the given triangle. Instruct students to observe the inner and outer triangle. Tell them that to find the area of the path around the triangle first we have to find the area of the outer triangle and then we have to find the area of the inner triangle. Then to find the area of the path we have to subtract area of the inner triangle from the outer triangle.



Area of the path around the triangle = Area of the outer triangle – area of the inner triangle

Now find the area of the path around the triangle step by step and explain each step to them. Encourage them to ask question if they have any confusion. For more clarification solve worked example 3 on the board and explain each step to them.

Activity:

Have students to work in pairs. Give each pair a flash card with triangle and a path around the triangle. Instruct students to find the path around the triangle. Walk around and check their work and guide them where needed. After completing the work instruct to share their work with each other. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by re-telling students how to find the area of the path around the triangle by giving them examples.

Assessment:

(3 min)

To assess students' understanding draw a triangle and path around the triangle and ask them how we can find the area of the path around the triangle.

Homework:

(2 min)

Solve Q1(c) of "Learning check 7.2" given at page 125 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 4**

Unit Name: Surface Area and Volume **Topic:** Area of a parallelogram **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a parallelogram.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 121, 122 and 125, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: How can we find the area of a path round the triangular shapes? Take their responses and appreciate if someone gives the right answer and then draw a triangle and a path around the triangle and instruct them to find the area of the path around the triangle. Walk round and check their work and appreciate them for their good work.

Main Activities/Concept Building:

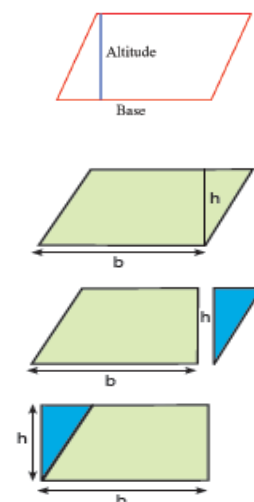
(25 min)

Tell students that today we will learn about the area of parallelogram shapes. Ask students: Do you know about parallelogram shape? Take their responses and tell them that a parallelogram is a figure with four sides having opposite sides equal and parallel. Tell students that the perpendicular distance from any point on parallelogram to its opposite side is the parallelogram's altitude and the base of the parallelogram is on the opposite side.

Ask students: Do you how we can find the area of the parallelogram? Encourage students to share their ideas and explanations. Take their responses and ask them to open their textbook page 121 and observe the parallelogram, with b is the base and h is the height or altitude. Tell them if we divide the parallelogram along the line and rearrange the pieces to form a rectangle. Here, we can see that base and altitude of the parallelogram is the same as the length and width of the rectangle. Tell students we will find area of the parallelogram using the formula.

Area of the parallelogram is $\text{base} \times \text{altitude} = b \times h$

Instruct students to open their textbook page 122. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that the area of a parallelogram is 200 m^2 and the base is 40 m . We have to find the altitude of the parallelogram. Now solve the example step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Sum Up:

(3 min)

Sum up the lesson by emphasizing how we can find the area of the parallelogram. Explain "Note to Remember" given at page 121.

Assessment:

(5 min)

To assess students' understanding ask them to solve "Pause and Try" given at page 122 of their textbook.

Homework:

(2 min)

Solve Q6 and Q7 of "Learning check 7.2" given at page 125 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 5**

Unit Name: Surface Area and Volume **Topic:** Area of a parallelogram **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a path (inside or outside) a parallelogram.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 122, 123 and 125

Teaching & Learning Activities:

Opening Activities/Warm-up:

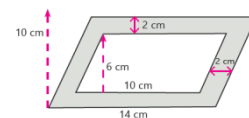
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: How can we find the area of a parallelogram? Take their responses and appreciate if someone gives the right answer. Now draw a parallelogram on the board and also write the length of its base and altitude. Instruct students to find the area of the given parallelogram in their notebooks. Walk around and check their work and guide if required. Appreciate them for their good work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about area of the path inside or outside the parallelogram. Ask students to open their textbook page 122 and read the statement of the worked example 2. Ask them to read the statement and tell what is given and what we have to find. Take their responses and tell them that a parallelogram-shaped playground has a path for walking around its boundary is given and we have to find the area of the path around the given parallelogram if the width of the outer path is 2 cm. Tell students we can find the area of the path around the parallelogram by finding the area of the inner and outer parallelogram. Instruct students to observe the parallelogram where the altitude and base of the inner and outer parallelogram are given. First we find area of the inner parallelogram and then we find the area of the outer parallelogram. As we know that we can find the area of the parallelogram by finding the product of its base and altitude. Find the area of inner and out parallelogram step by step on the board and explain it to them. After finding the areas of both inner and outer parallelogram we subtract the area of the inner parallelogram from the outer parallelogram.



Area of a path around a parallelogram = Area of the outer parallelogram – Area of the inner parallelogram
Explain each step to them and encourage them to ask questions if they have any confusion. For more explanation solve the worked example 3 on the board step by step and explain each step to them.

Activity:

Have students to work in pairs and draw a parallelogram and a path around it and then find the area of the path around the parallelogram by using the formula. Walk around and monitor their working and help them where needed. After completing work instruct to share their working with each other. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by re-calling students how to find the area of the path inside and outside the parallelogram by giving different real-life examples.

Assessment:

(5 min)

Assess the students' understanding by asking them how we can find the area of the path inside and outside the given parallelogram.

Homework:

(2 min)

Solve Q1 (d) of "Learning Check 7.2" given at pages 125 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 6**

Unit Name: Surface Area and Volume **Topic:** Area of a trapezium **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a trapezium.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 123, 124 and 125

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

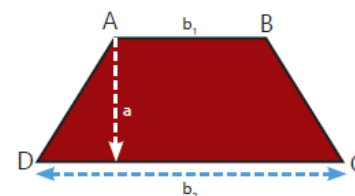
Ask students about their previous day homework. Ask students: How can we find the area of a path round the parallelogram shapes? Take their responses and appreciate if someone gives the right answer and then draw a parallelogram and a path around the parallelogram and instruct them to find the area of the path around the parallelogram. Walk round and check their work and appreciate them for their good work.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about the area of trapezium shapes. Ask students: Do you know about trapezium shape? Take their responses and tell them that a trapezium is a four-sided figure with one pair of parallel sides. A trapezium has two diagonals, which bisect each other.

Draw a trapezium on the board as given in textbook page 123 and ask students to observe the trapezium ABCD. Here AB and DC are two parallel sides of the trapezium. The lengths of the parallel sides (or the two bases of the trapezium) are b_1 and b_2 . Also, 'a' is the perpendicular distance (also called height or altitude of the trapezium) between the two parallel bases.



Ask students: Do you know how we can find the area of the trapezium?

Encourage students to share their ideas and explanations. Take their responses and tell them that we can find the area of the trapezium by finding the product of the altitude and sum of their bases and then divide it by 2.

Area of trapezium = $\frac{1}{2} \times \text{altitude} \times (\text{base 1} + \text{base 2})$

Area of trapezium = $\frac{1}{2} \times a \times (b_1 + b_2)$

Instruct students to open their textbook page 124. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that the area of a trapezium is 42 m^2 and the length of two bases is 1.8m and 2.4 m respectively is given. We have to find the altitude of the trapezium. Now solve the example step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.

Sum Up:

(3 min)

Sum up the lesson by emphasizing how we can find the area of the trapezium. Explain "Note to Remember" given at page 121.

Assessment:

(5 min)

To assess students' understanding ask them to solve "Pause and Try" given at page 124 of their textbook.

Homework:

(2 min)

Solve Q4 and Q5 of "Learning check 7.2" given at page 125 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 7**

Unit Name: Surface Area and Volume **Topic:** Area of a trapezium **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Calculate the area of a path (inside or outside) a trapezium.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 124 and 125

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: How can we find the area of a trapezium? Take their responses and appreciate if someone gives the right answer. Now draw a trapezium on the board and also write the length of its two bases and altitude. Instruct students to find the area of the given trapezium in their notebooks. Walk around and check their work and guide if required. Appreciate them for their good work.

Main Activities/Concept Building:

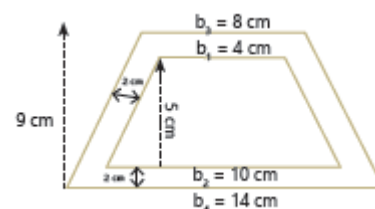
(22 min)

Tell students today we will learn about area of the path inside or outside the trapezium. Ask students to open their textbook page 124 and read the statement of the worked example 2. Ask them to read the statement and tell what is given and what we have to find. Take their responses and tell them that we have to find the area of the path around the given trapezium if the width of the outer path is 2 cm. Tell students we can find the area of the path around the trapezium by finding the area of the inner and outer trapezium. Instruct students to observe the trapezium where the altitude and length of two bases of the inner and outer trapezium are given. First we find area of the inner trapezium and then we find the area of the outer trapezium. Find the area of inner and out trapezium by using formula step by step on the board and explain it to them.

After finding the areas of both inner and outer trapezium we subtract the area of the inner trapezium from the outer trapezium.

Area of a path around a trapezium = Area of the outer trapezium – Area of the inner trapezium

Explain each step to them and encourage them to ask questions if they have any confusion.



Activity:

Have students to work in pairs and draw a trapezium and a path around it and then find the area of the path around the trapezium by using the formula. Walk around and monitor their working and help them where needed. After completing work instruct to share their working with each other. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by re-calling students how to find the area of the path inside and outside the trapezium by giving different real-life examples.

Assessment:

(5 min)

Assess the students' understanding by asking them how we can find the area of the path inside and outside the given trapezium.

Homework:

(2 min)

Solve Q1 (b) of "Learning Check 7.2" given at pages 125 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 1**

Unit Name: Surface Area and Volume **Topic:** Three - Dimensional Shapes **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize and identify 3-D shapes (i.e., cube, cuboid) with respect to their characteristics.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 126, 127 and 129, blocks

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: how can we find the area of a path of a trapezium? Take their responses, and then call a student to the front of the class and ask him or her to draw a path of trapezium shape and calculate the area of the inner and outer trapezium and write the formula for area of path of a trapezium. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(22 min)

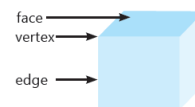
Tell students that today we will learn about 3-D shapes (i.e., cube, cuboid). Ask students: Do you know about 3-D shapes. Take their responses and tell them that 2-D shapes have two dimensional shapes and 3-D shapes have three dimensional shapes. Ask students: Do you know what is meant by dimension? Take their responses and tell them that dimension is the measurement of the length in any direction. Draw a point on the board and tell students a point has no dimension as it has no length, width and height.

Now draw a line on the board and tell them that a line has only length, no width and height so line is the one-dimensional shape. Now draw square, triangle and rectangle on the board and tell students these shapes have length and width so these are 2-dimensional shapes. Show

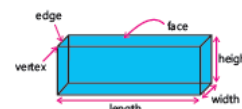


blocks to students and tell them that the blocks have length, width and height so it is a 3-dimensional shape.

Draw a cube shape on the board and ask students: Do you know about the given shape. Take their responses and point out towards the faces of the cube that are of square shape. As square has 4 equal sides. Tell them that all the faces are of square shape so length, width and height of the cube shape are equal. By pointing towards the corners and edges of the cube and tell them that a cube has 8 vertices or corners and 12 straight edges. Ask students to open their textbook page 126 and learn more about cube shape and the objects that are of cube shape.



Now draw a cuboid shape on the board and tell them that a cuboid shape has all faces are of rectangle shape. We can see that length, width, and height of the cuboid is different. Like cube shape cuboid also has 6 flat faces, 8 vertices and 12 straight edges. Cube and cuboid shape objects can slide but cannot roll. Give students different examples of cube and cuboid objects that they can see in their surroundings. Ask students to open their textbook page 127 and learn more about cuboid shape and the objects that are of cuboid shape.



Sum Up:

(3 min)

Sum up the lesson by emphasizing the definitions and characteristics of a cube and cuboid. Explain "Note to Remember" given at page 126.

Assessment:

(5 min)

To assess students ask them to label the parts of the solids of Q1 (c and d) of "learning Check 7.3" given at pages 129 of their textbook. Walk around and check their work and guide where needed.

Homework:

(2 min)

Solve Q2 (a and c) of "Learning check 7.3" given at page 129 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 2**

Unit Name: Surface Area and Volume **Topic:** Three-Dimensional Shapes **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize and identify 3-D shapes (i.e., cone, cylinder, sphere and hemisphere) with respect to their characteristics.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 127, 128 and 129, ball, candle, party cap

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

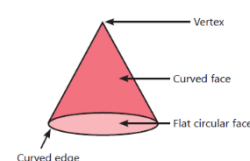
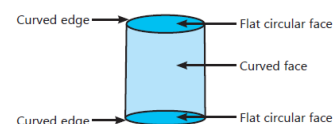
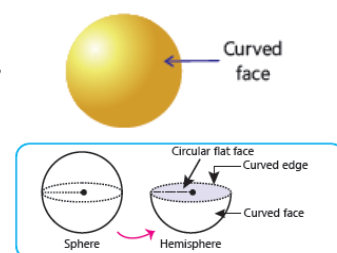
Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: How many vertices of a cube and cuboid? How many edges of a cube and cuboid? How many faces of a cube and cuboid? Take their responses, and then call a student to the front of the class and ask him or her to draw a cube and cuboid on the board and write their vertices, edges, and faces. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn about 3-D shapes spheres, hemisphere, cylinder and cone. Ask students: Do you know about these solids. Show a ball to students and tell them that a sphere is 3-D shape and have only one curved face. It has 0 vertices and 0 edges. Give different example of sphere that we can see all round us for example, globe, football, etc. Tell students when divide a sphere into two equal parts each part is called hemisphere. Now draw a hemisphere on the board and point out towards its faces and tell them that it has one curved flat face and one curved face. Point out its circular edge and tell them that it has one circular edge. Tell them that as it has one circular face and one flat circular face so it can slide and roll. Ask students to open their textbook page 127 and learn more about sphere and hemisphere. Show a candle to students and tell them that the shape of the candle is of cylinder shape. Point out its faces and tell students it has two flat faces and one curved face. It has two curved edges. Tell them that as it has flat face and curved faces so it can slide and roll. Show students a party cap and tell them that the shape of the party cap is cone shape. Point out its faces and tell them that it has one curved and one flat curved face. It has one vertex and one flat curved edge. Ask students to open their textbook page 128 and learn more about cylinder and cone and the objects that are of cylinder and cone shape.



Sum Up:

(3 min)

Sum up the lesson by emphasizing the definitions and characteristics of solids like cone, cylinder, sphere and hemisphere.

Assessment:

(5 min)

To assess students' understanding ask them label the parts of the solids in Q1 (a, b, d, f) of "Learning check 7.3" given at page 128 and 129 of their textbook.

Homework:

(2 min)

Solve Q2 (b, d, e and f) of "Learning check 7.3" given at page 129 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 3**

Unit Name: Surface Area and Volume **Topic:** Volume of a cube **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the volume of cubes including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 130, 131, 135 and 136

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Draw a cube shape on the board and ask students to tell the name of the shape. Take their responses and then call a student to the front of the class and ask him/her to label its parts. Ask the rest of the class to check whether he/she correct or not. Repeat this activity to some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn how to find the volume of a cube. Ask them: Do you know about the volume? Encourage students to share their ideas and explanations. Take their responses and tell them that the volume of an object is the space occupied by that object. Ask students to open their textbook page 130 and look at the wooden box and the number block. The wooden box is bigger than the number block. In other word we can say that the volume or the space occupied by the wooden box is greater than the volume of the block.



Tell students as the all the faces of the cube are of square shape and square has all sides of equal length. We can find the volume of the cube by multiplying it length, width and height. As length, width and height of the cube are of equal length so, we can find the volume of the cube by using the given formula:

$$\text{Volume} = \text{length} \times \text{width} \times \text{height} = l \times l \times l = l^3$$

Tell students the standard unit to measure the volume of an object is the cubic metre. The smaller unit of volume is the cubic centimetre.

Instruct students to open their textbook page 130. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a cube-shaped block is 78 cm in length. We have to find the volume of the given cube. Solve the example step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion. For more explanation solve the worked example 2 and 3 on the board step by step and explain each step in detail to students. Encourage students to ask questions if they have any confusion.

Activity:

Have students open pages 135 of their textbooks. Ask them to find the volume of the cube in the Q1(a and d) of "Learning Check 7.4". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by re-calling students how we can find the volume of the cube.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 131 of their textbook.

Homework:

(2 min)

Solve the Q2 only volume of cube and Q7 of "Learning check 7.4" given at page 136 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 4**

Unit Name: Surface Area and Volume **Topic:** Volume of cuboids **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the volume of cuboids including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 131, 132, 135 and 136

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Draw a cuboid shape on the board and ask students to tell the name of the shape. Take their responses and then call a student to the front of the class and ask him/her to label its parts. Ask the rest of the class to check whether he/she correct or not. Repeat this activity to some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn how to find the volume of a cube. Ask them: Do you know about the volume? Encourage students to share their ideas and explanations. Take their responses and tell them that the volume of an object is the space occupied by that object. Ask students to open their textbook page 131 and look at the cuboid shape.

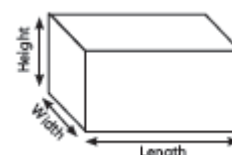
Tell students as the all the faces of the cuboid are of rectangle shape and rectangle has opposite sides are equal in length.

We can find the volume of the cuboid by multiplying its length, width and height. We can find the volume of the cube by using the given formula:

$$\text{Volume} = \text{length} \times \text{width} \times \text{height} = l \times w \times h$$

Tell students the standard unit to measure the volume of an object is the cubic metre. The smaller unit of volume is the cubic centimetre.

Instruct students to open their textbook page 131. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a cuboid-shaped swimming pool is given that is 8 m long, 6 m wide and 1.5 m deep and we have to find the capacity of the swimming pool. Solve the example step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion. For more explanation solve the worked example 2 and 3 on the board step by step and explain each step in detail to students. Encourage students to ask questions if they have any confusion.



Activity:

Have students open pages 135 of their textbooks. Ask them to find the volume of the cube in the Q1(b and c) of "Learning Check 7.4". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by re-calling students the formula to find the volume of the cuboid.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 132 of their textbook.

Homework:

(2 min)

Solve the Q3 only volume of cuboid and Q5, Q6 and Q9(a) of "Learning check 7.4" given at page 136 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 5**

Unit Name: Surface Area and Volume **Topic:** Surface Area of a cube **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the surface area of cubes including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 132, 133, 135 and 136

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: How can we find the volume of a cuboid? Take their responses, and then call a student to the front of the class and ask him/her to draw a cube of length of your own choice on the board and then find the volume of the cube. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

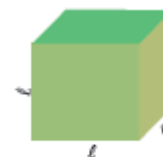
Main Activities/Concept Building:

(25 min)

Tell the students that today we will learn about the surface area of a cube. Ask them: Do you know about the surface area of cube? Encourage students to share their ideas and explanations. Take their responses and tell them that as area of the square is product of its length with its length as all sides of square are equal in length. As cube has 6 square face so we can find the surface area of the cube by finding the area of all the faces of the cube and then add them.

$$\text{Area of a square face} = l \times l = l^2$$

$$\text{Surface area of a cube} = l^2 + l^2 + l^2 + l^2 + l^2 + l^2 = 6 \times l^2 = 6l^2$$



Instruct students to open their textbook page 132. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a cube-shaped wooden box has a length of 6.5 cm. We have to find the cost of painting the box at the rate of Rs 45 per cm². Tell them that to find the cost of painting the box at the rate of Rs 45 per centimetre square first we have to find the surface area of the cube. Solve the example step by step on the board and explain each step to them. Encourage them to ask question if they have any confusion. For more explanation solve the worked examples 2 and 3 on the board step by step and explain each step in detail to students.

Activity:

Have students open pages 135 of their textbooks. Ask them to solve the Q1 (a and d) only for surface area of "Learning Check 7.4". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by emphasizing the surface area of cube and formula to find the surface area of the cube.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 133 of their textbook in their notebooks.

Homework:

(2 min)

Solve the Q2 only for surface area of "Learning check 7.4" given at page 136 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 6**

Unit Name: Surface Area and Volume **Topic:** Surface Area of cuboids **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the surface area of cuboids including real life word problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 133, 134, 135 and 136

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

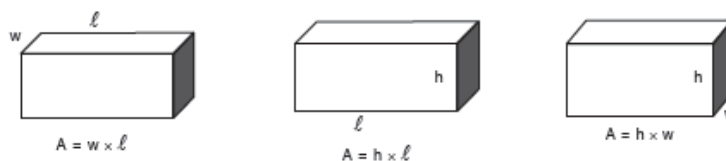
Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: How can we find the volume of a cuboid? Take their responses, and then call a student to the front of the class and ask him/her to draw a cuboid and mention its length, width and height of your own choice on the board and then find the volume of the cuboid. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work.

Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell the students that today we will learn about the surface area of a cuboid. Ask them: Do you know about the surface area of cuboid? Encourage students to share their ideas and explanations. Take their responses and tell them that as area of the rectangle is product of its length with its width. As cuboid has 6 rectangular faces so we can find the surface area of the cuboid by finding the area of all the faces of the cuboid and then add them. Ask students to open their textbook page 133 and observe the cuboid given and its faces.



Total Surface area of a cuboid = $2 \times (l \times w) + 2 \times (l \times h) + 2 \times (w \times h) = 2 \times [(l \times w) + (l \times h) + (w \times h)]$
 Instruct students to open their textbook page 134. Ask them to read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that a cuboid-shaped room measure $9 \text{ m} \times 5 \text{ m} \times 8 \text{ m}$ is given and we have to find the surface area of the room. Solve the example step by step on the board and explain each step to them and encourage them to ask question if they have any confusion. For more explanation solve the worked examples 2 and 3 on the board step by step and explain each step in detail to students.

Activity:

Have students open pages 135 of their textbooks. Ask them to solve the Q1 (b and c) only for surface area of "Learning Check 7.4". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by emphasizing the surface area of cuboid and formula to find the surface area of the cuboid.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 134 of their textbook.

Homework:

(2 min)

Solve Q3 only for surface area, Q4, Q8, Q9 (b) and Q10 of "Learning check 7.4" given at page 136 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 7**

Unit Name: Surface Area and Volume **Topic:** Sum Up and Unit Check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 7 by solving Q1-4 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 137 and 138

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Surface Area and Volume".

Ask them the different questions that are related to "Surface Area and Volume".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 137 and 138 of their textbooks. Ask them to solve Q1 to Q3 of "Unit Check 7".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 137.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q4 of "Unit Check 7" given at page 138 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 1**

Unit Name: Surface Area and Volume **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 7 by solving Q5-9 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 137, 138 and 139

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Surface Area and Volume".

Ask them the different questions that are related to "Surface Area and Volume".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 138 and 139 of their textbooks. Ask them to solve Q5 to Q7 of "Unit Check 7".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 137.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q8 and Q9 of "Unit Check 7" given at page 139 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 2**

Unit Name: Surface Area and Volume **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 7 by solving Q10-14 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 139 and 140

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Surface Area and Volume".

Ask them the different questions that are related to "Surface Area and Volume".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 139 and 140 of their textbooks. Ask them to solve Q10 to Q12 of "Unit Check 7".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the all the important point of the unit "Surface area and volume".

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q13 and 14 of "Unit Check 7" given at page 140 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 3**

Unit Name: Surface Area and Volume **Topic:** Sum Up and Unit Check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 7 by solving Q15-17 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 140, chart paper, Pencil/pen, scissor, scale

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Surface Area and Volume”.

Ask them the different questions that are related to “Surface Area and Volume”.

Main Activities/Concept Building: (30 min)

Activity1:

Have students open page 140 of their textbooks. Ask them to solve Q15 to Q16 of “Unit Check 7”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

- Work in groups
- Use chart paper and draw the net of a cube and cuboid on it.
- Derive the formulas of surface area and volumes.
- Then measure the dimensions and calculate the area and volume.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “Surface Area and Volume”.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q17 of “Unit Check 7” given at page 140 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 4**

Unit Name: Lines, Angles and Symmetry **Topic:** Reflective Symmetry **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define reflective symmetry and Identify reflective symmetry in various objects and figures.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 141 and 142

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about previous day homework. Have students open textbook at page 141. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.)

Main Activities/Concept Building:

(25 min)

Before the main concept, tell them briefly about the unit outline and its real life relevance. Tell students that today we will learn about the reflective symmetry. Ask them: Do you know about the reflective symmetry? Encourage students to share their ideas and explanations. Take their responses and ask them to open their textbook page 142. Instruct students to look at the butterfly. When we fold its wings, both sides of the wings match with each other.



Tell students a figure is said to be reflective symmetry if the part to the left of the line fits perfectly onto the part to the right of the line, and vice versa. Tell students some objects have vertical line of symmetry and some have horizontal line of symmetry and some have both vertical and horizontal line of symmetry. Write the letters A, M, and T, which show the symmetry along the vertical line. In the same way, look at the letters D and E, that shows the symmetry along the horizontal line. Tell them about the letters H and X that have both horizontal and vertical lines of symmetry as given in the textbook page 142.

Activity:

Instruct students to work in pairs. Give each pair various shapes cut-outs. Instruct them to fold the paper and find which shape have reflective symmetry and which has not. Walk around and check their work and guide them where required. After completing work each pair come front of the class and show their working to the whole class. Appreciate them for their correct work and discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by emphasizing the examples of reflective symmetry and "Note to Remember" to students given at page 142.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 142 of their textbook.

Homework:

(2 min)

Solve the given worksheet.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

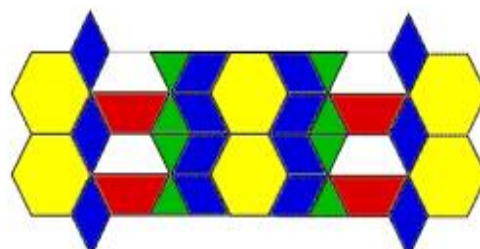
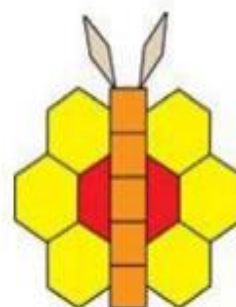
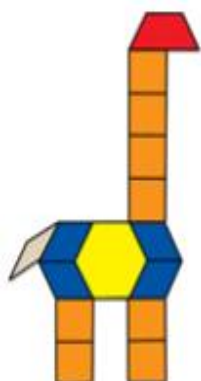
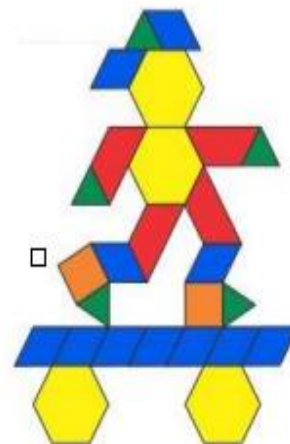
Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Draw a line of symmetry to find which object have reflective symmetry and which one has not.



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 5**

Unit Name: Lines, Angles and Symmetry **Topic:** Reflecting images **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize the method of reflecting an object using grid paper and compass through various examples.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 143, 144 and 145

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: what is meant by reflective symmetry? How can we check the reflection of an image? Take their responses, and then call a student to the front of the class and ask him/her to write the numbers (1 to 10) that shows reflective symmetry. Ask the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building: (25 min)

Tell students that today we will learn about the reflection of an image. Ask them: Do you know about the reflection? Encourage students to share their ideas and explanations. Take their responses and ask them to open their textbook page 143. Tell students in reflective symmetry the shape and size of the object on both sides of the line of symmetry is the same and the line that divides both sides of the images is called line of reflection.

Ask students to open their textbook page 143 and read the statement of the worked example 1 where we reflect the given rectangle on a grid paper along the given line of reflection. Paste the grid paper on the board and draw a rectangle PQRS as given in the book. Secondly, choose any of the closest points (from the line of reflection) of the given image and mark it on the opposite side of the line at the same distance as the original image. Here we take the vertex P. Thirdly, for vertex P, mark P', which is the same distance from the line of reflection. Similarly, mark all the other points on the other side. Finally, join P'Q'R'S'. This is the required reflected image of the given rectangle, PQRS. Explain each step to them and encourage them to ask questions if they have any confusion.

Sum Up: (3 min)

Sum up the lesson by emphasizing that the transformation that uses lines that look like mirrors to reflect shapes is called reflection. Explain "Note to Remember" given at page 143.

Assessment: (5 min)

To assess students ask them to Solve "Pause and Try" given at page 144 of their textbook.

Homework: (2 min)

Solve Q1 (a-b) of "Learning check 8.1" given at page 145 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 6**

Unit Name: Lines, Angles and Symmetry **Topic:** Reflecting Image **Date:**

Objective(s):

At the end of this period, the students will be able to:

Reflect an object using grid paper and compass.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 143

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: Do you know: what is meant by reflection? How we can reflect image to the other side of the line of reflection? What is meant by line of reflection? Take their responses and appreciate them for their correct answers.

Main Activities/Concept Building:

(20 min)

Tell students today we will reflect an image on the grid paper using compass. Recall with students the method or steps to reflect an image on the grid paper. Instruct students to open their textbook page 143 and observe the steps to reflect an image on the grid paper.

Give grid paper to each student with a shape and the line of reflection and ask students to use compass to reflect an image to the other side of the line of reflection. Walk around and check their work and guide them where required. Instruct to raise hand when they complete the work. After completing call one by one each student to the front of the class and ask him/her to paste their grid paper on the board and explain each step of reflecting image to the whole class. Instruct the rest of the class to check whether he/she correct or not. Repeat this activity to all students of the class. Discuss with them about their common mistakes. Appreciate them for their active participation.

Sum Up:

(3 min)

Sum up the lesson by emphasizing the how to reflect image using grid paper and compass.

Assessment:

(10 min)

To assess the students' understanding ask them to solve Q1 (c-d) of "Learning check 8.1" given at page 145 of their textbook.

Homework:

(2 min)

Solve Q1 (e-f) of "Learning check 8.1" given at page 145 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 7**

Unit Name: Lines, Angles and Symmetry **Topic:** Line of reflection **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize the method of finding the line of reflection by construction.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 144 and 146

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: Do you know: what is meant by reflection of an object? How we can reflect objects using grid paper and compass? Tell the steps to reflect an object on the grid paper? Take their responses and appreciate them for their correct answers.

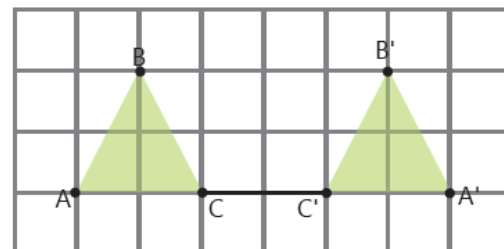
Main Activities/Concept Building:

(25 min)

Tell students today we will learn about finding the line of reflection if the reflected image on the grid paper is given. Ask students: how we can find the line of reflection?

Take their responses and encourage them to share their ideas.

Instruct students to open their textbook page 144. Ask them to read the statement of the worked example 1 where a triangle ABC and their reflected image A'B'C' is given and we have to find the line of reflection. To draw a line of reflection first connects any vertex of the given triangle ABC to the vertex of the reflected image A'B'C' by using straight line. C and C' are joined here.



Then take a compass and Open the compass with more than half the measure of the line segment CC' and draw an arc on the top and bottom of CC', placing the compass pointer at C.

Similarly, draw an arc on the top and bottom of CC', placing the compass pointer at C', which intersects the previous arcs at points M and N, respectively. Then join M to N. this perpendicular bisector MN to the line CC' is the required line of reflection. Repeat with students all the steps to draw a line of reflection. Instruct students to open their textbook page 144 and recall the steps to find the line of reflection.

Activity:

Have students open pages 146 of their textbooks. Ask them to solve the Q2 (a-b) of "Learning Check 8.1". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up:

(3 min)

Sum up the lesson by re-telling students how to find the line of reflection.

Assessment:

(5 min)

To assess the students' understanding ask them to tell the steps to find the line of reflection of the objects.

Homework:

(2 min)

Solve Q2 (c, d) of "Learning check 8.1" given at page 146 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 1**

Unit Name: Linear Expressions and Equations **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Linear expressions and equations”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Linear expressions and equations”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Solve the following linear equations.

a) $5\left(\frac{1}{3}x - \frac{1}{2}\right) - 4 = \frac{1}{6}$

b) $6(1.2x - 0.8) = 2.2x + 5.2$

2. Asma is 5 years older than twice her son's age. If Asma is 35 years old, how old is her son?

3. The price of a notebook is twice the price of a textbook. The price of two notebooks and three textbooks is Rs. 1,400. Find the price of one textbook and notebook.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 2**

Unit Name: Surface Area and Volume **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Surface Area and Volume".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Surface Area and Volume".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

- Find the area and perimeter of a square if its length is 16 cm.

- Find the area and perimeter of a rectangle if its length is 5.2 cm and its width is 3.5 cm.

- A square-shaped conference hall with a length of 8 m. Find the cost of carpeting the entire conference hall at the rate of Rs. 240 per m^2 .

- The length and width of a rectangular exhibition gallery are 12 m and 8 m, respectively. Find the cost of painting the walls for the new exhibition at the rate of Rs 120 per m^2 .

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 3**

Unit Name: Surface Area and Volume **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Surface Area and Volume".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Surface Area and Volume".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

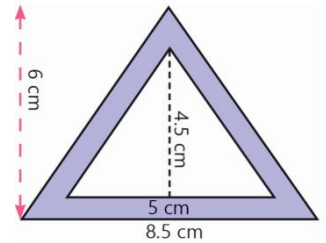
Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

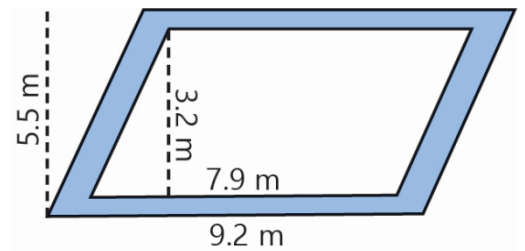
Name: _____

Date: _____

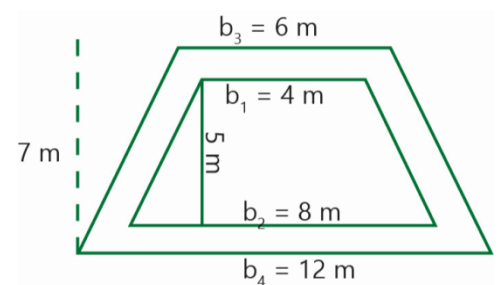
- Find the area of the shaded path around the given triangle.



- Find the area of the shaded path around inside the parallelogram.



- Find the area of the path around the given trapezium.



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 4**

Unit Name: Surface Area and Volume **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Surface Area and Volume".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Surface Area and Volume".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (25 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (5 min)

N/A

Homework: (2 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

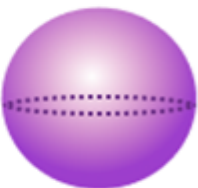
Worksheet

Name: _____

Date: _____

1. Draw sphere, cylinder and cone and label its parts.

2. Look at the 3-D shapes and fill in blanks.

Cube		Faces: _____ Edges: _____ Vertices: _____
Cuboid		Faces: _____ Edges: _____ Vertices: _____
Sphere		Curved Faces: _____ Edges: _____ Vertices: _____
Cone		Flat Faces: _____ Curved Faces: _____ Edges: _____ Vertices: _____
Cylinder		Flat Faces: _____ Curved Faces: _____ Edges: _____ Vertices: _____

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 5**

Unit Name: Surface Area and Volume **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Surface Area and Volume".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Surface Area and Volume".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (25 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (5 min)

N/A

Homework: (2 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

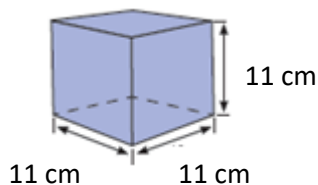
Worksheet

Name: _____

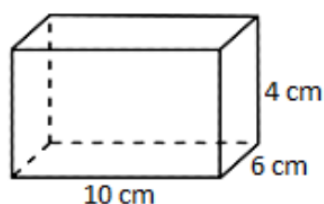
Date: _____

1. Find the volume of the following cubes and cuboids.

a)



b)



2. A cube-shaped storage container with a side length of 14 m. Find the volume of the storage container.

3. A cuboid-shaped bookshelf with dimensions of 4 m in length, 1.5 m in width, and 6 m in height Find the volume on the bookshelf.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 6**

Unit Name: Surface Area and Volume **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Surface Area and Volume".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Surface Area and Volume".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the surface area of a cube if its length is 24 cm.

2. Find the total surface area of the cuboids if its dimension is 5.2 cm $\times$ 2.1 cm $\times$ 6 cm.

3. A cube-shaped gift box has a length of 18 cm. Find the total surface area of the gift box.

4. A rectangular swimming pool measures 25 m in length, 10 m in width, and 2 m in depth. Find the total surface area of the inner walls of the pool that need to be tiled.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 2 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 7**

Unit Name: Lines, Angles and Symmetry **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Lines, Angles and Symmetry".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Lines, Angles and Symmetry".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

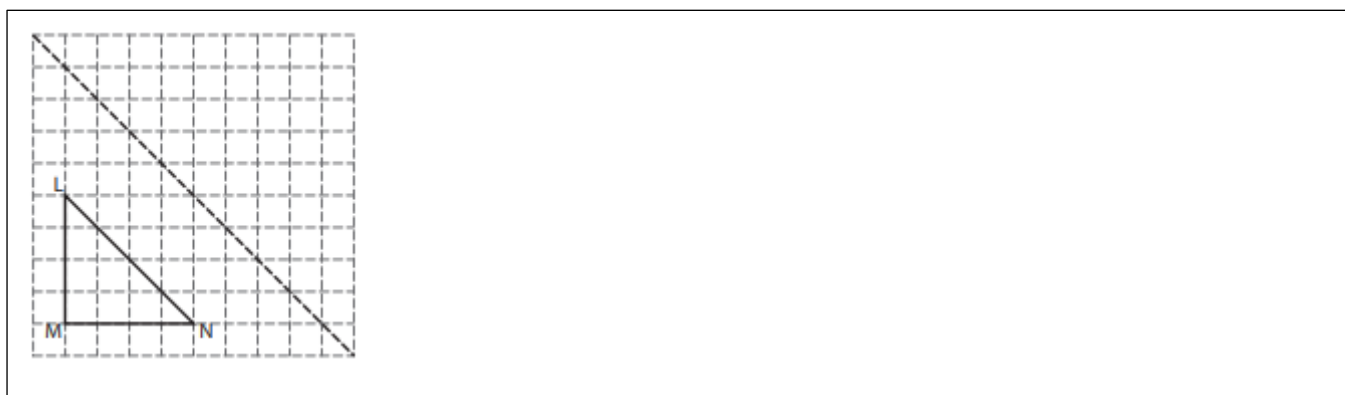
Date: _____

1. Reflect the images that are given on a square grid and write the steps to reflect it.

a)



b)



2. Find the line of reflection of the given images and draw it by using a compass.

a)



b)



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 1**

Unit Name: Lines, Angles and Symmetry **Topic:** Line of reflection **Date:**

Objective(s):

At the end of this period, the students will be able to:

Find the line of reflection by construction.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 144 and 146, grid paper with 2-D shapes and their reflected images, compass, flash cards of objects their image and line of reflection, worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: Do you know about what is the line of reflection? Take their responses and then explain the line of reflection as a line that acts like a mirror, where objects are reflected across the line in a symmetrical manner. Show different flash card of reflected images and the line of reflection that separate the original image from the reflected image. Ask students to observe and tell the objects in their surrounding that have line of symmetry? Take their responses and appreciate them for their correct response.

Main Activities/Concept Building: (25 min)

Tell students that today we will find the line of reflection by construction on the grid paper using a compass. Recall with students the method or steps to find the line of reflection of an image on the grid paper by drawing the line of reflection of an image on the board. Instruct students to open their textbook page 144 and observe the steps to find the line of reflection on the grid paper and discuss with each other. Now give each student a grid paper with the original shape or the reflected shape and instruct them to find the line of reflection. Walk around and check their work and guide them where required. Instruct to raise hand when they complete the work. After completing call one by one each student to the front of the class and ask him/her to paste their grid paper on the board and explain each step of finding the line of reflection to the whole class. Instruct the rest of the class to check whether he/she correct or not. Repeat this activity to all students of the class. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Activity:

Have students open pages 146 of their textbooks. Ask them to solve the Q2 (e-f) of "Learning Check 8.1" in their notebooks. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by recalling with students the steps to find the line of reflection by construction on the grid paper.

Assessment: (5 min)

To assess the students' understanding ask them to tell the steps to find the line of reflection of the objects.

Homework: (2 min)

Solve the given worksheet.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

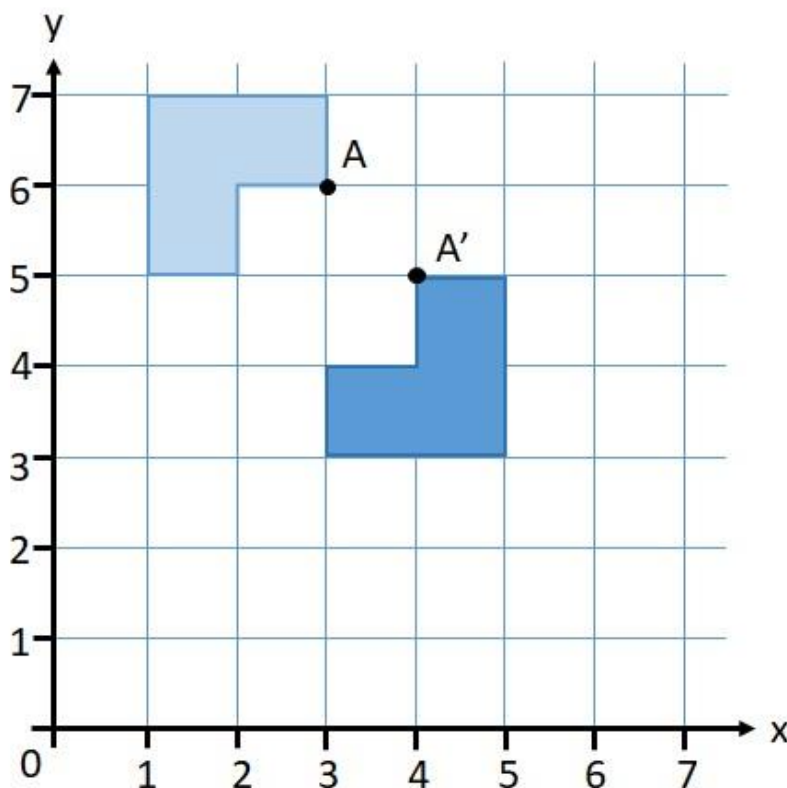
Worksheet

Name: _____

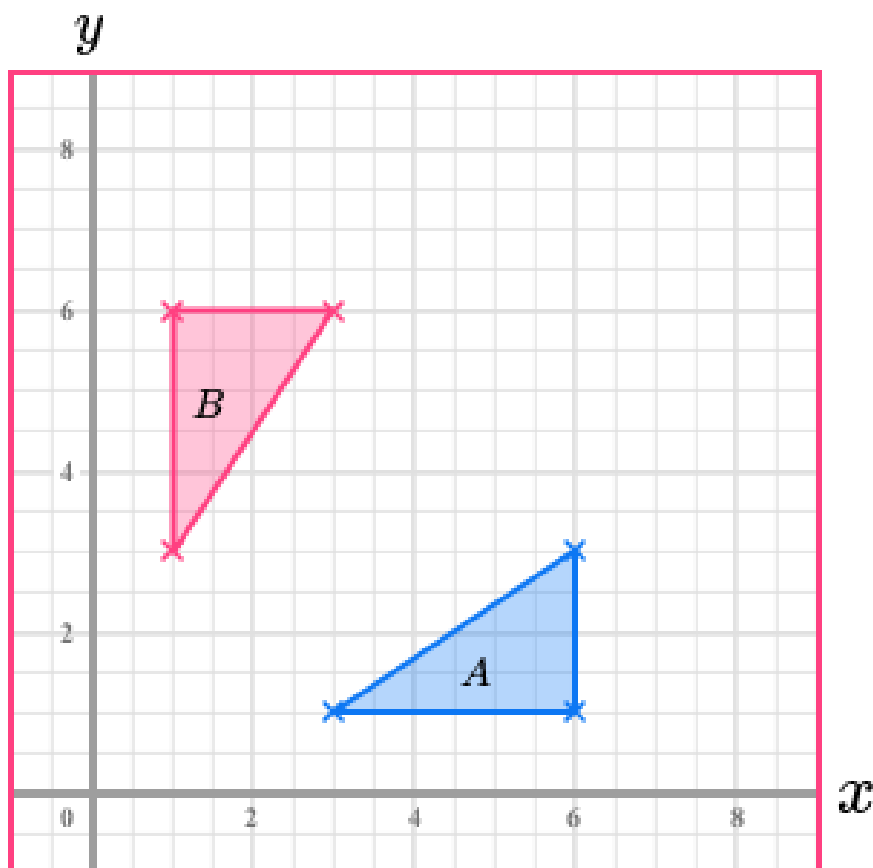
Date: _____

1. Find the line of reflection of the given images and draw it by using a compass.

a)



b)



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 2**

Unit Name: Lines, Angles and Symmetry **Topic:** Parallel lines and Perpendicular lines **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify parallel lines and perpendicular lines.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 146, 147 and 148

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

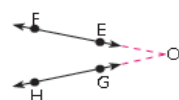
Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Draw an object and reflected image on grid paper. Call a student to the front of the class and ask him/her to find the line of reflection. Also, ask students to write the steps for finding the line of reflection of an image on the grid paper. Ask the rest of the class to check and correct if needed. Take their responses and appreciate them for their correct answers.

Main Activities/Concept Building:

(25 min)

Tell students that today we will identify parallel and perpendicular lines. Ask them: Do you know about the parallel lines? Encourage students to share their ideas and explanations. Take their responses and tell them that parallel lines are those lines that never meet each other at any point. Ask students to open their textbook page 146 and look at the wires. Tell them that by observing these wires we came to know that these wires move in direction and never meet each other at any point. So these electric wires are example of the parallel lines. We can see many objects in our daily life like railway track, cricket stamps etc. that are parallel to each other. Instruct students to look at the two parallel lines PQ and RS given in the textbook page 146 that are parallel to one another and are spaced equally apart. Parallel lines are denoted by the symbol '||' and can be written in the form of $PQ \parallel RS$ and read as PQ is parallel to RS. Now, look at the given lines EF and GH, which are not parallel to each other because these lines intersect at a single point O. Ask them: Do you know about the perpendicular lines? Encourage students to share their ideas and explanations. Take their responses and point out towards the roads that are crossing each other at 90° or making right angle with each other. Tell them that perpendicular lines are two straight lines that intersect at 90° or form a right angle at the point of intersection. Give the example related to real-life like as pole of flag, set squares in geometry box etc. Tell them to look at the pole given on textbook page 147 and explain to them that the pole is perpendicular to the ground. Instruct students to look at the lines AB and CD, these lines are making right angle with each other so these lines are perpendicular to each other and is denoted by $AB \perp CD$. Instruct students to open their textbook page 146 to 148 and observe the objects that show parallel and perpendicular lines.



Sum Up:

(3 min)

Sum up the lesson by re-telling students to differentiate between parallel and perpendicular lines. Explain "Note to Remember" given at pages 146 and 147.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 147 of their textbook.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 3**

Unit Name: Lines, Angles and Symmetry **Topic:** Parallel lines and Perpendicular lines **Date:**

Objective(s):

At the end of this period, the students will be able to:

Differentiate between parallel lines and perpendicular lines.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 148 and 150, paper slips of parallel and perpendicular lines, large paper sheets or chart papers

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: what is meant by parallel and perpendicular lines? Take their responses, and then call a student to the front of the class and ask him or her to draw a figure that have both perpendicular and parallel lines and mention parallel and perpendicular lines. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building: (25 min)

Tell students today we will learn about perpendicular and parallel line and how to differentiate between them. Draw parallel lines and perpendicular lines on the board and ask students to which lines are parallel and which one pair of lines are perpendicular? Take their responses and then recall with them the lines that making right angle with each other are perpendicular lines and the lines that go on forever and never meet each other at any point are called parallel lines.

Activity:

Distribute the paper slips with simple line drawings to each student. Place the large sheets of paper on the classroom floor or on desks. Instruct students to draw the shapes from their paper slip onto the large sheets of paper using markers or colored pencils. Emphasize the importance of creating both parallel and perpendicular lines within the shapes. Encourage students to use different colors for each line or shape to make their artwork visually appealing. After completing their artwork, have students walk around and observe the drawings created by their classmates. Ask them to identify and discuss the parallel and perpendicular lines in each drawing. As a class, gather to discuss what they have learned. You can ask questions such as: "Can you find examples of parallel lines in your classmates' drawings?", "What about perpendicular lines?", "How do parallel and perpendicular lines make these shapes unique?", and "Why are parallel and perpendicular lines important in everyday life?" after taking their response briefly explain where the parallel and perpendicular lines concept used for example in architecture, engineering, and design etc. Appreciate them for their active participation.

Sum Up: (3 min)

Sum up the lesson by re-telling students to draw parallel and perpendicular lines. Explain "Note to Remember" given at page 148.

Assessment: (5 min)

To assess students ask them to Solve "Pause and Try" given at page 148 of their textbook.

Homework: (2 min)

Solve Q1 and Q2 of "Learning Check 8.2" given at page 150 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 4**

Unit Name: Lines, Angles and Symmetry **Topic:** Transversal **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify transversals.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 148 and 149

Teaching & Learning Activities:

Opening Activities/Warm-up:

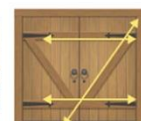
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: what is the difference between parallel and perpendicular lines? Take their responses and explain them about parallel and perpendicular lines by drawing on the board and tell them the difference between them. Call a student to the front of the class and ask him or her to draw two parallel and perpendicular lines. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students that today we will identify transversal. Ask them: Do you know about transversals? Encourage students to share their ideas and explanations. Take their responses and tell them that transversal are those lines that intersect two or more given parallel lines. Draw two parallel lines on the board and then draw a line that intersects these two lines. By pointing to the third line that intersects the two lines tell students this is the transversal. Explain the transversal by drawing different examples of transversal. Instruct students to open their textbook page 146 and look at the figure showing a fence with parallel wooden planks and a wooden plank across it. The parallel planks are crossed by the third plank. This wooden plank that crosses the parallel planks is the transversal. A transversal crosses more than one line. Instruct students to think about the things in their surrounding that have transversal take their responses and tell them that in many of our life situations where we observe transversal like the railway track crosses the road, the stair railing, electric poles have transversal wires etc. instruct students to observe the transversal of parallel and non-parallel lines given at textbook page 149.



Activity:

Instruct students to work in pairs and provide each pair with a large diagram that includes two intersecting lines and a transversal. Instruct them to label Line A, Line B, and the Transversal. Ask each pair to discuss and identify the transversal in their diagram and share their findings with the class. Encourage them to discuss the importance of recognizing transversals in geometry and how they can be used to analyze shapes. Bring the class back together and have each pair share their findings. Instruct students to ask questions where they have confusion.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about transversal by explain the "Note to Remember" given at page 149.

Assessment:

(5 min)

To assess students ask them to draw two parallel lines and two non-parallel lines and draw transversal on them.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 5**

Unit Name: Lines, Angles and Symmetry **Topic:** Adjacent Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify adjacent and non-adjacent angles.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 149, 150 and 151, chart papers

Teaching & Learning Activities:

Opening Activities/Warm-up:

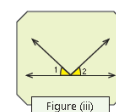
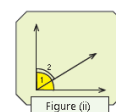
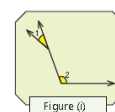
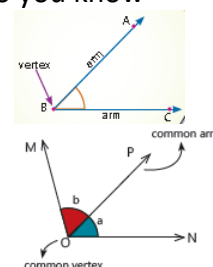
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask them about their previous day homework. Ask them: what is meant by transversal? Take their responses, and then call a student to the front of the class and ask him/her to draw a transversal. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about adjacent and non-adjacent angles. Ask them: Do you know about adjacent angles? Encourage students to share their ideas and explanations. Take their responses and tell them as we know that an angle is formed when two lines intersect each other and degree is the unit of measurement for an angle. Each of the 360 equal-sized parts of a circle would have an angle of one degree, or 1° . Instruct students to open their textbook page 149 and learn more about angle and its parts. Draw figure of adjacent angles given in the textbook on the board and point out to them and tell them that as the angle OM and ON have common vertex O, common arm OP and both angles lie to the opposite side of the common arm and not overlapping. So we can say that angle 'a' and angle 'b' are adjacent angles. Explain the adjacent angles by drawing different angles on the board that fulfill the condition of the adjacent angles. Tell students if any of the condition of the adjacent angle not fulfill then that angles are non-adjacent angles. Instruct students to observe the figures at page 150. Explain to them in figure (i) angles have common arm and lie on the opposite sides of the arm but does not have a common vertex. So, we can say that they are non-adjacent angles. In figure (ii), both angles overlap each other, where they have a common vertex and arm but do not lie on the opposite sides of the arm. Thus, angles are not adjacent in figure (ii). In figure (iii), both angles lie on the opposite side and have a common vertex but do not have a common arm. So, they are also non-adjacent angles.



Activity:

Divide the class into pairs. Provide each pair with a large sheet of chart paper and ask them to draw a pair of adjacent angles and a pair of non-adjacent angles. Instruct the students to measure and label the angles they've drawn. They should also label which angles are adjacent and which are non-adjacent. Walk around the classroom to provide assistance and check their work.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about adjacent and non-adjacent angles by explaining "Note to Remember" given at pages 149 and 150.

Assessment:

(5 min)

To assess students, ask them to tell the difference between adjacent and non-adjacent angles.

Homework:

(2 min)

Solve Q3 of "Learning check 8.2" given at page 151 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 6**

Unit Name: Lines, Angles and Symmetry **Topic:** Corresponding Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify corresponding angles related to parallel lines and transversals.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 151 and 154, chart paper, colour markers

Teaching & Learning Activities:

Opening Activities/Warm-up:

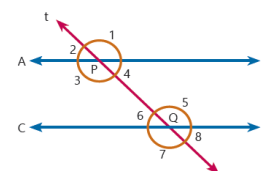
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: what is the difference between adjacent and non-adjacent angles? Take their responses, and then call a student to the front of the class and ask him/her to draw adjacent and non-adjacent angles. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about corresponding angles related to parallel lines and transversals. Recall with students the parallel lines and the transversal by drawing transversal on the board and tell them that an intersection of two or more lines, rays, or segments at different points is known as a transversal. Instruct students to open their textbook page 151 and observe the transversal, where there are two parallel lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ and transversal t is passing through two points P and Q, respectively. Instruct students to observe the transversal when transversal intersect the parallel lines 8 angles are formed in two groups consisting of four angles with each line. Instruct students to observe the given angles the angle 1 and angle 5 are on one side and equal, angle 2 and angle 6 are on same side and equal in measurement, angle 4 and 8 are on same side and of equal measurement similarly angle 3 and 7 are of equal measurement and on same side.



$$\angle 1 = \angle 5 \quad \angle 2 = \angle 6 \quad \angle 4 = \angle 8 \quad \angle 3 = \angle 7$$

Tell them that when two angles that are on the same side of the transversal and are both above (or both below) the other two lines, then that angles are called corresponding angles. Explain them when a transversal line intersects two parallel lines, the corresponding angles formed are equal. Explain students corresponding angles by drawing different parallel lines and intersect them by transversal.

Activity:

Have students to work in pairs and provide each pair with a large sheet of chart paper and coloured markers. Instruct each pair to draw two parallel lines and a transversal. Label the lines and the transversal. Challenge the pairs to identify and label corresponding angles. Encourage them to use different colours to highlight these angles. Walk around the classroom to provide assistance and check their work. Bring the class back together and have each pair share their findings, explaining how they identified and labeled the corresponding angles.

Sum Up:

(3 min)

Sum up the lesson by re-telling students to identify corresponding angles from different examples. Explain "Note to Remember" given at page 151.

Assessment:

(5 min)

To assess students understanding by asking them to what is meant by corresponding angles and instruct to draw parallel lines and transversal and tell about corresponding angles.

Homework:

(2 min)

Solve Q1(a and b) for corresponding angles of "Learning check 8.3" given at page 154 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 1** **Lesson Plan: 7**

Unit Name: Lines, Angles and Symmetry **Topic:** Alternate Angles **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Identify alternate angles related to parallel lines and transversals.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 151 and 154, chart paper, colour markers

Teaching & Learning Activities:

Opening Activities/Warm-up:

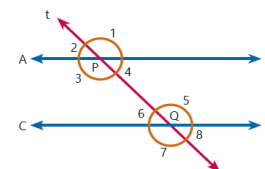
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: What is meant by corresponding angles, and how can we identify corresponding angles in transversal lines? Take their responses and draw parallel lines and transversal intersect them. Also draw angles and name them. Instruct students to observe the angles and tell which angles are corresponding angles.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about corresponding angles related to parallel lines and transversals. Recall with students the parallel lines and the transversal by drawing transversal on the board and tell them that an intersection of two or more lines, rays, or segments at different points is known as a transversal. Instruct students to open their textbook page 151 and observe the transversal, where there are two parallel lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ and transversal t is passing through two points P and Q, respectively. Instruct students to observe the transversal when transversal intersect the parallel lines 8 angles are formed in two groups consisting of four angles with each line. Instruct students to observe the given angles the angle 3 and angle 5 are on opposite side of the transversal and equal, angle 4 and angle 6 are on opposite side of the transversal and equal in measurement, angle 1 and 7 are on opposite side and of equal measurement similarly angle 2 and 8 are on opposite side of the transversal and equal in measurement.



$$\angle 3 = \angle 5 \quad \angle 4 = \angle 6 \quad \angle 2 = \angle 8 \quad \angle 1 = \angle 7$$

Tell them that when two angles those are on the opposite side of the transversal then that angles is called alternate angles. Now explain students about alternate interior and exterior angles to them. Explain them when a transversal line intersects two parallel lines, alternate angles formed are equal. Explain to them alternate angles by drawing different parallel lines and intersect them by transversal.

Activity:

Have students to work in pairs and provide each pair with a large sheet of chart paper and coloured markers. Instruct each pair to draw two parallel lines and a transversal. Label the lines and the transversal. Challenge the pairs to identify and label alternate interior and exterior angles. Encourage them to use different colours to highlight these angles. Walk around the classroom to provide assistance and check their work. Instruct each pair share their findings, explaining how they identified and labeled the alternate interior and exterior angles.

Sum Up:

(3 min)

Sum up the lesson by re-telling students to identify alternate interior and exterior angles. Explain "Note to Remember" given at page 151.

Assessment:

(5 min)

To assess students understanding by asking them what is meant by alternate interior and exterior angles and instruct to draw parallel lines and transversal and show alternate interior and exterior angles.

Homework:

(2 min)

Solve Q1 (b) related to alternate angles of "Learning check 8.3" given at page 154 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 1**

Unit Name: Lines, Angles and Symmetry **Topic:** Vertically Opposite Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify vertically opposite angles related to parallel lines and transversals.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 152, 153 and 155

Teaching & Learning Activities:

Opening Activities/Warm-up:

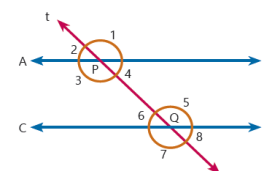
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: What is the difference between alternate interior and exterior angles? Take their responses and appreciate him/her for their correct answer. Instruct students to draw parallel lines and transversal in their notebooks and then label interior and exterior alternate angles on it.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about corresponding angles related to parallel lines and transversals. Recall with students the parallel lines and the transversal by drawing transversal on the board and tell them that an intersection of two or more lines, rays, or segments at different points is known as a transversal. Instruct students to open their textbook page 151 and observe the transversal, where there are two parallel lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ and transversal t is passing through two points P and Q, respectively. Instruct students to observe the transversal when transversal intersect the parallel lines 8 angles are formed in two groups consisting of four angles with each line. Instruct students to observe the given angles the angle 1 and angle 3 are on opposite to each other at point of intersection and equal, angle 2 and angle 4 are on opposite to each other at point of intersection and equal, angle 5 and 7 are on opposite to each other at point of intersection and equal similarly angle 6 and 8 are on opposite to each other at point of intersection and equal.



$$\angle 1 = \angle 3 \quad \angle 2 = \angle 4 \quad \angle 5 = \angle 7 \quad \angle 6 = \angle 8$$

Tell them that when two angles those are on the opposite to each other at point of intersection then those angles are called vertically opposite angles. Explain them when a transversal line intersects two parallel lines, vertically opposite angles are formed that are opposite to each other at point of intersection. Explain to them vertically opposite angles by drawing different parallel lines and intersect them by transversal.

Activity:

Have students to open their textbook page 152. Instruct students to recall in their mind the corresponding angles, alternate angles and vertically opposite angles and solve the worked example 1 to 5 given at textbook page 152 to 154 on the board and explain to students how to find the unknown angles. Solve step by step each example and explain it to them and encourage them to ask questions if they have confusion.

Sum Up:

(3 min)

Sum up the lesson by re-telling students to identify vertically opposite angles. Explain "Note to Remember" given at page 152.

Assessment:

(5 min)

To assess students, ask them to solve pause and try given at page 152 of their textbook.

Homework:

(2 min)

Solve Q2 and Q3 of "Learning check 8.3" given at page 155 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 2**

Unit Name: Lines, Angles and Symmetry **Topic:** Rotational Symmetry **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize and define rotational symmetry, the point of rotation and order of rotational symmetry.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 155, 156 and 157

Teaching & Learning Activities:

Opening Activities/Warm-up:

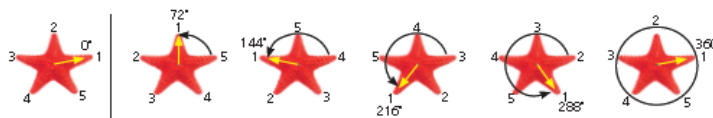
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: What is meant by vertically opposite angles? How can we identify vertically opposite angles in a transversal? Take their responses, and then call a student to the front of the class and ask him/her to draw a transversal and identify vertically opposite angles. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students today we will recognize and define rotational symmetry, the point of rotation and order of rotational symmetry. Ask them: Do you know about rotational symmetry? Encourage students to share their ideas and explanations. Take their responses and tell them that rotational symmetry is the phenomenon that occurs when a figure maintains its original appearance at least twice after rotating fully 360° around the center point. Explain them rotational symmetry is a property of many shapes, such as squares, circles, rectangles, etc. Ask them: Do you know about order of rotational symmetry? Take their responses and tell them that the order of rotational symmetry is the minimum number (at least twice) of times a form remains the same after a complete rotation. Draw some figures like a square, rectangle, circle, etc., and tell them the order of rotational symmetry of a square is 4 and the order of rotational symmetry of a rectangle is 2. Also, explain to them about the center of rotational symmetry to draw or show some figures like a fan, the wheel of a tyre, a Ferris wheel, etc. Explain that the point of rotational symmetry is the center of any figure. Instruct the students to open the textbook page 156 and look at the starfish. Rotate the figure anticlockwise. This starfish rotates around its center five times in a full rotation, appearing five times the same. Therefore, the order of rotation of a starfish is five, and its center is the point of rotation. Similarly, explain to them the order of rotational symmetry of capital letters in the English alphabet, like H and M given in the textbook page 156 and 157. Explain the rotational symmetry by giving them different examples of real life objects and then performing rotation and finding the centre and order of rotation



Sum Up:

(3 min)

Sum up the lesson by re-telling students to define rotational symmetry, order of rotational symmetry and point of rotational symmetry.

Assessment:

(5 min)

To assess students' understanding ask them to solve "Pause and Try" given at page 157 of their textbook.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 3**

Unit Name: Lines, Angles and Symmetry **Topic:** Rotational Symmetry **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the figures that have rotational symmetry.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 157, a piece of string or rod, flash cards of shapes

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: What is meant by rotational symmetry?

What is meant by order of rotational symmetry? What is meant by centre of rotational symmetry? Take their responses and appreciate him/her for their correct answer. Now draw a rectangle on the board and show students its rotational symmetry and order of rotation.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn about figures that have rotational symmetry. Place the flash cards of shapes like square, triangle (scalene, equilateral and isosceles), rectangle etc. on the table. First take the equilateral triangle and by rotating it 360° . Tell students when we rotate the equilateral triangle; it looks identical three times so it has rotational symmetry of order 3. Now take the scalene triangle and show its rotation to students. Tell them that when we rotate it, it looks identical one time in complete rotation so it has no rotational symmetry, similarly the isosceles triangle looks one time identical in complete rotation so it has no rotational symmetry as one shape has rotational symmetry if it look same twice in complete rotation. Explain the rotational symmetry by showing the rotation of different figures to them and tell which figure has rotational symmetry and which one has not.



Activity:

Provide each student with a pin or tack and a piece of string or rod. Ask the students to push the pin through the center of their shape, ensuring that it's balanced. Next, attach the string or rod to the pin. Instruct the students to gently spin their shapes around the pin and observe what happens.

Encourage students to discuss whether their shapes maintain their appearance after a rotation or if they look different. Bring the class together and have students share their findings. Discuss which shapes exhibited rotational symmetry and which did not. Create a chart on the chart paper to record the shapes that had rotational symmetry, and discuss the order of rotational symmetry for each shape. Appreciate students for their good work.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the shapes or objects that have rotational symmetry and which one has not.

Assessment:

(5 min)

To assess students' understanding ask them to identify rotational symmetry in Q1(a-d) of "Learning Check 8.4".

Homework:

(2 min)

To identify rotational symmetry of Q1 (e-k) of "Learning check 8.4" given at page 157 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 4**

Unit Name: Lines, Angles and Symmetry **Topic:** Centre and Order of Rotational Symmetry **Date:**

Objective(s):

At the end of this period, the students will be able to:

Find the point of rotation and order of rotational symmetry in figures having rotational symmetry.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 157 and 158, 2-D shapes cards

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

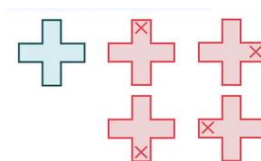
Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: How can we identify the order of rotational symmetry? How can we find the point of rotational symmetry? Take their responses, and then call a student to the front of the class and ask him/her to draw the English alphabets B, C, and X and determine the rotational symmetry in each alphabet. Ask the rest of the class to check whether he/she correct or not. Repeat this activity to some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn about how to find the point of rotation and order of rotational symmetry in figures having rotational symmetry. Display a figure on the board with rotational symmetry, such as a plus symbol. Paste the image of a figure on the board, ensuring it has rotational symmetry. Identify the point of rotation, typically located at the center of the figure, and use an arrow to indicate the direction of rotation. Locate the central point within the figure, which acts as the point for rotation. Draw an arrow on the figure to show the direction in which it can be rotated. Introduce the concept of the "order of rotational symmetry." This term refers to the number of times a shape can be turned to align with its original position within a complete 360-degree rotation. Explain the concept of the order of rotational symmetry, which represents how many times the figure can be rotated before it aligns perfectly with its initial orientation in a full 360-degree rotation.



Order of 4

Activity:

Divide the class into small groups and distribute different figures with rotational symmetry to each group. Ensure that each group has a variety of shapes to work with. Instruct each group to identify the point of rotation for their assigned figure and determine the order of rotational symmetry. Encourage students to discuss and collaborate within their groups to come to a consensus. Walk around the classroom to provide guidance and assistance as needed. Have each group present their findings to the class. They should point out the point of rotation and explain the order of rotational symmetry for their figure. Encourage questions and discussions after each presentation.

Sum Up:

(3 min)

Sum up the lesson by re-telling students how to find the centre and order of rotation in rotational symmetry.

Assessment:

(5 min)

To assess students' understanding ask them to solve Q2 of "Learning Check 8.4".given at page 158.

Homework:

(2 min)

To identify rotational symmetry of Q3 and Q4 of "Learning check 8.4" given at page 158 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 5**

Unit Name: Lines, Angles and Symmetry **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 8 by solving Q1-3 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 158, 159 and 160

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Lines, Angles and Symmetry".

Ask them the different questions that are related to "Lines, Angles and Symmetry".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 159 and 160 of their textbooks. Ask them to solve Q1 to Q3 (a) of "Unit Check 8".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 158.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q3 (b-c) of "Unit Check 8" given at page 160 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 6**

Unit Name: Lines, Angles and Symmetry **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 8 by solving Q4-5 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 158 and 160

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Lines, Angles and Symmetry".

Ask them the different questions that are related to "Lines, Angles and Symmetry".

Main Activities/Concept Building: (30 min)

Activity:

Have students open page 160 of their textbooks. Ask them to solve Q4 to Q5 (a-b) of "Unit Check 8". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 158.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q5 (c-d) of "Unit Check 8" given at page 160 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 2** **Lesson Plan: 7**

Unit Name: Lines, Angles and Symmetry **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 8 by solving Q6 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, Textbook page 161

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Lines, Angles and Symmetry”.

Ask them the different questions that are related to “Lines, Angles and Symmetry”.

Main Activities/Concept Building: (32 min)

Activity 1:

Have students open page 161 of their textbooks. Ask them to solve Q6 of “Unit Check 8”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

- Work in two groups
- A member from group A will come to the whiteboard and draw any of the angles on it (not drawn to scale) related to parallel lines and transversals.
 - Corresponding angles
 - Alternate angles
 - Vertically opposite angles
- He/she will leave at least one angle unknown.
- Then a member from group B will come and find the unknown angle(s).
- Take turns
- The group with the most correct and accurate answers wins.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “Lines, Angles and Symmetry”.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 1**

Unit Name: Geometrical Constructions **Topic:** Perpendicular and Perpendicular Bisectors **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify perpendiculars and perpendicular bisectors.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 162 and 163

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

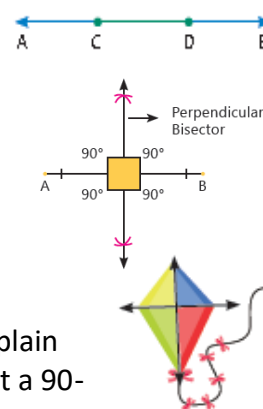
Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students if they remember how can we construct geometrical shapes? Give them a brief recall by constructing geometrical shapes. Have students open textbook at page 162. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: *The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.*)

Main Activities/Concept Building:

(22 min)

Before the main concept, tell them briefly about the unit outline and its real-life relevance. Tell students today we will learn to perpendiculars and perpendicular bisectors, before this recall with students about the line and line segment given at page 163 of their textbook. Ask students to open textbook page 163. Draw a line and a line segment on the board and explain it to them. Ask students: What are the perpendicular lines? Take their responses and tell them that the two lines that make right angle with each other are perpendicular lines. Draw perpendicular lines on the board and explain it to them. Now ask students: Do you know about bisector? Take their responses and appreciate if someone gives the right answer. Tell them that a bisector is a line that divides a particular line into two equal parts. Ask the students: Do you know about perpendicular bisector? Take their answer and tell them that a line that bisects a line segment and intersects at a 90-degree angle is called a perpendicular bisector. Explain them to look at the kite. A horizontal line is divided by a vertical line which intersects at a 90-degree angle. The vertical line represents the perpendicular bisector.



Activity 1

Ask students to form pairs. Provide each pair a ruler and a list of objects with perpendicular lines (e.g., a door, a corner of a book, a window frame, etc.). Instruct to identify and mark any perpendicular lines they find in the provided objects. After they finish, ask each pair to share their findings with the class and explain why they identified perpendicular lines. Walk around the class, monitor their work, and guide them where required. Discuss with them their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by recalling the concept of perpendicular and perpendicular bisectors. Also explain "Note to Remember" given at page 163.

Assessment:

(5 min)

To check students' learning, ask them the difference between perpendicular and perpendicular bisector.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 2**

Unit Name: Geometrical Constructions **Topic:** Perpendicular and Perpendicular Bisectors **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct a perpendicular/right bisector of a given line segment.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 164 and 166, Board Geometry box set

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

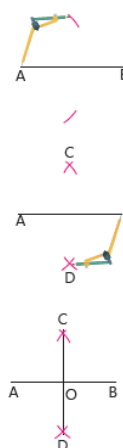
Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: What is the difference between a line and a line segment? What is the difference between perpendicular and perpendicular bisector? Take their responses, and tell them that a perpendicular line is a straight line that intersects another line or segment at a 90-degree angle but on the other side a perpendicular bisector is a line or line segment that both intersects another line or segment at a 90-degree angle and divides it into two equal parts. Draw line, line segment, perpendicular line and perpendicular bisector and tell them the difference.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn to construct a perpendicular/right bisector of a given line segment. Ask students: Do you know how we can construct right bisector of the given line segment? Take their responses and appreciate if someone gives the right answer. Instruct now take a ruler and draw a line segment AB on the board. Now place the pointer of the compass at point A. Open the compass with more than half of the measure of the line segment AB and draw an arc on the top and bottom of AB. Tell students similarly, using the same opening of the compass, place the pointer of the compass at point B and draw two arcs on the top and bottom of AB which intersects the previous arcs at point C and D respectively. Now join the point C and D by a line using a ruler that will cut the line segment AB at point O. Tell them that CD is the right bisector on the line segment AB that divides the given line into two equal parts. Draw line bisector on the board and explain each step to them. Encourage them to ask questions if they have any confusion. Now instruct students to follow the same steps and draw a line segment and right bisector of the line segment on the paper. Walk around and check their work and guide where needed.



Activity 1

Ask the students to open textbook page 166. Instruct students to solve Q1 of "Learning Check 9.1" step by step in their notebooks. Walk around the class, monitor their work, and guide them where required.

Discuss with them their common mistakes. Appreciate them for their good work.

Sum Up:

(3 min)

Sum up the lesson by recalling the concept of right bisector of a line segment.

Assessment:

(5 min)

To assess students ask them to solve "Pause and Try" given at page 164 of their textbook.

Homework:

(2 min)

Solve Q2 of "Learning check 9.1" given at page 166 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 3**

Unit Name: Geometrical Constructions **Topic:** Perpendicular and Perpendicular Bisectors **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct a perpendicular to a given line from a point on it.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 164, 165, 166 and 167

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

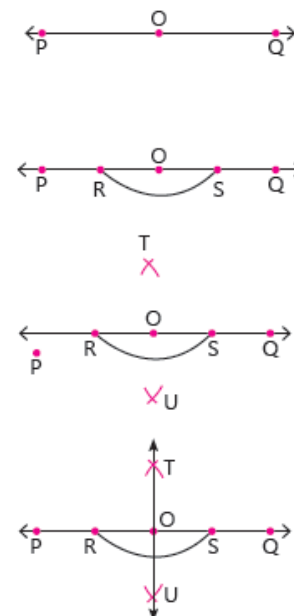
Ask students about their previous day homework. Ask students: How can we draw right bisector of a given line segment? Take their responses, and then call a student to the front of the class and ask him/her to draw a line segment with any length and draw a right bisector on it. Ask the rest of the class to check whether he/she correct or not. Repeat this activity with some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about how to construct a perpendicular to a given line from the point on it.

Ask students: Do you know how to construct the perpendicular to a given line from a point on it? Take their responses and appreciate if someone gives the right answer. Instruct students to open their textbook page 164. Tell them that to draw a perpendicular to a given line we use compass. First draw a line segment PQ and Point 'O' on it as given in the textbook. Place the pointer of the compass at point 'O' and tell students open the compass with a suitable radius and draw an arc of suitable radius that will cut the line PQ at two points R and S respectively, such that OR = OS. After drawing this now place the pointer of the compass at point R and draw two arcs at top and bottom of radius greater than OR. With the same opening of the compass, place the pointer of the compass at point S and draw two arcs at top and bottom which cuts the previous arcs at point T and U. After drawing arcs now take a ruler and draw a line that passes through T and U. Tell them that the line TU is the required perpendicular that is drawn from the point O given on it. Draw and explain each step to them and encourage them to ask questions where they feel confusion.



Activity 1

Ask the students to open textbook page 166. Instruct students to solve Q3 of "Learning Check 9.1" step by step in their notebooks. Walk around the class, monitor their work, and guide them where required. After this instruct to show their working to the whole class. Check their work and discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by recalling the concept to draw perpendicular to the lines from the given points by using compass. Also explain "Note to Remember" given at page 165.

Assessment:

(5 min)

To assess students ask them to solve "Pause and Try" given at page 165 of their textbook.

Homework:

(2 min)

Solve Q6 and Q8 of "Learning check 9.1" given at pages 166 and 167 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 4**

Unit Name: Geometrical Constructions **Topic:** Drawing of a perpendicular to a given line from a point not on it
Date:

Objective(s):

At the end of this period, the students will be able to:

Construct a perpendicular to a given line from a point not on it.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 165, 166 and 167

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

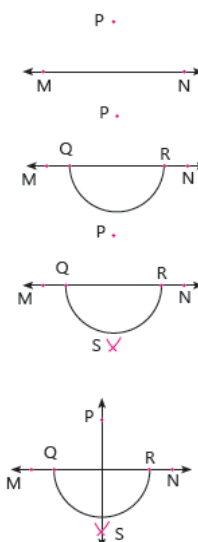
Ask students about their previous day homework. Ask students: How can we construct a perpendicular to a given line from a point on it? Take their responses, and then call a student to the front of the class and ask him/her to draw a line segment and take any point on the line segment. Draw a perpendicular on it. Ask the rest of the class to check whether he/she correct or not. Repeat this activity with some other students.

Appreciate them for their correct work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about how to construct a perpendicular to a given line from the point not on it. Ask students: Do you know how to construct the perpendicular to a given line from a point not on it? Take their responses and appreciate if someone gives the right answer. Instruct students to open their textbook page 165. Tell them that to draw a perpendicular to a given line we use compass. First draw a line segment MN and Point 'P' not on it as given in the textbook. Place the pointer of the compass at point 'P' and tell students open the compass with a suitable radius and draw an arc of suitable radius that will cut the line MN at two points Q and R respectively. After drawing this now place the pointer of the compass with the same opening at point Q and R and draw two arcs on the other side of MN that cut each other at point S.



After drawing arcs, now take a ruler and draw a line that passes through P and S. Tell them that the line PS is the required perpendicular that is drawn from the point P not on it. Draw and explain each step to them and encourage them to ask questions where they feel confusion.

Activity 1

Ask the students to open textbook page 166. Instruct them to solve Q4 (a-d) of "Learning check 9.1" in their notebooks. Walk around the class, monitor their working and guide them where required. Discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by recalling the concept to draw perpendicular to a given line from a point not on it.

Assessment:

(5 min)

To assess students ask them to solve "Pause and Try" given at page 166 of their textbook.

Homework:

(2 min)

Solve Q5 and Q7 of "Learning check 9.1" given at pages 166 and 167 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 5**

Unit Name: Geometrical Constructions **Topic:** Construction and Bisection of an Angle **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Identify bisection of an angle.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 167 and 168, Board geometry box

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

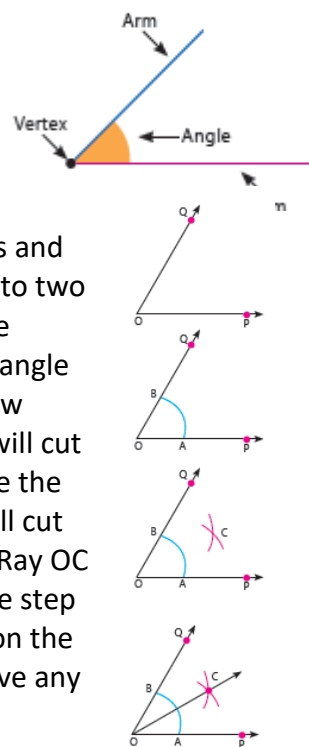
Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: How can we construct a perpendicular to a given line from a point not on it? Take their responses, and then call a student to the front of the class and ask him/her to draw a line segment and take any point outside the line segment. Draw a perpendicular on it. Ask the rest of the class to check whether he/she correct or not. Repeat this activity with some other students. Appreciate them for their correct work.

Main Activities/Concept Building:

(22 min)

Tell students that today we will learn to identify the bisection of an angle. Ask students: Do you know about the bisection of an angle? Take their responses and tell them that as we know that bisection a line segment means to divide the line segment into two equal parts similarly bisection of angle means to divide the angle into two equal parts. Instruct students to open their textbook page 167 and recall what is angle and how it is formed. Tell them that an angle is formed when two non-parallel lines meet at a common endpoint. Explain to them that we bisect the angle by using a compass or protractor. Explain to them some of the angles made by using a compass and some of them made by using a protractor. Tell students when we divide the angle into two equal parts then this process is called the bisection of an angle. Tell students now we bisect angle POQ using compass and ruler given in the worked example 1. Draw the angle POQ on the board as given in the textbook with the help of ruler and protractor. Now place the pointer of the compass at point O and draw an arc of suitable radius that will cut the ray OP at any point A and cuts the ray OQ at any point B. After drawing this place the pointer of the compass at point A and B and draw two arcs of suitable radius that will cut each other at point C. Now draw a line with the help of ruler from point C to O. The Ray OC divide the angle POQ into two equal parts that is $m\angle POC = m\angle QOC$. Bisect the angle step by step and explain each step to them. For more explanation draw different angles on the board and bisect them step by steps. Encourage students to ask questions if they have any confusion.



Sum Up:

(3 min)

Sum up the lesson by recalling the concept to bisect any angle into two equal parts. Also explain "Note to Remember" given at page 167.

Assessment:

(5 min)

To assess students ask them to tell the steps of bisection of an angle into its equal parts.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 6**

Unit Name: Geometrical Constructions **Topic:** Construction and Bisection of an Angle **Date:**

Objective(s):

At the end of this period, the students will be able to:

Bisect angles using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 168 and 173

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students: what is meant by an angle? How can draw an angle? What is meant by bisection? How we can bisect an angle? Take their responses and appreciate them for their correct answer. Now recall with students the steps to bisect an angle into two equal parts.

Main Activities/Concept Building:

(22 min)

Activity 1:

Tell students today we will learn to bisect angle using compass and ruler. Begin by explaining to the students that they will participate in an "Angle Bisection Challenge" where they will be working in teams to bisect various angles. Divide the class into small groups of 3-4 students each. Ensure that each group has access to protractors, rulers, pencils, and a compass (optional). Draw a large angle on board and label it as $\angle ABC$. Make sure the angle is clearly visible to the entire class. Ask each group to choose a representative who will attempt to bisect the angle using the chosen method (protractor or compass). Walk around the class, monitor their working and guide them where required. Discuss with them about their common mistakes.

Activity 2:

Instruct students to open their textbook page 173. Assign one part of Q2 given in "Learning check 9.2" to each student. Instruct them to draw angle using ruler and protractor. After drawing assigned angle instruct them use compass to bisect it. Walk around and check their work and guide them where required. After completing the task ask them to come one by one to share their work to the whole class. Check their work and discuss with them about their common mistakes. Appreciate them for their good work and active participation in class.

Sum Up:

(3 min)

Sum up the lesson by recalling the concept to bisect any angle into two equal parts. Also explain "Note to Remember" given at page 167.

Assessment:

(5 min)

To assess students ask them to solve "Pause and Try" given at page 168 of their textbook in their notebook.

Homework:

(2 min)

Solve Q1 of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 3** **Lesson Plan: 7**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 60° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 168 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

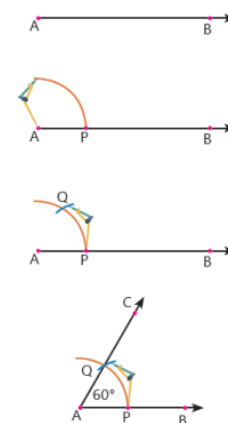
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: what is meant by bisection? What is meant by bisection of an angle? How we can bisect an angle using compass and ruler? Take their responses and then instruct students to draw an angle of your own choice and then bisect it. Walk around and check their work and guide them where required.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn how to construct an angle of 60° . Ask students: Do you know how to construct an angle using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 168. Now tell students to construct an angle of 60° first we take the ruler and draw a ray AB. Draw a ray AB with the help of ruler on the board. Now place the pointer of the compass at point A and draw an arc of suitable radius that will cut the ray AB at a point P. After this with the same opening of the compass, place the pointer of the compass at point P and draw an arc that will cut the previous arc at point Q. Now with the help of the ruler draw a ray passing through the point Q. Name this ray as AC. Tell students this is the angle of 60° . Now measure the angle with the help of protractor to verify the angle of 60° . Construct the angle of 60 degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 60-degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 60-degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 60 with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 60° with the help of compass and ruler.

Homework:

(2 min)

Solve Q3 (d) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 1**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 30° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 168, 169 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 60 degree with the help of compass and ruler? Take their responses and then instruct students to construct the 60 degree angle in their notebook. Walk around and check their work and guide them where needed. Appreciate them for their good work.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn how to construct an angle of 30° . Ask students: Do you know how to construct an angle using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 168. Now tell students to construct an angle of 30° first we take the ruler and draw a ray PQ. Draw a ray PQ with the help of ruler on the board. Now place the pointer of the compass at point P and draw an arc of suitable radius that will cut the ray PQ at a point S. After this with the same opening of the compass, place the pointer of the compass at point S and draw an arc that will cut the previous arc at point T. Again with the same opening of the compass, place the pointer of the compass at points S and T and draw two arcs of same radius that will cut each other at point U. Now with the help of the ruler draw a ray passing through the point U. Name this ray as PR. Tell students this is the angle of 30° . Now measure the angle with the help of protractor to verify the angle of 30° . Construct the angle of 30 degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 30-degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 30-degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 30 with the help of compass and ruler. Also explain "Note to remember" given at page 169 to them.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 30° with the help of compass and ruler and solve "Pause and try" given at page 169.

Homework:

(2 min)

Solve Q3(a, b) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 2**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 90° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 169, 170 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

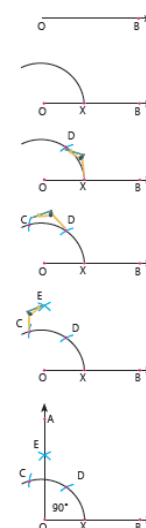
(7 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 30 degree with the help of compass and ruler? Take their responses and then instruct students to construct the 30 degree angle in their notebook. Walk around and check their work and guide them where needed. Appreciate them for their good work.

Main Activities/Concept Building:

(23 min)

Tell students today we will learn how to construct an angle of 90° . Ask students: Do you know how to construct an angle using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 169. Now tell students to construct an angle of 90° first we take the ruler and draw a ray OB. Draw a ray OB with the help of ruler on the board. Now place the pointer of the compass at point O and draw an arc of suitable radius that will cut the ray OB at a point X. After this with the same opening of the compass, place the pointer of the compass at point X and draw an arc that will cut the previous arc at point D. Again using the same opening of the compass, place the pointer of the compass at point D and draw an arc that will cut the previous arc at point C. Now place the pointer of the compass at point D and C and draw two arcs of same radius that will cut each other at point E. Now with the help of the ruler draw a ray passing through the point E. Name this ray as OA. Tell students this is the angle of 90° . Now measure the angle with the help of protractor to verify the angle of 90° . Construct the angle of 90 degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 90-degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 90-degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 90° with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 90° .

Homework:

(2 min)

Solve Q3 (f) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 3**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 45° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 170 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

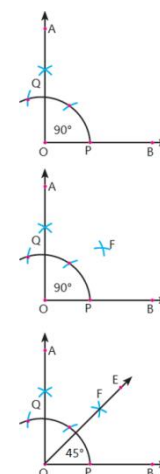
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 90° degree with the help of compass and ruler? Ask students to recall the steps to construct the angle of 90° degree. Then ask students to construct angle of 90° degree in their notebooks. Walk around and check their work and guide them where needed.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn how to construct an angle of 45° . Ask students: Do you know how to construct an angle of 45° degree using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 170. Now tell students to construct an angle of 45° first we construct an angle of 90° . Ask students: Do you know the steps to draw an angle of 90° degree with the help of compass and ruler. Then draw the angle of 90° degree on the board and explain each step of constructing angle of 90° degree to students. Tell them that after constructing angle AOB of 90° degree, place the pointer of the compass at point P and Q and draw two arcs of same radius that will intersect each other at point F. after this with the help of ruler draw a ray OE that passes through point F. Tell students this is the angle of 45° . Now measure the angle with the help of protractor to verify the angle of 45° . Construct the angle of 45° degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 45° -degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 45° -degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 45° with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 45° with the help of compass and ruler.

Homework:

(2 min)

Solve Q3(c) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 4**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 75° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 170, 171 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

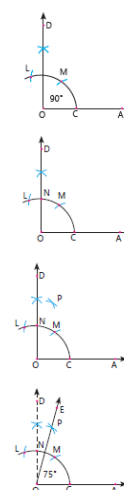
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 90° degree with the help of compass and ruler? Ask students to recall the steps to construct the angle of 90° degree. Then ask students to construct angle of 90° degree in their notebooks. Walk around and check their work and guide them where needed.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn how to construct an angle of 75° . Ask students: Do you know how to construct an angle of 75° degree using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 170. Now tell students to construct an angle of 75° first we construct an angle of 90° . Ask students: Do you know the steps to draw an angle of 90° degree with the help of compass and ruler. Then draw the angle of 90° degree on the board and explain each step of constructing angle of 90° degree to students. Tell them that after constructing angle AOD of 90° degree, Mark a point N, where the arm OD of $\angle AOD$ is cut by the arc CL. After this place the pointer of the compass at point M and N and draw two arcs of same radius that will intersect each other at point P. after this with the help of ruler draw a ray OE that passes through point P. Tell students this is the angle of 75° . Now measure the angle with the help of protractor to verify the angle of 75° . Construct the angle of 75° degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 75° -degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 75° -degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 75° with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 75° with the help of compass and ruler.

Homework:

(2 min)

Solve Q3 (e) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 5**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 105° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 171, 172 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

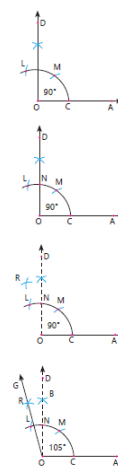
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 75° with the help of compass and ruler? Ask students to recall the steps to construct the angle of 75° . Then ask students to construct angle of 75° in their notebooks. Walk around and check their work and guide them where needed.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn how to construct an angle of 105° . Ask students: Do you know how to construct an angle of 105° using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 171 and 172. Now tell students to construct an angle of 105° first we construct an angle of 90° . Ask students: Do you know the steps to draw an angle of 90° degree with the help of compass and ruler. Then draw the angle of 90° degree on the board and explain each step of constructing angle of 90° degree to students. Tell them that after constructing angle AOD of 90° degree mark a point N, where the arm OD of $\angle AOD$ is cut by the arc CL. After this place the pointer of the compass at point N and L and draw two arcs of same radius that will intersect each other at point R. After this with the help of ruler draw a ray OG that passes through point R. Tell students this is the angle of 105° . Now measure the angle with the help of protractor to verify the angle of 105° . Construct the angle of 105° degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 105° -degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 105° -degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 105° with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 105° with the help of compass and ruler.

Homework:

(2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 6**

Unit Name: Geometrical Constructions **Topic:** Construction and bisection of Angles **Date:**

Objective(s):

At the end of this period, the students will be able to:

Construct angle of measures 120° using compass and ruler.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 172 and 173, compass, ruler, protractor

Teaching & Learning Activities:

Opening Activities/Warm-up:

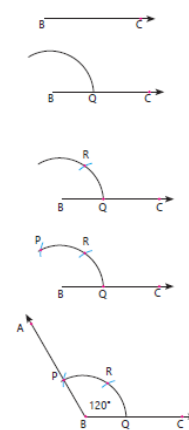
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: how we can construct angle of 105° with the help of compass and ruler? Ask students to recall the steps to construct the angle of 105° . Then ask students to construct angle of 105° in their notebooks. Walk around and check their work and guide them where needed.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn how to construct an angle of 120° . Ask students: Do you know how to construct an angle of 120° using compass and ruler? Take their responses and appreciate if someone gives the write answer. Instruct students to open their textbook page 172. Now tell students to construct an angle of 120° first we take the ruler and draw a ray BC. Draw a ray BC with the help of ruler on the board. Now place the pointer of the compass at point B and draw an arc of suitable radius that will cut the ray BC at a point Q. After this with the same opening of the compass, place the pointer of the compass at point Q and draw an arc that will cut the previous arc at point R. Now again with the same opening of the compass, place the pointer of the compass at point R and draw an arc that will cut the initial arc at point P. Now with the help of the ruler draw a ray passing through the point P. Name this ray as BA. Tell students this is the angle of 120° . Now measure the angle with the help of protractor to verify the angle of 120° . Construct the angle of 120° degree step by step on the board and explain each step to them. Encourage students to ask questions if they have any confusion.



Activity:

Divide the students into pairs and distribute the necessary materials (compass, ruler, pencils, and drawing paper) to each pair. Instruct each group to follow the step-by-step instructions and construct a 120° -degree angle on their drawing paper. Walk around the classroom to provide guidance and ensure that students are accurately following the instructions. Encourage discussions among students, allowing them to collaborate and assist each other. Have each group present their constructed 120° -degree angles to the class. Discuss any challenges they encountered during the construction process and how they overcame them.

Sum Up:

(3 min)

Sum up the lesson by recalling with students the steps of construction of angle 120° with the help of compass and ruler.

Assessment:

(5 min)

To assess students' understanding ask them to tell the steps of construction of angle 120° with the help of compass and ruler.

Homework:

(2 min)

Solve Q3 (g) of "Learning Check 9.2" given at page 173 of their textbook in their notebook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 4** **Lesson Plan: 7**

Unit Name: Geometrical Construction **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 9 by solving Q1-4 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 173 and 174

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Geometrical Construction".

Ask them the different questions that are related to "Geometrical Construction".

Main Activities/Concept Building: (30 min)

Activity:

Have students open page 160 of their textbooks. Ask them to solve Q1, Q2 and Q3 of "Unit Check 9". Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 173.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q4 of "Unit Check 9" given at page 174 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 1**

Unit Name: Lines, angles and symmetry **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Lines, angles and symmetry”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Lines, angles and symmetry”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

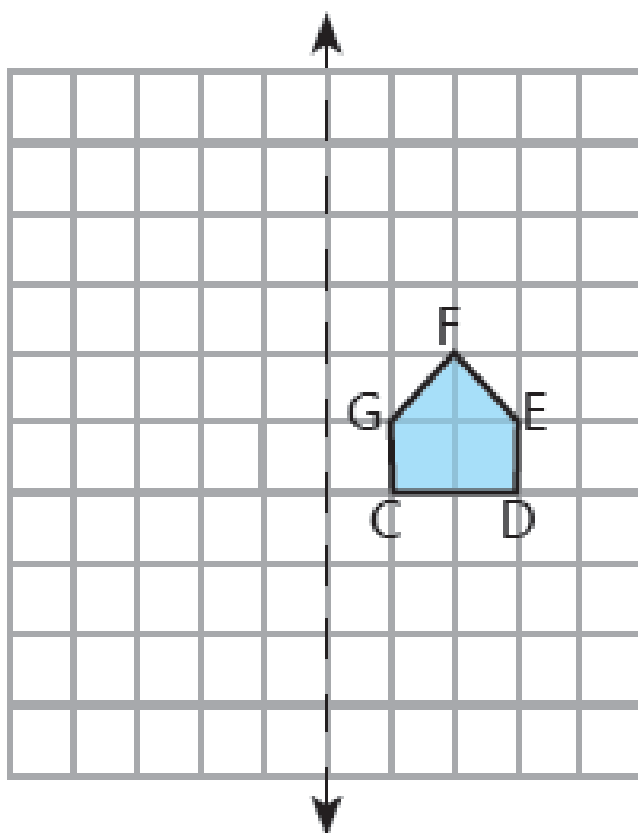
Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

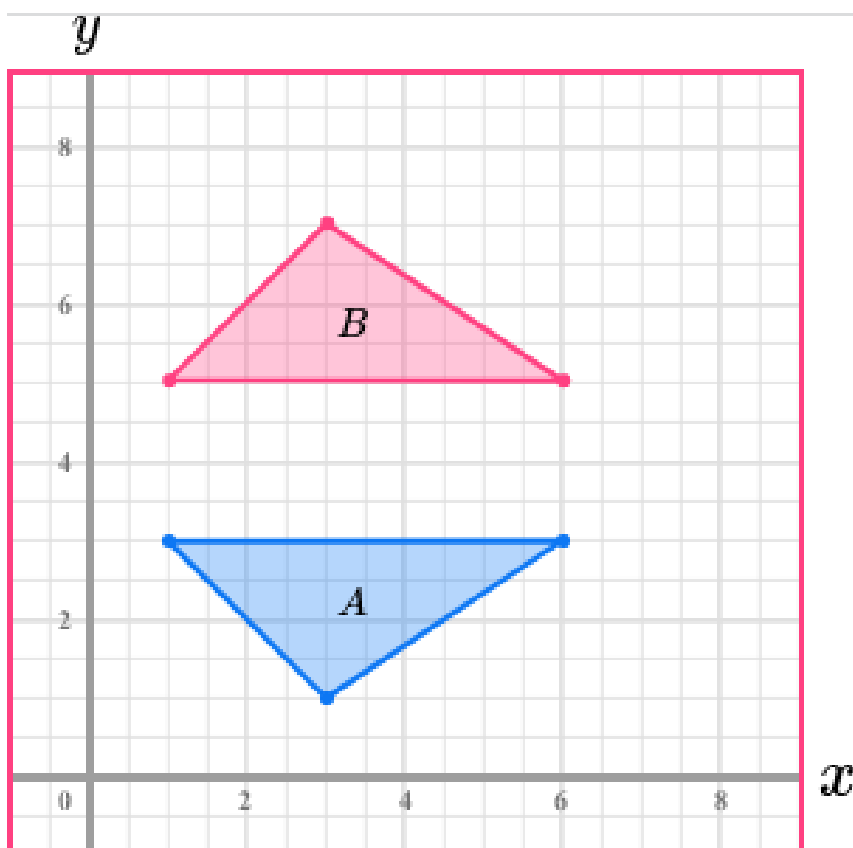
Name: _____

Date: _____

1. Reflect the image on the grid paper.



2. Find and draw the line of reflection for these images using a compass.



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 2**

Unit Name: Lines, angles and symmetry **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Lines, angles and symmetry”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Lines, angles and symmetry”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

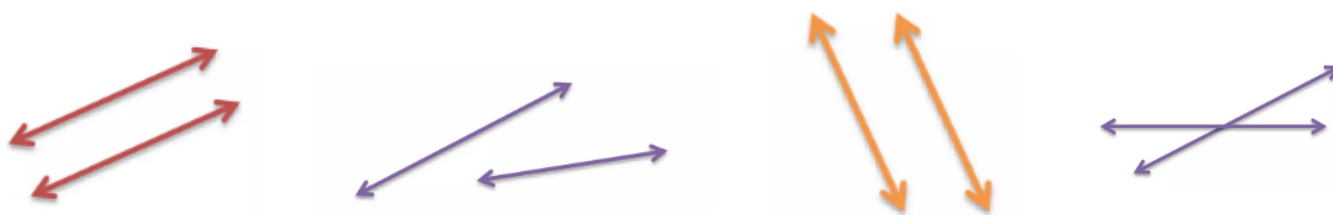
Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

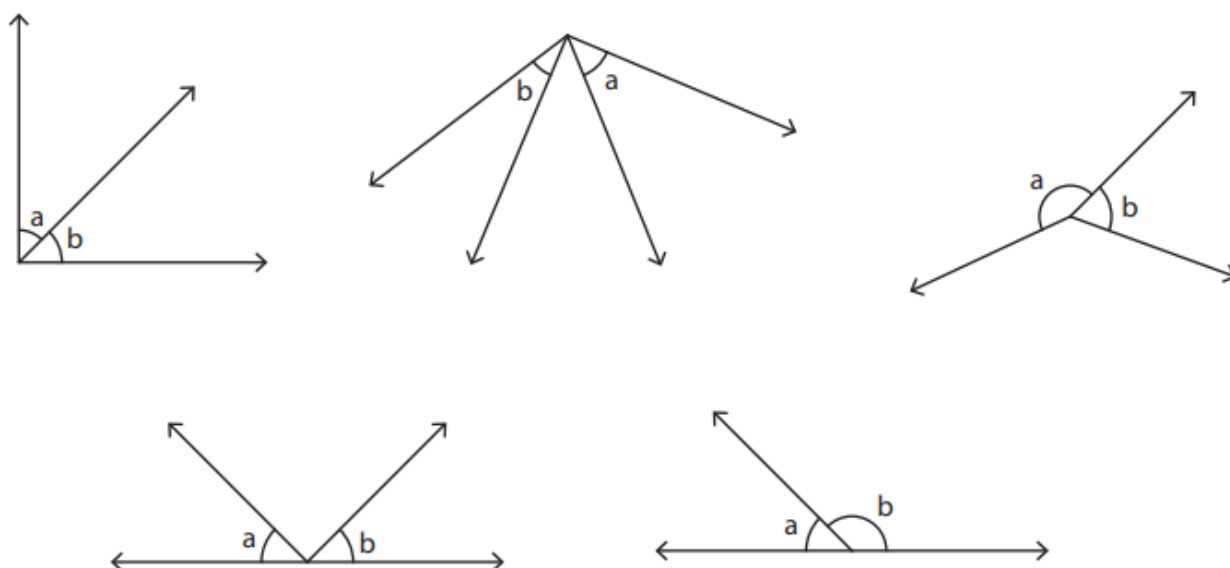
1. Identify and circle the parallel lines.



2. Identify and tick (✓) the perpendicular lines.



3. Identify and tick (✓) the pair of adjacent angles.



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 3**

Unit Name: Lines, angles and symmetry **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Lines, angles and symmetry”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Lines, angles and symmetry”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

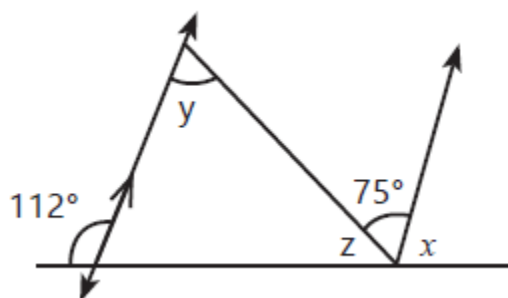
Worksheet

Name: _____

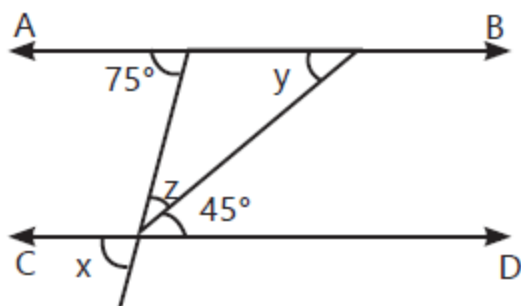
Date: _____

- Find the unknown angles in the following figures by utilising the properties of parallel lines and a transversal.

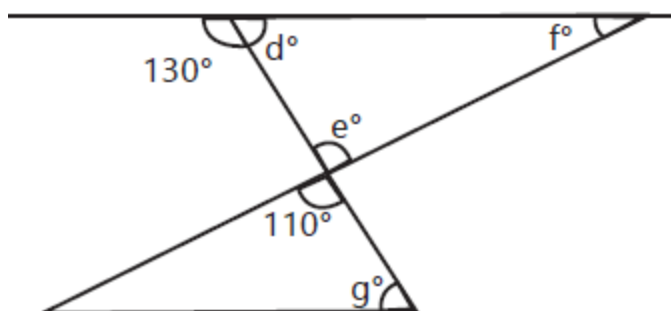
a)



b)



c)



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 4**

Unit Name: Lines, angles and symmetry **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Lines, angles and symmetry”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Lines, angles and symmetry”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Identify the figures that have rotational symmetry. Write the order of rotation and mark the point of rotation for the symmetric figures.





2. Draw two shapes that have rotational symmetry and mention the order of their rotational symmetry as well as the point of rotation.

3. Draw two shapes that have no rotational symmetry.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 5**

Unit Name: Geometrical Constructions **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Geometrical Constructions”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Geometrical Constructions”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Draw the line segments of length 6.5 cm and bisect it.

2. Draw a line EF and draw a perpendicular on it from point G not on it.

3. Draw a line AB and draw a perpendicular on it from point C on it.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 6**

Unit Name: Geometrical Constructions **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Geometrical Constructions”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Geometrical Constructions”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

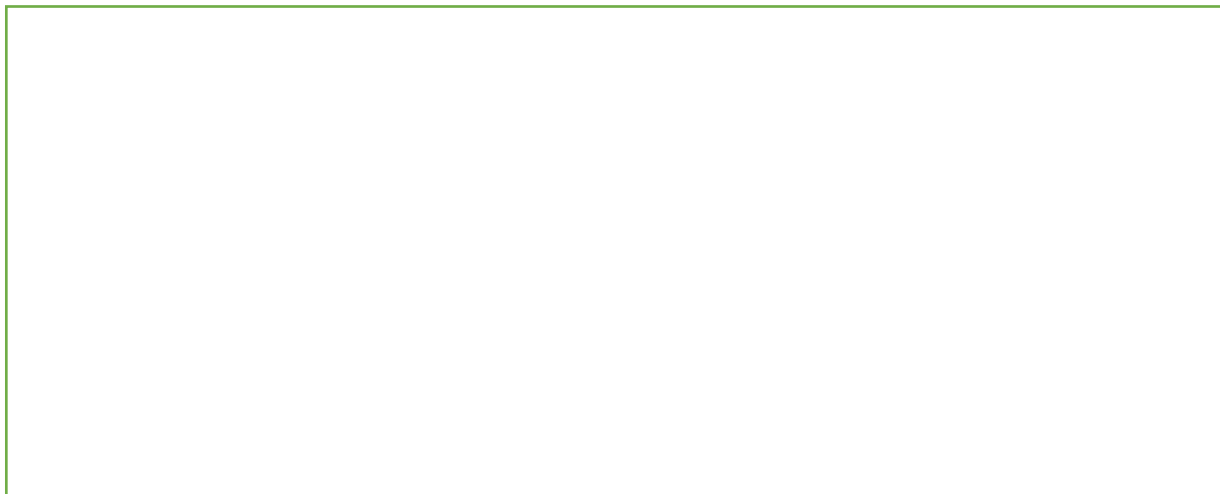
Worksheet

Name: _____

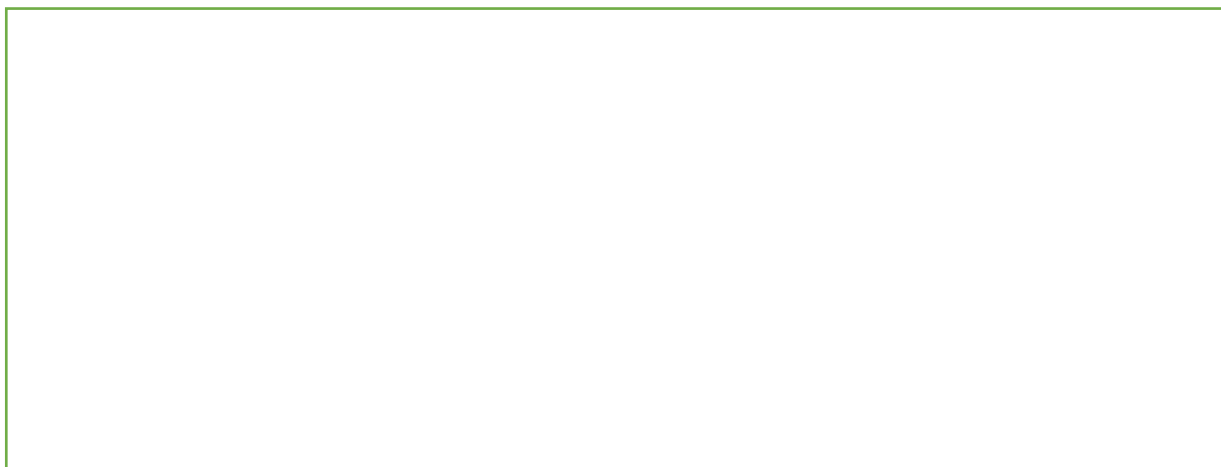
Date: _____

- Construct the following angles by using a protractor and bisect them by using a pair of compasses.

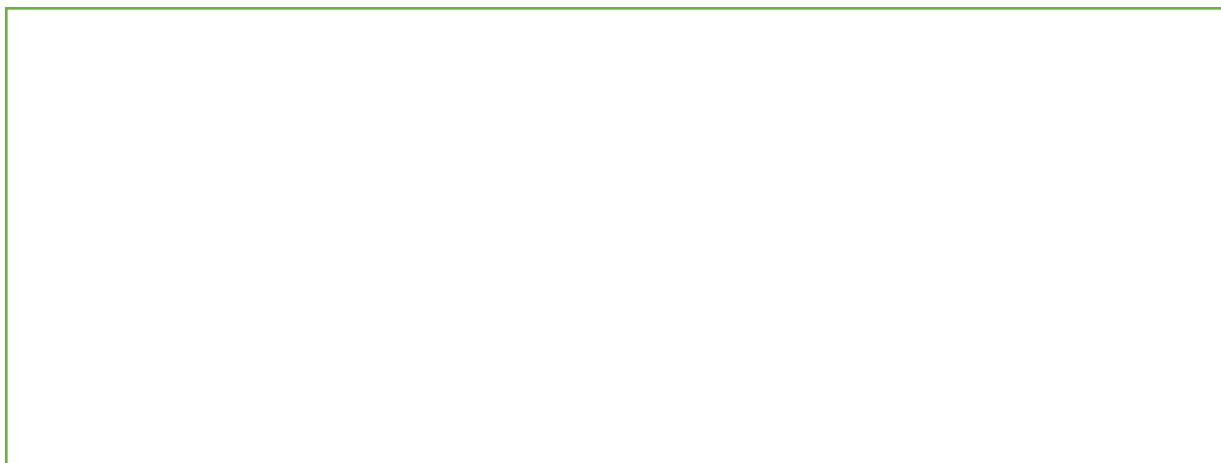
a) 70°



b) 110°



c) 150°



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 1** **Week: 5** **Lesson Plan: 7**

Unit Name: Geometrical Constructions **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Geometrical Constructions".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Geometrical Constructions".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

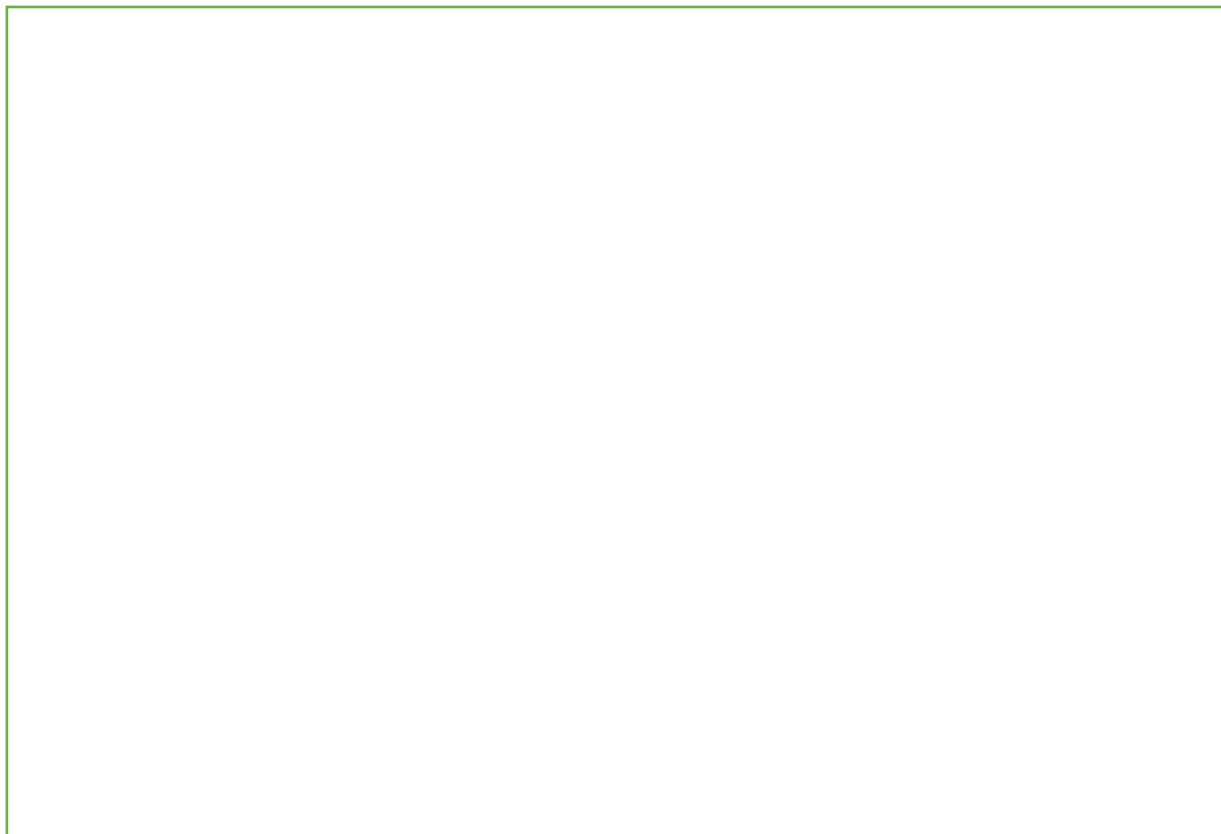
Worksheet

Name: _____

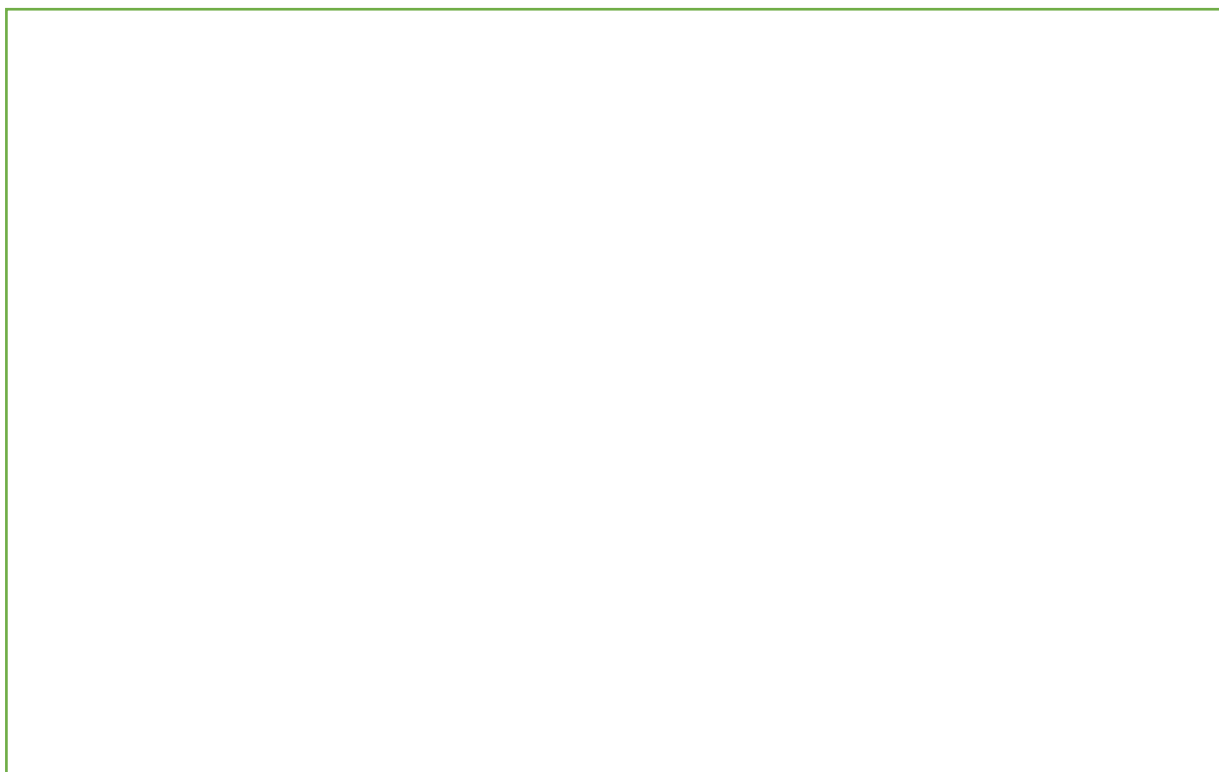
Date: _____

1. Construct the following angles by using a pair of compasses.

a) 75°



b) 105°



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 1**

Unit Name: Geometrical Constructions **Topic:** Sum Up and Unit Check **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 9 by solving Q5-7 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 173, 174 and 175

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Geometrical Constructions".

Ask them the different questions that are related to "Geometrical Constructions".

Main Activities/Concept Building: (30 min)

Activity:

Have students open page 174 and 175 of their textbooks. Ask them to solve Q5 and Q6 of "Unit Check 9".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 173.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q7 of "Unit Check 9" given at page 175 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 2**

Unit Name: Geometrical Construction **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 9 by solving Q8-9 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 175, Basket, Paper Slips, Board Marker, Compass, Ruler, Pencil and Protractor.

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Geometrical Construction”.

Ask them the different questions that are related to “Geometrical Construction”.

Main Activities/Concept Building: (30 min)

Activity 1:

Have students open page 175 of their textbooks. Ask them to solve Q8 of “Unit Check 9”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

- Work in groups
- Place a basket with cards containing a variety of instructions regarding angles, lines, etc. For example:
 - Draw a line segment 5.5 cm and bisect it.
 - Construct a 60° angle by using a protractor and bisect it by using a pair of compasses.
- Students from each group will come forward and pick up a card from the basket and follow the instruction written on it.
- The group with the most correct and accurate answers wins.

Sum Up: (3 min)

Sum up the lesson by repeating the important points of the whole unit “Geometrical construction”.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve Q9 of “Unit check 9” given at page 175 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 3**

Unit Name: Data Management and Probability **Topic:** Multiple Bar Graphs **Date:**

Objective(s):

At the end of this period, the students will be able to:

Recognize multiple bar graph and differentiate between simple and multiple bar graph.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 176 and 177

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Begin the lesson by asking students if they remember how can we draw a graph from the given data? Give them a brief recall by drawing graphs on a graph paper. Have students open textbook at page 176. Quickly recall the concepts related to questions given in rapid recall. Then ask them to solve those questions. Read the opening page question and tell them that we will be able to solve it after learning about the concepts of the unit.

(Note for teachers: The sections "Think out of the box", "Talk over and write" and "Technology corner" are supplementary exercises. These can also be given to students who finish their work quickly or are fast learners.

Main Activities/Concept Building: (22 min)

Before the main concept, tell them briefly about the unit outline and its real-life relevance. Tell students today we will learn about multiple bar graph and differentiate between simple and multiple bar graph. Ask students to open textbook page 176. Ask students: What is difference between simple bar graph and multiple bar graph? Take their responses and tell them that in a simple bar graph, one observation or quantity is represented by a single bar on the graph. But if we want to show relationship between various values then single bar graph is extended to multiple bar graphs to demonstrate the relation between various data values. Tell them that bars are arranged according to position when data values need to be displayed or compared. Different colours are used to indicate different data types for the sake of clarity. Show single bar graph and multiple bar graphs to students and tell them the difference between them. Tell them that when there is single set of data values then we draw a bar graph and multiple bar graphs is useful when comparing the values of multiple variables or categories within the same overall category. Tell them that like bar graph multiple bar graph is also drawn vertically and horizontally. Encourage students to ask questions related to multiple bar graph if they have any confusion.

Activity 1

Have students to work in pairs and provide each pair sheets of bar graph and multiple bar graphs. Instruct each pair to identify whether the graphs are simple or multiple. Ask students to discuss and note the key features that help them differentiate between the two types. Walk around the classroom to provide assistance and check their work. Bring the class back together and have each pair share their findings, explaining how they identified and labeled the bar graphs.

Sum Up: (3 min)

Sum up the lesson by recalling the concept of simple bar graph and multiple bar graph. Also explain "Note to Remember" given at page 177.

Assessment: (5 min)

To check students' learning, ask them the difference between simple bar graph and multiple bar graph.

Homework: (2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 4**

Unit Name: Data Management and Probability **Topic:** Multiple Bar Graphs in Vertical Form **Date:**

Objective(s):

At the end of this period, the students will be able to:

Draw multiple bar graph in vertical form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 177, 178 and 181

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

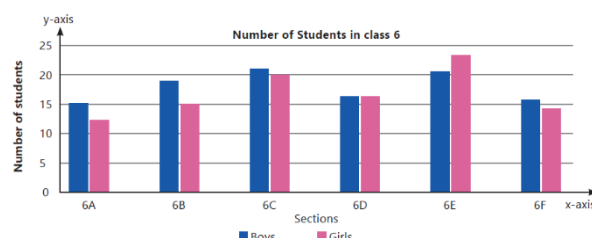
Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: Ask students what is the difference between single and multiple bar graph? If we have given data values how we can decide we can draw a single bar graph or a multiple bar graph? Take their responses and appreciate them for their correct answer.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn how to draw a multiple bar graph vertically. Tell them that we can draw multiple bar graph vertically and horizontally, here we will discuss how we can draw multiple bar graph. Ask them: Do you know how we can construct vertical multiple bar graphs from the given data? Take their responses and instruct them to open the textbook page 177. Ask them to read the statement of the worked example 1 that the number of boys and girls in six sections of class 6 in a school. Explain them we use the following steps to draw a multiple bar graph. First draw horizontal and vertical lines that are perpendicular to each other on graph paper. Write the sections along the x-axis and the number of students on the y-axis. Choose a colour for each category (boys and girls). Similarly, choose an appropriate scale. Here, 1 square represents 5 students along the y-axis. Now explain them according to the given table that there are 15 boys and 12 girls in Section 6A. So, we will colour up to the mark of 15 on the y-axis for boys (using the pre-assigned colour) and up to the mark of 12 on the y-axis for girls (using the pre-assigned colour). Similarly, keep colouring up to the correct mark for each section and draw the multiple bars. The width of the bars must be the same throughout the multiple bar graph. Draw graph step by step and explain each step to them. Walk around and check their work and guide where needed.



Activity 1

Ask the students to open textbook page 181 Instruct students to solve Q2 of "Learning Check 10.1" step by step in their notebooks. Walk around the class, monitor their work, and guide them where required. Discuss with them their common mistakes. Appreciate them for their good work.

Sum Up:

(3 min)

Sum up the lesson by recalling the steps to draw a vertical multiple bar graphs.

Assessment:

(5 min)

To assess students learning, ask them to tell the steps to draw a vertical multiple bar graph.

Homework:

(2 min)

Solve Q4 of "Learning check 10.1" given at page 181 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 5**

Unit Name: Data Management and Probability **Topic:** Multiple Bar Graphs **Date:**

Objective(s):

At the end of this period, the students will be able to:

Draw multiple bar graph in horizontal form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 178, 179 and 181

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: What is meant by vertical bar graph? How we can draw vertical multiple bar graph? Instruct students to write the steps to draw a vertical bar graph.

Walk around and check their work and guide where needed. Appreciate them for their good work.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn how to draw horizontal multiple bar graph. Ask students: Do you know how we can construct horizontal multiple bar graph from the given data? Take their responses and instruct them to open the textbook page 178. Ask students to read the statement of the worked example 2 that the number of Quranic verses read by Arham, Nida and Ahad during five days of a week. Tell them that to draw horizontal multiple bar graph first we draw an x-axis (horizontal line) and a y-axis (vertical line)

perpendicular to each other on graph paper and write the number of verses along the x-axis and the days along the y-axis. Choose a colour for each category (Arham, Nida and Ahad). Choose an appropriate scale. Here, one square represents one verse along the x-axis. Tell the students that on

Saturday, Arham read 8 verses, Nida read 8 verses and Ahad read 6 verses. So, on the x-axis we will colour up to the mark of 8 for Arham (using the pre-assigned colour), up to the mark 8 for Nida (using the pre-assigned colour) and up to the mark of 6 for Ahad (using the pre-assigned colour). Similarly, keep colouring up to the correct mark for each child and draw the

multiple bars. The width of the bars must be the same throughout the multiple bar graph. Draw the graph step by step and explain each step to them. Encourage them to ask questions if they have any confusion.

Activity 1

Ask the students to open their textbook page 181. Instruct them to solve Q1 of "Learning Check 10.1" step by step in their notebooks. Walk around the class, monitor their work, and guide them where required.

Discuss with them their common mistakes. Appreciate them for their good work.

Sum Up:

(3 min)

Sum up the lesson by recalling the steps to draw a horizontal multiple bar graph.

Assessment:

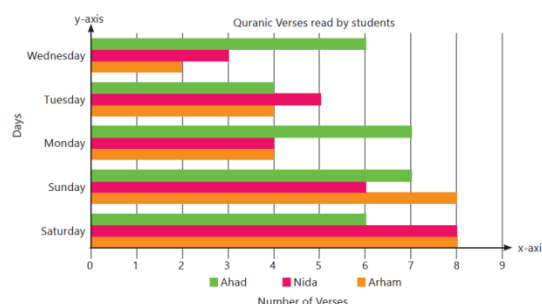
(5 min)

To assess students learning, ask them to tell the steps to draw a horizontal multiple bar graph.

Homework:

(2 min)

Solve Q3 of "Learning check 10.1" given at page 181 of their textbook.



Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 6**

Unit Name: Data Management and Probability **Topic:** Multiple Bar Graphs **Date:**

Objective(s):

At the end of this period, the students will be able to:

Read and interpret multiple bar graph in vertical form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 179, 180, 182 and 183, graph papers with vertical multiple bar graph drawn

Teaching & Learning Activities:

Opening Activities/Warm-up:

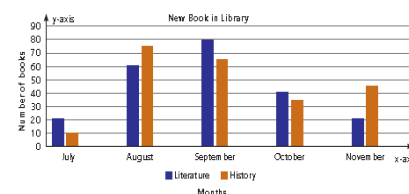
(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: Write the number of steps to draw the horizontal multiple bar graph and explain each step. What is the difference between vertical and horizontal multiple bar graph? Can we draw vertical or horizontal multiple bar graph for the same data? Take their responses and appreciate students for the correct response. Then recall with students the concept of drawing vertical and horizontal multiple bar graph.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn to read and interpret vertical multiple bar graph. Ask students: Do you know if vertical multiple graph is given, how we can read and interpret the data of the graph? Take their responses and instruct them to open the textbook page 179. Ask students to observe the multiple bar graph in the worked example 3. Tell them that the given graph is about the number of new books added to a library in 5 months. Ask students to observe and tell how many new books were added in the month of July. Take their responses and tell them that as blue colour is for literature and brown colour for history. Explain to them twenty books of literature and 10 books of history were added in July. Instruct students to observe and tell how many books were added in the month of August, September, October and November. Explain them the greatest number of literature books were added in September are 80. The greatest number of history books were added in month of August are that 75. Tell them in July, the fewest books were added and the same number of literature books were added in July and November. A total of 220 literature books were added from July to November and total of 230 history books were added from July to November. As compared to literature books, 10 more history books were added from July to November. Encourage students to ask questions if they have any confusion.



Activity

Have students to work in pairs. Give each pair a graph paper with vertical multiple bar graph drawn on it. Instruct students to read and interpret the given graph and then give answers to the questions that written below the graph. Walk around and observe their working. After completing task each pair come forward and paste their graph on the board and share information about the graph to the whole class. Appreciate students for their good work and discuss with them about their common mistakes.

Sum Up:

(3 min)

Sum up the lesson by drawing a vertical multiple bar graph and ask them the questions related to graph.

Assessment:

(5 min)

To assess students learning, ask different questions related to the graph of the worked example.

Homework:

(2 min)

Solve Q6 of "Learning Check 10.1" given at page 182 and 183 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 1** **Lesson Plan: 7**

Unit Name: Data Management and Probability **Topic:** Interpret Multiple Bar Graphs **Date:**

Objective(s):

At the end of this period, the students will be able to:

Read and interpret multiple bar graph in horizontal form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 180 and 182, graph papers of horizontal multiple bar graphs

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Paste a chart paper of vertical multiple bar graph on the board. Instruct students to observe the graph and tell what is graph about? Ask questions related to the graph, take their responses and appreciate them for their correct answer. Discuss with them about their common mistakes.

Main Activities/Concept Building: (22 min)

Tell students today we will learn to read and interpret vertical multiple bar graph. Ask students: Do you know how we can interpret multiple bar graph in horizontal form from the given data? Take their responses and instruct them to open the textbook page 179. Instruct them to observe the horizontal multiple bar graph and tell what is this graph about? Take their responses and tell them that as the given graph is about number of boys and girls in various sections of grade IV to VIII. Now instruct students to observe the graph and tell what information is along x-axis and what information is along y-axis. After taking their responses tell them that the grades are along y-axis and number of students is along x-axis.

Instruct students to observe, read and interpret the information related to the graph and then ask different questions related to graph to students and take their responses and correct where needed. Instruct students to read the questions related to graph given in the textbook and answer those questions. Encourage students to ask questions if they have any difficulty about reading and interpreting graph.

Activity 1

Have students to work in pairs. Give each pair a graph paper with horizontal multiple bar graph drawn on it. Instruct students to read and interpret the given graph and then give answers to the questions that written below the graph. Walk around and observe their working and guide them where needed. After completing task each pair come forward and paste their graph n the board and share information about the graph to the whole class. Appreciate students for their good work and discuss with them about their common mistakes.

Sum Up: (3 min)

Sum up the lesson by drawing a horizontal multiple bar graph and ask them the questions related to graph.

Assessment: (5 min)

To assess students based on the accuracy of their horizontal multiple bar graphs, understanding of key concepts, and participation in class discussions.

Homework: (2 min)

Solve Q5 of "Learning Check 10.1" given at page 182 of their textbook.

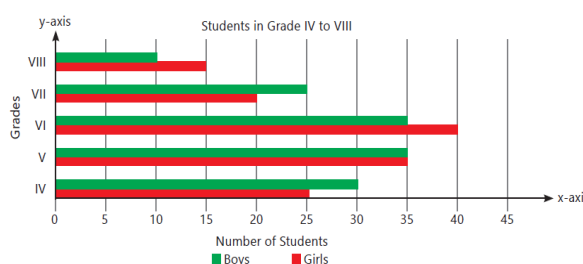
Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 1**

Unit Name: Data Management and Probability **Topic:** Pie Graph **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify pie graphs and the method to draw it.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 183, 184 and 185.

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask them about their previous day homework. Ask students do you know about pie graph take their responses and appreciate if someone gives the right answer. Show a wall chart of pie chart to students and tell them that this type of graph is called pie chart it is the visual representation of the data. Each value of the data is represented by sector of region of the circle. Tell them that pie chart is particularly useful for displaying data that represents parts of a whole.

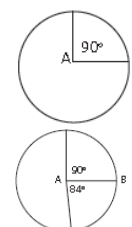
Main Activities/Concept Building:

(22 min)

Tell students today we will learn about pie graph and how to draw it. Ask students: Do you know how we can draw a pie chart? Take their responses and tell them that as pie graph is the circular graph that is a common way to show how information that is broken into different parts. Explain them the pie graph is a complete circle that is divided into different regions called "sectors" and the information shown in different sectors or region of the circle. As the central angle of the circle is 360° so the sum of all the central angles in a pie graph is 360° . Tell them that to draw a pie chart of the given information first we draw a circle of any radius and then to find the angle of each region or sector we divide the number of observations in each class by the total number of observations in all classes and then multiply it by central angle that is 360° . Tell them that to determine the angle of each sector, we use the following formula:

$$\text{Angle of the sector} = \frac{\text{Number of observations of a class}}{\text{Total number of observations in all classes}} \times 360^\circ$$

Instruct students to open their textbook page 184 and read the statement of the worked example 1 and tell what is given and what we have to find. Take their responses and tell them that number of visitors that visit the museum during five months April to August is given and we have to draw a pie chart for this data if 60,000 people visited the location during this time period. Tell them that to show the given information by using pie chart first we find the angle of each sector. Find the angle of each of the sector by using formula on the board and explain to them. After finding the angles of the sectors draw a circle of any radius and draw the radial segment AB on the board. As the angle for the month of April is 90° so to draw 90° for the first category month, i.e., April. Place the protractor with the centre of the circle and draw it. Again, take protractor and align it on the centre of the circle aligned with the radial segment (the arm of 90°). Draw an angle of 84° for the second category, i.e., May. By following the same procedure and draw all angle of each category and explain each step to them. Encourage them to ask questions if they have any confusion.



Sum Up:

(3 min)

Sum up the lesson by recalling with students how to draw pie graph and the formula to find the angle of the sector. Explain "Note to Remember" given at page 184.

Assessment:

(5 min)

To assess students ask them to tell how we can find the angle of each sector and also tell the steps to draw a pie graph.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 2**

Unit Name: Data Management and Probability **Topic:** Pie Graph **Date:**

Objective(s):

At the end of this period, the students will be able to:

Draw pie charts.

Resource Material:

Chalk/Marker, White/Blackboard, textbook, Paper Slips, pages 185, 186, 187 and 188

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day homework. Ask students: how can we find the angle of each sector in a pie graph. Take their responses, and then call a student to the front of the class and ask him or her to draw a pie graph with different angles and find each angle by using the formula of a pie graph. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(25 min)

Tell students that today we will learn about how to draw a pie graph. Instruct students to open their textbook page 185 and read the statement of the worked example 2 and tell what is given and what we have to find. Take their responses and tell them that the data of the daily overtime of the worker for the six days is given and we have to show this data using pie graph. Recall with students the method or steps to find each angle in a pie graph and tell them how to draw angles with the help of a protractor on a by solving worked example 2 given at page 185 of their textbook on the board and explain each step of drawing pie graph to students. Encourage students to ask questions if they have any confusion.

Activity:

Divide the class into small groups. Provide each group with a set of data and ask them to create a pie graph representing the information. Encourage them to discuss and decide on the appropriate colours for each category. Walk around and check their work and guide them where required. Instruct to raise hand when they complete the work. After completing call one by one each group to the front of the class and ask him/her to paste their pie graph on the board and explain each step of drawing pie graph to the whole class. Instruct the rest of the class to ask questions related to their graph. Repeat this activity to all groups of the class. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Sum Up:

(3 min)

Sum up the lesson by re-telling students the steps to draw a pie graph for the different data.

Assessment:

(5 min)

To assess students understanding, evaluate students from their participation in class discussions, their ability to analyze existing pie charts, and the accuracy of the pie graph they create during the group activity.

Homework:

(2 min)

Solve Q1, Q2 and Q3 of "Learning Check 10.2" given at page 187 and 188 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 3**

Unit Name: Data Management and Probability **Topic:** Pie Graph **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to read and interpret pie charts.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 186 and 187

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day homework. Ask students: what is meant by sector of the circle and how can we find the angle of the sector? How we can draw a pie graph from any given data? Ask randomly from students to tell the steps to draw a pie graph. Take their responses and appreciate them for their correct answers.

Main Activities/Concept Building:

(22 min)

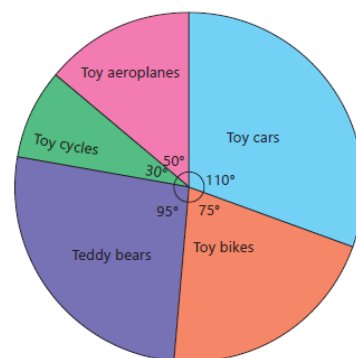
Tell students today we will learn about how to read and interpret pie charts. Instruct students to open the textbook page 186 and read the statement of the worked example 3 and tell what information show the given pie graph. Take their responses and tell them that the given pie graph shows the information of different types of toys that are sold by the factory during one month. Draw the given graph on the board and ask students to observe the graph and tell to find the value of each sector we use the given formula that is:

$$\text{Value of each sector} = \frac{\text{Angle of the sector}}{360^\circ} \times \text{total value}$$

First we find the number of toy car that are sold in one month. The angle that is given for this region is 110° and total toy sold in the month is 720.

$$\text{Number of toy car sold} = \frac{110^\circ}{360^\circ} \times 720 = 220$$

Tell students in the same way we can find the value of each of the sector of the pie graph. After finding the number of each toy to be sold in a month one by one on the board by using formula and explain to them step by step how to read and then find the value of each of the given sector. Then ask students to tell which toy sold the most and which one is fewest in number. Instruct students to open their textbook and again observe and read the information shown by the given pie graph and after this read the questions and answer that questions. Instruct them to ask questions if they have any confusion. After this, ask more questions related to this pie chart like how many more toy cars were sold than teddy bears? How many toy airplane and toy bikes were sold altogether? etc. Appreciate them for their correct answer. For more clarification draw any other pie chart on the board and ask questions related that that graph.



Sum Up:

(3 min)

Sum up the lesson by recalling with students the formula to find the value of each sector of the pie chart and tell them how to read and interpret the pie chart.

Assessment:

(5 min)

To assess students learning ask different questions related to pie chart and ask students how we read and interpret the graph and represent the information that are given through pie chart.

Homework:

(2 min)

Revise the classwork.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 4**

Unit Name: Data Management and Probability **Topic:** Pie Graph **Date:**

Objective(s):

At the end of this period, the students will be able to:

Read and interpret pie charts.

Resource Material:

Chalk/Marker, White/Blackboard, textbook, Paper Slips, Marker, page 188 and 189

Teaching & Learning Activities:

Opening Activities/Warm-up:

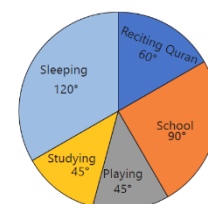
(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Begin the lesson by drawing any pie graph on the board and discussing the purpose of a pie graph. Explain that it is a circular graph that is divided into slices to represent numerical proportions. Discuss the key components such as the title, sectors, and angles of each sector, how to find the value of each sector. Ensure that students have a basic understanding of these terms.

Main Activities/Concept Building:

(25 min)

Tell students today we will learn to read and interpret the pie graph. Recall with students the method and way to read and interpret the information described by using pie chart. Instruct students to open their textbook page 185 and revise the steps that are given in the worked example 3 and recall the formula to find the value of each sector or region of the pie graph. After recalling with students the steps to read and the how to find the value of each sector, instruct them to open their textbook page 188 and read the statement of the question 4 of the learning check 10.2. Tell them that the pie graph is about Arham's activities for the whole day. Each sector of the pie graph is distribution of his time of the day that is 24 hours of the day that he spends in school, playing, studying, sleeping and reciting Quran. Draw the graph on the board and call a student to the front of the class and ask him/her to find the number of hours that he spends in school. Ask the rest of the class to check and correct if needed. After this, call students randomly one by one to find hours he spends on playing, studying, sleeping and Holy Quran respectively. Check their work and correct where needed. Instruct students to read the questions related to the pie graph and answer those questions. Take their responses and then solve the questions and find the solution of each part and explain it to them. Encourage students to ask questions if any confusion.



Activity:

Instruct students to work in pairs and read the question 5 of the learning check 10.2. Instruct each pair to answer the questions that are given by analyzing the given pie chart. Encourage to discuss with each other the questions and their solutions. After that each pair present their findings to the class, discussing their interpretations and answering the questions. Encourage students to create their own questions about the given pie charts and exchange them with others for analysis. Appreciate them for their active participation and correct work.

Sum Up:

(3 min)

Sum up the lesson by re-telling students about how to read and interpret the information that is represented through pie graph.

Assessment:

(5 min)

To assess the student's learning by asking different questions that are related to pie graph given in Q4 and Q5 of the Learning check 10.2.

Homework:

(2 min)

Solve Q6 of "Learning Check 10.2" given at page 189 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 5**

Unit Name: Data Management and Probability **Topic:** Data **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define data, data collection and identify the methods to collect data.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 190

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Now write different questions on the board for example what is your favourite colour? When you get ready for school? What is your favourite food? etc. instruct students to work in pairs and ask these type of questions from their partner and write down on a piece of paper. After this instruct them to share interesting responses about their partner. Ask them what they noticed about the information shared. Prompt them to think about how this type of information could be useful and why it might be important to collect and analyze such data.

Main Activities/Concept Building: (22 min)

Tell students today we will learn about what is data, data collection and the methods to collect data. Ask students: Do you know about data? Take their responses and tell them as we collect the information about your favourite colours, favourite food or time to ready for school of this information is called the data of your class about their favourite colour, food, etc. Explain them that the data gathered as numbers, words, figures, realities, or some other structure is called information. Explain them by different examples, number of students of your school, the population of Islamabad, the number of houses with solar system, and so on. Tell them that all the data we present through diagrams, tables, charts, graphs, and so on depends on information. Ask students: Do you know about data collection? Take their responses and tell them that data collection is the process of gathering information about anything from any source. Explain them this information could contain anything that is necessary to understand or analyse. As in this class we gathered information about students favourite colours and food and the process to get this information is called data collection. Tell them students we collect the data by using different method one is the directly from the relevant source and second is by means of the media (newspapers, television, computers, the internet, magazines, etc.), and thirdly questionnaire. Explain about these three methods to students by giving different examples from their real-life. Encourage them to ask questions where they feel difficulty.

Activity 1

Divide the class into small groups. Assign each group a topic and method to collect data on that topic. Instruct them to discuss with each other the topic and method to collect data and then collect the data on that topic by using assigned method. Have each group present their findings to the class, emphasizing the advantages and disadvantages of their assigned data collection method. Facilitate a class discussion on the practical applications of the different methods in real-world situations.

Sum Up: (3 min)

Sum up the lesson by retelling the students about data, data collection and methods to collect data or information. Instruct to open their textbook page 190 and learn more about it.

Assessment: (5 min)

To assess students' learning ask different questions related to data, data collection and method to collect the data.

Homework: (2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 6**

Unit Name: Data Management and Probability **Topic:** Discrete and Continuous Data **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify types of data (Discrete and continues).

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 190, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: what is meant by data? What is meant by data collection? How many methods for collection of data? Take their responses and recall with them with examples from their daily life about data and data collection and the methods to collect data.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about types of data. Ask them: Do you know about types of data. Take their responses and then call a student to the front of the class and instruct to collect the data of the number of students in grade 6 all sections and write that data on the board. Now provide one by one each student of the class a measuring tape and instruct to measure their height and write each student height on the board. Instruct students to observe the data and tell what is the difference between the data? Take their responses and tell them that the number of students in each section of the grade 6 is in whole number form that may be 30, 25 or 35 as we cannot write the students of any class in decimal form as 25.5 or 30.5, whereas the heights of the students are in decimal from. Tell them that when the data is represented in whole numbers then that data is called discrete data and when data is represented in decimal or fractional form then that data is called continues data. Explain the difference between discrete and continues data by giving them different examples from their daily life. Instruct students to open their textbook page 190 and learn more about discrete and continues data.

Activity 1

Divide students into pairs. Instruct each pair to prepare 5 paper slips of discrete data and 5 of continues data. After preparing data slips, exchange their slips with other groups in shuffled form. Instruct them to observe the data written on paper slips and write what type of data it is, also give reason to your answer. After completing task each pair present their work to the whole class. Allow students to discuss their findings and discussion to select data type to justify their decision. Appreciate students for their good work and actively participating in discussion.

Sum Up:

(3 min)

Sum up the lesson by retelling about the difference between discrete and continuous data. Also explain "Note to Remember" given at page 190.

Assessment:

(5 min)

To assess students ask them to Solve "Pause and Try" given at page 190 of their textbook.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 2** **Lesson Plan: 7**

Unit Name: Data Management and Probability **Topic:** Ungrouped and Grouped Data **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify types of data (Grouped and Ungrouped).

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 190 and 191

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: what is the difference between discrete and continuous data? Write two examples as "length of a string" and "total students in a school". Call a student to the front of the class and ask him or her to separate the discrete and continuous data from the given examples. Instruct the rest of the class to check and tell whether he/she correct or not. Appreciate him/her for their correct work. Repeat this activity to some other students.

Main Activities/Concept Building:

(22 min)

Tell students today we will learn about types of data grouped and ungrouped. Ask students: Do you know about grouped and ungrouped data? Take their responses and tell the students when the given data cannot be understandable or in raw form then that data is called ungrouped data. Instruct students to open their textbook page 190. Tell students if we have a data of marks of 20 students out of 50 in mathematics that is: 30, 35, 14, 27, 23, 18, 25, 41, 33, 28, 48, 37, 31, 22, 29, 29, 49, 20, 47, 40

Instruct students to observe this data and tell who got highest and who got lowest marks. Take their responses and tell them that by looking this data we cannot tell immediately that who got the highest marks and who got the lowest marks. Tell them such type of data is called the ungrouped data or raw data. Give different example of ungrouped data to students for more clarification. Now write this data on the board and arrange these in correct sequence that is:

14, 18, 20, 22, 23, 25, 27, 28, 29, 29, 30, 31, 33, 35, 37, 40, 41, 47, 48, 49

Observe the given that the lowest number is 14 and highest number is 49, if we divide the given data into four groups that is 11-20, 21-30, 31-40 and 41-50. Now draw table with one column for groups, second column for marks obtained under that group and third for tally marks and fourth one for number of students that fall under that group. Draw table on the board and explain each step to them.

Groups	Marks obtained	Tally marks	Number of students
11-20	14, 18, 20		3
21-30	27, 23, 25, 28, 22, 29, 29		7
31-40	30, 35, 33, 37, 31		5
41-50	41, 48, 49, 47, 40		5
			Total = 20

Tell them this is a grouped data. Explain them now we have to answer the following questions.

The majority of students received marks between 21-30 and the lowest marks have been obtained between 11-20. Explain them there are an equal number of students who got marks between 31-40 and 41-50. For more clarification give more examples related to grouped data and encourage them to ask questions where they feel confusion.

Sum Up:

(3 min)

Sum up the lesson by retelling about the difference between grouped and ungrouped data with the help of examples. Also explain "Note to Remember" given at page 191.

Assessment:

(5 min)

To assess students' understandings ask them to tell the difference between grouped and ungrouped data.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 1**

Unit Name: Data Management and Probability **Topic:** Grouped Data **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to organize data in grouped form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 191 and 192, chart paper of example of grouped and ungrouped data

Teaching & Learning Activities:

Opening Activities/Warm-up:

(8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Paste a chart paper of examples of grouped and ungrouped data on the board and ask students to read and tell which one is the example of grouped data and which one is the example of ungrouped data with explanation and reasoning. Take their responses and appreciate them for their correct answer

Main Activities/Concept Building:

(22 min)

Tell students today we will identify the method to organize data in grouped form. Ask students do you know the method to organize the data in grouped form. Take their responses and appreciate if someone gives the right answer. Instruct students to open the textbook page 191, read the worked example 1 and tell what is given and what we have to find. Take their

responses and tell students that the temperature (in °C) of a specific city over the course of two weeks is given and we have

32°C	31°C	16°C	17°C	34°C	26°C	27°C
23°C	33°C	24°C	25°C	35°C	29°C	21°C

to show this data in grouped form. Tell students to show the given data in grouped form first observe the data and find the smallest and the greatest value and then divide the given data

Groups	Temperature (°C)	Number of days	Tally Marks
16°C, 17°C	16°C - 20°C	2	II
21°C, 23°C, 24°C, 25°C	21°C - 25°C	4	IIII
26°C, 27°C, 29°C	26°C - 30°C	3	III
31°C, 32°C, 33°C, 34°C, 35°C	31°C - 35°C	5	IIII

into classes such that 16-20, 21-25, 26 -30, and 31-35., after dividing the temperate between classes and find the number of days, draw the table and put the values and explain each step to them. Tell them that now we can easily tell about the data that is the temperature on most of the day's lies between 31°C-35°C and the temperature on the fewest days lies between 16°C-20°C. Encourage students to ask questions if they have any confusion. For more clarification give different examples of data and then organize them in grouped form.

Sum Up:

(3 min)

Sum up the lesson by retelling about the grouped form of data, and the method to organize the data in grouped form.

Assessment:

(5 min)

To assess students' learning ask students to tell what is meant by grouped data and then how we can organise any data in grouped data.

Homework:

(2 min)

Revise the class work.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 2**

Unit Name: Data Management and Probability **Topic:** Grouped Data **Date:**

Objective(s):

At the end of this period, the students will be able to:

Organize data in grouped form.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 191.

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: how to organize the given data into grouped data form? Take their responses and appreciate them for their correct response. Use different coloured markers or sticky notes to create categories on the whiteboard. Ask students to brainstorm items that could belong to each category. For example, if the category is "Things you find in a park," students might suggest swings, trees, or benches. Place the items in the corresponding categories on the whiteboard. Discuss why certain items belong to certain categories. Similarly use different example like favourite fruits or favourite subjects of students and explain the concept of grouped data.

Main Activities/Concept Building: (22 min)

Activity 1:

Tell students that today we will organize data in grouped form. Recall with students the method or steps to organize a raw data into grouped data form. Recall the worked example 1 of the textbook page 191 and instruct students to solve this example step by step in their notebooks once again and explain each step. Encourage students to ask questions if they have any confusion.

Divide the students into small groups. Give each group data of different toys, fruits, vegetables, colours, etc. Instruct students to come up with unique and creative ways to group their objects. For example, they might group toys based on whether they have stuffed toys, plastic toys etc. Walk around the class and observe their working and how they make groups of objects. After completing the task each group display their work. Each group walks around to see how others organized their objects and discusses the creative choices made.

Activity 2:

Instruct students to open their textbook page 192. Ask students to read the statement of the Question 1 of the "Learning check 10.3" and tell what are given and what we have to find. Then ask them to solve the given questions in their notebooks. Walk around and check their work and guide where needed. Appreciate them for their good work.

Sum Up: (3 min)

Sum up the lesson by recalling with students how we can organise the given ungrouped data to grouped data..

Assessment: (5 min)

To assess students based on their participation in group activities, understanding demonstrated during class discussions.

Homework: (2 min)

Solve Q2 of "Learning check 10.3" given at page 192 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 3**

Unit Name: Data Management and Probability **Topic:** Arithmetic Mean **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to calculate the mean, for ungrouped data.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 192, 193 and 195

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: what is meant by grouped and ungrouped data? How we can convert the ungrouped data to grouped data? Take their responses appreciate them for their correct answers.

Main Activities/Concept Building: (22 min)

Tell students today we will learn the method to calculate the mean, for ungrouped data. Ask students: Do you know about central tendency? Take their responses and tell them that measure of central tendency is a single number that aims to describe a set of data by identifying its center. Tell students probably you are familiar with average, but there are also other measures of central tendency, such as the median and the mode. Tell students today we will learn about Arithmetic means. Ask them: Do you know about Arithmetic mean? Take their responses and tell the students that the most well-known and widely used measure of central tendency is the mean, also known as the average. Explain them it can be used with both discrete and continuous data, but it is most commonly used with continuous data. Tell them that when a data values are given then we can find the average or mean of that data by adding all the values of the data and dividing the sum of the values by number of values that is.

$$\text{Arithmetic Mean} = \frac{\text{Sum of value}}{\text{Number of values}}$$

Tell them if 'x' represents the number of values and n represent the number of values, then the formula for arithmetic mean is:

$$\bar{X} = \frac{\sum x}{n}$$

Explain them Σ (sigma) represents the sum, 'n' represents the total number of values and $\bar{X}$ represents the arithmetic mean. Instruct the students to read example 1 at textbook page 193 and tell what is given and what we have to find. Take their responses and tell them that profit of the vegetable seller after five days is given and we have to calculate the mean of the profit. Solve the example by using the formula step by step on the board and explain them each step to them. For more clarification solve the worked examples 2 on the board and explain to them each step. Encourage them to ask questions if they have any confusion.

Sum Up: (3 min)

Sum up the lesson by retelling what is arithmetic means and the formula to find the arithmetic mean.

Assessment: (5 min)

To assess students, ask them to solve pause and try given at page 193 of their textbook.

Homework: (2 min)

Solve Q1 of "Learning check 10.4" given at page 195 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 4**

Unit Name: Data Management and Probability **Topic:** Arithmetic Mean **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the mean, for ungrouped data and solve related real-world problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 194 and 195, Worksheet, paperslips

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask them: what is mean by central tendency? What is meant by arithmetic mean? What is the formula to calculate the arithmetic means? Take their responses and recall with students what are the central tendency and arithmetic means and the formula to find the mean of any data.

Main Activities/Concept Building: (22 min)

Tell students that today we will learn to calculate the mean for ungrouped data. Instruct students to open their textbook page 194 and read the statement of the worked example 3 and tell what we have to find in this example. Take their responses and then call a student to the front of the class and ask him/her to find the mean of the given data. Ask the rest of the class to check whether he/she correct or not. Appreciate him/her for their correct work.

Activity:

Divide the class into pairs. Instruct each pair to prepare paper slips of the ungrouped data examples form their daily life. After preparing exchange their slips with other pairs. Instruct students to solve the problems written on the slips by using formula and find the arithmetic means. After some time, have each pair present their findings to the class, discussing their interpretations and answering the questions. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Sum Up: (3 min)

Sum up the lesson by retelling about real-world word problems of arithmetic mean.

Assessment: (8 min)

To assess students' learning instruct them to solve the given worksheet.

Homework: (2 min)

Solve Q2 of "learning check 10.4" given at textbook page 195.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Find the mean of the given data values.

78kg, 44 kg, 56kg, 40 kg, 60 kg, 65 kg, 70 kg

2. The temperature of Lahore city in winter of seven days is given. What is the average temperate?

12°C, 14°C, 15°C, 12°C, 15°C, 8°C, 10°C

3. Ahmad saved money every month from his pocket money. The data is given of his 6 months saving. Find the average of his saving.

Rs300, Rs 400, Rs 500, Rs200, Rs400, Rs 600

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 5**

Unit Name: Data Management and Probability **Topic:** Median **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to calculate the median, for ungrouped data.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 194 and 196

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: What is the formula to find the arithmetic mean. Take their responses and then instruct students to write the data set of your own choice in their notebooks and find the mean of the data by using formula. After completing share their working with their class mates and teacher. Appreciate them for their active participation and correct work.

Main Activities/Concept Building: (22 min)

Tell students today we will identify the method to calculate the median, for ungrouped data. Ask students: Do you know about median? Take their responses and tell the students that there is another way to find the central tendency of the data that is called median. Tell them that we arrange the given data in ascending or descending order then the middle most is the median of the given data. Tell them that if the data set has an odd number of values, the median is the middle value. If the data set has an even number of values, the median is the average of the two middle values. Instruct the students to read the statement of the worked example 1 at textbook page 194 and tell what is given and what we have to find. Take their responses and tell them that the given data shows the points scored by 11 participants in a mathematics quiz and we have to calculate the median. First write the data set on the board that is:

65, 55, 89, 56, 35, 44, 56, 55, 87, 45, 92

To find the median we have to arrange the given data in ascending or descending order.

35, 44, 45, 55, 56, 56, 65, 87, 89, 92

Explain to them as the number of values are odd so middle value is 56 that is called the median of the given data. Solve the worked example step by step on the board and explain them each step. For more clarification solve the worked example 2 on the board and explain to them as in the given data set the data values are even in numbers. In this situation we take the middle two values and find their mean. Explain each step of the worked example 2 on the board and encourage them to ask questions if they have any confusion.

Sum Up: (3 min)

Sum up the lesson by retelling students that median is the middle value of the given data set. Also explain "Note to Remember" given at page 194.

Assessment: (5 min)

To assess students' learning write two data sets on the board one is odd data value and the other is even number of data value and ask them to tell what is median of given data sets.

Homework: (2 min)

Solve Q3 (a) of the "Learning check 10.4" given at textbook page 196.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 6**

Unit Name: Data Management and Probability **Topic:** Median **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the median, for ungrouped data and solve related real-world problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 194 and 196, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: what is mean by median of the data?

What is the difference between median and arithmetic mean? How we can find the median of the data value that are even and odd in numbers? Take their responses and recall with students median is the central value of any given data. Tell them that as the median is the central value so the halves of the data values are smaller than the median and half of the values are greater than the median. Explain it with example.

Main Activities/Concept Building: (25 min)

Tell students that today we will learn how to calculate the median of the ungrouped data and solve related real-world problems. Recall with students the method or steps to find the median of even and odd number of data set values. Explain to students how to find the median of the data by solving different examples on the board. After this write a data set (odd number of values) on the board and call a student on the front of the class and ask him/her to find the median of the given values. After this write a data set that is even number of values and call another student and ask him/her to find the median of the given data. Repeat this activity with other students and appreciate them for their correct work.

Activity:

Divide the class into pairs. Instruct each pair to prepare paper slips of the ungrouped data examples from their daily life. After preparing exchange their slips with other pairs. Instruct students to solve the problems written on the slips and find the median of the given data. Walk around and monitor their working. After sometime, have each pair present their findings to the class, discussing their interpretations and answering the questions. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Sum Up: (3 min)

Sum up the lesson by recalling with students the concept of median that is the middle value of any data and their uses in our daily life.

Assessment: (5 min)

To assess students' learning instruct them to solve "Pause and try" given at page 194 of their textbook in their notebooks.

Homework: (2 min)

Solve Q3 (b, c) of the "Learning check 10.4" given at textbook page 196.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 3** **Lesson Plan: 7**

Unit Name: Data Management and Probability **Topic:** Mode **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify the method to calculate the mode, for ungrouped data.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 195 and 196

Teaching & Learning Activities:

Opening Activities/Warm-up:

(5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask the students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: how we can find the median of any data values. Take their responses and then instruct students to write the data set of your own choice in their notebooks and find the median of the data by using formula. After completing share their working with their class mates and teacher. Appreciate them for their active participation and correct work.

Main Activities/Concept Building:

(22 min)

Tell students today we will identify the method to calculate the mode, for ungrouped data. Ask students: Do you know about mode? Take their responses and tell the students that there is another way to find the central tendency of the data that is called mode. When a data set is given and the value that occurs most frequently in the data is called the mode of the given data. Tell them that if we have a data set and two or more values repeated with same frequency then that values are called mode. If no value repeated in the given data set then is no mode of the given data. The main difference between mode, median and mean is a data set has more than one mode but mean and median is only one for that data set. Instruct students to open their textbook page 195 and read the statement of the worked example 1. Instruct students to tell what is given and what we have to find. Take their responses and tell them that the given data shows the runs of a Pakistani cricket player scored in T-20 tournament and we have to find the mode of the given data set. First write the data set on the board that is:

1, 7, 2, 7, 6, 50, 79, 7, 11, 49

Now observe the data and find the number that is repeated many times. By observing we have the number 7 is repeated 3 times so the number 7 is the mode of the given data.

Solve the worked example step by step on the board and explain them each step. For more clarification solve the worked example 3 on the board and explain to them as in the given data set there is no value repeated or occur more frequently then there is no mode of the given data. Explain each step of the worked example 3 on the board and encourage them to ask questions if they have any confusion.

Sum Up:

(3 min)

Sum up the lesson by retelling students that mode is the value that occurs most frequently in the given data set. Also explain "Note to Remember" given at page 195.

Assessment:

(5 min)

To assess students' learning instruct students to write the data set of your own choice that have one mode and that have no mode.

Homework:

(2 min)

Solve Q4 (a) of the "Learning check 10.4" given at textbook page 196.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 1**

Unit Name: Data Management and Probability **Topic:** Mode **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the mode, for ungrouped data and solve related real-world problems.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 194 and 196, paper slips

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask students about their previous day's homework. Ask students: what is mean by mode of the data? What is the difference between mean, median and mode? Take their responses and a data set on the board for example 15, 15, 15, 20, 20, 20, 14, 16 and 17

Find mean median and mode of the data and tell them that the given data set has one median ad one mean but the given data has two mod as 15 and 20 are repeated most frequently with the same frequency.

Main Activities/Concept Building: (22 min)

Tell students that today we will learn how to calculate the mode of the ungrouped data and solve related real-world problems. Recall with students the method or steps to find the mode of data set values. Explain to students how to find the mode of the data by solving different examples on the board. After this write a data set on the board and call a student on the front of the class and ask him/her to find the mod of the given values. After this write a data set that have same numbers repeated with same frequency and call another student and ask him/her to find the mod of the given data. Repeat this activity with other students and appreciate them for their correct work.

Activity:

Divide the class into pairs. Instruct each pair to prepare paper slips of the ungrouped data examples form their daily life. After preparing exchange their slips with other pairs. Instruct students to solve the problems written on the slips and find the mod of the given data. Walk around and monitor their working. After sometime, have each pair present their findings to the class, discussing their interpretations and answering the questions. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Sum Up: (3 min)

Sum up the lesson by recalling with students the concept of mode and their uses in our daily life. Recall with them Mode is the value that occurs most frequently in data. When no value in a data set is repeated, the data set has no mode. If two or more values occur with the same greatest frequency, then each is a mode.

Assessment: (5 min)

To assess students' learning instruct them to solve "Pause and try" given at page 195 of their textbook in their notebooks.

Homework: (2 min)

Solve Q4 (b, c) of the "Learning check 10.4" given at textbook page 196.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 2**

Unit Name: Data Management and Probability **Topic:** Probability **Date:**

Objective(s):

At the end of this period, the students will be able to:

Define probability and the terms related to it (experiment, outcomes, sample space and events).

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 196, 197 and 200, dices, coins

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students what is the weather today? What you say about tomorrow weather? Take their responses that are they are sure about today weather but they are not sure for tomorrow weather and they say for tomorrow weather may be sunny or rainy. Similarly tell students when we have a coin and we flip that coin there is chance of head or tail. Tell students when we talk about a cricket match or any game there is chance to win or lose the game.

Main Activities/Concept Building: (22 min)

Tell students today we will learn about probability and the terms related to it (experiment, outcomes, sample space and events). Ask students: Do you know about probability? Take their responses and tell them that the chance to something happen is called the probability, in a game there is probability is win or lose the game, when we flip the coin there is probability of head or tail, what is the weather tomorrow or when we roll a dice we have probability that 1, 2, 3, 4, 5 or 6. These are all examples of probability. Tell the students that probability is a branch of mathematics that deals with the likelihood or chance of different outcomes occurring in a given event or experiment. Explain them probability helps in situations when we cannot say that something will surely happen. Tell students when we roll a dice many times the process of rolling dice is called experiment and the result we get is the outcomes of the experiment that may be 1, 2, 3, 4, 5 or 6. Without experiment we cannot say about what is outcome. When we performing an experiment we collect the outcomes, sample space refers to the collection of every possible result of the random experiment. Usually we represent the possible outcomes in curly brackets. For example if we flip a coin the possible outcomes are head or tail so the sample space is $S = \{\text{head, tail}\}$. When we flip a coin or roll a dice several times, the outcome or collection of several outcomes is called the event. Explain probability and its related terms with examples to students and encourage them to ask questions if they have any confusion. Instruct students to open their textbook pages 196 and learn more about probability and its terms. For more clarification solve worked example 1 on the board step by step and explain the terms related to the probability to students.

Activity:

Give a die to each student. Instruct students to roll the die six times and note the outcome or result after rolling die. After noting the result, tell about sample space, outcome and event. Walk around and check their working and guide where needed.

Sum Up: (3 min)

Sum up the lesson by retelling about probability and their related terms. Also explain "Note to Remember" given at pages 196 and 197.

Assessment: (5 min)

To assess students' learning by asking different questions related to probability and its terms.

Homework: (2 min)

Solve Q1(a-d) of "Learning check 10.5" given at page 200 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 3**

Unit Name: Data Management and Probability **Topic:** Probability **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify probability of a single event and the method to calculate it.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 197, 198, 199 and 200

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: what is meant by probability? What is meant by experiment and outcome? What is the difference between sample space and an event? Take their responses and appreciate them for their correct answers. Recall with them what is the probability and the terms related to probability with examples.

Main Activities/Concept Building: (22 min)

Tell students today we will learn about probability of a single event and the method to calculate it. Recall probability with students Probability refers to the chance of something occurring. It is the likelihood of something happening. Probability helps in situations when we cannot say that something will surely happen. Tell students when we flip a coin or a dice, if we want to find the probability of getting head when flipping coin or getting number 6 when rolling a die it is the desired outcome. Tell the students that we use the following formula to find the probability of an event (E) occurring.

$$P(E) = \frac{\text{Number of favourable (desired) outcomes}}{\text{Total number of possible outcomes}}$$

Instruct the students to read example 1 at textbook page 197. Ask students to tell what are given and what we have to find. Take their responses and tell them that a spinner spun by the Marwa and we have to find the probability of the spinner landing on yellow and what is the probability of the spinner landing on green. Tell students as in the given spinner the colours are blue, green, yellow and red so the sample space is: $S = \{\text{blue, green, yellow, red}\}$

As the yellow colour is two times on the spinner so the number of favourable outcomes (Landing on yellow) is 2.

Probability of landing on yellow = $P(\text{Yellow}) = \frac{2}{6} = \frac{1}{3}$

This shows that the probability of landing on yellow is $\frac{1}{3}$.

As the green colour is one time on the spinner so the number of favourable outcomes (Landing on green) is 1.

Probability of landing on green = $P(\text{green}) = \frac{1}{6}$

This shows that the probability of landing on green is $\frac{1}{6}$. Solve the worked example 1 step by step on the board and explain them each step. For more clarification, solve the worked example 2 step by step on the board and explain to them each step. Encourage them where need.

Sum Up: (3 min)

Sum up the lesson by recalling with students the probability of a single event and the method to calculate the event. Also explain "Note to remember" given at page 197 of their textbook..

Assessment: (5 min)

To assess students, ask them to solve pause and try given at page 199 of their textbook.

Homework: (2 min)

Solve Q2 of "Learning check 10.5" given at page 200 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 4**

Unit Name: Data Management and Probability **Topic:** Probability **Date:**

Objective(s):

At the end of this period, the students will be able to:

Calculate the probability of various events.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 200 and 201, Paper slips of questions on probability of single event

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: how we can find the probability an event? Take their responses and recall with students with the help of any example how to find the probability of an event.

Main Activities/Concept Building: (22 min)

Tell students that today we will learn about how to calculate the probability of an event. Recall with students the method or steps to find the probability of an event by solving worked example 3 on the board step by step and find the probability of even number cards and the probability of picking cards that are factor of 12. Instruct students to open their textbook page 200 and read the statement of the question 4 of the learning check 10.5. Ask students to tell what is given and what we have to find. Take their responses and tell them that number cards 1 to 30 in mix form in a box is given and we have to find the sample space, probability of get number 10 card, probability of getting number 15 card and probability of getting number cards that is not 5. Call a student to the front of the class and ask him or her to solve the question step by step on the board and explain them each step. Ask the rest of the class to check and correct if needed. Discuss with them about the mistake and appreciate for him/her good effort.

Activity:

Have students to work individually. Place of the paper slips of different questions on probability of single events on the table. Call students one by one to the front of the class and ask them to choose one paper slip. Instruct them to find the probability of the given event on the paper slip by using formula. Encourage discussions within the students. After sometime, have each student present their findings to the class, discussing their interpretations and answering the questions. Discuss with them about their common mistakes. Appreciate them for their active participation and correct work.

Sum Up: (3 min)

Sum up the lesson by retelling how we can find the probability of the single event by using formula.

Assessment: (5 min)

To assess students' understanding by asking them to solve "Pause and Try" given at page 199 of their textbook in their notebooks.

Homework: (2 min)

Solve Q3, Q5, Q6 and Q7 of "Learning check 10.5" given at pages 200 and 201 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 5**

Unit Name: Data Management and Probability **Topic:** Equally Likely Events **Date:**

Objective(s):

At the end of this period, the students will be able to:

Identify equally likely and not equally likely outcomes.

Resource Material:

Chalk/Marker, White/Blackboard, textbook page 199, 200 and 201

Teaching & Learning Activities:

Opening Activities/Warm-up: (8 min)

Say, "Assalaamu Alaikum" and start with the name of Allah. Ask the students: How are you? Encourage them to say, "Alhamdulillah". Ask students about their previous day's homework. Ask students: how can we find the probability of a single event? Instruct students to tell what is the probability of getting 3 when we roll a dice? Take their responses and appreciate them for their correct answer.

Main Activities/Concept Building: (22 min)

Tell students today we will learn to find probability of equally likely and not equally likely outcomes. Ask students: Do you know about the probability of equally likely events? Take their responses and tell them that when we toss a coin, the probability of getting head is the same as getting the probability of getting tail. So this type of event are called equally likely event. Tell them that if event has the same probability of occurring, the events are called equally likely events. Similarly we can say that when we roll a dice, the probability of getting 2 is the same as probability of getting 5. So these are equally likely events. Similarly, after rolling a dice, the probability of getting an even number is the same as the chance of getting an odd number. So, these two outcomes are equally likely. Tell them that the probability of getting 3 and the probability of getting even numbers is not the same. Such types of events are not equally likely events. Tell them that if we have a bag of balls of green and red colour. In a bag there are 4 green balls and 2 red balls then the probability of green balls and red balls are not same. Explain students the concept of equally likely and not equally like events with the help of examples. Encourage students to ask questions if they have any confusion.

Activity:

Have students to work in pairs. Instruct each pair to write one real-life example of equally likely event and one example of not equally likely events. Walk around and monitor their working and guide them where required. After completing the task each pair come forward and show their examples of equally likely event and not equally likely event to the whole class and also give explanation of the example. Discuss with them about their common mistakes and appreciate them for their active participation in class.

Sum Up: (3 min)

Sum up the lesson by retelling students the difference between equally likely and not equally likely events. Also explain "Note to Remember" given at page 200.

Assessment: (5 min)

To assess students' understanding ask them to tell: What is the difference between equally likely events and not equally likely events.

Homework: (2 min)

Solve Q8 of "Learning check 10.5" given at page 201 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 6**

Unit Name: Data Management and Probability **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 10 by solving Q1-5 of Unit Check Exercise.

Resource Material:

Chalk/Marker, White/Blackboard, textbook pages 201 and 202

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Tell students that they are going to revise all the concepts of the Unit "Data Management and Probability".

Ask them the different questions that are related to "Data Management and Probability".

Main Activities/Concept Building: (30 min)

Activity:

Have students open pages 201 and 202 of their textbooks. Ask them to solve Q1 to Q4 of "Unit Check 10".

Walk around the class and appreciate them for the correct solutions. Guide them if required.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 201.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q5 of "Unit Check 10" given at page 202 of their textbook.

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 4** **Lesson Plan: 7**

Unit Name: Data Management and Probability **Topic:** Sum Up and Unit Check **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concepts of Unit 10 by solving Q6-9 of Unit Check Exercise and by completing “work with math” activity.

Resource Material:

Chalk/Marker, White/Blackboard, textbook, Graph papers, Chart Papers, Glue Stick/Thumb Pin, pages 201 203 and 204.

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Tell students that they are going to revise all the concepts of the Unit “Data Management and Probability”.

Ask them the different questions that are related to “Data Management and Probability”.

Main Activities/Concept Building: (30 min)

Activity 1:

Have students open page 203 of their textbooks. Ask them to solve Q6 to Q8 of “Unit Check 10”. Walk around the class and appreciate them for the correct solutions. Guide them if required.

Activity 2:

Tell students today, we will be performing a math project (work with math).

- Work in two groups
- Each group will create a real-life example of data values that can be used to create multiple bar charts and pie charts.
- Then they will draw the relevant graph for the question they have created.
- Once completed, each group will paste their graph on the board.
- The other groups will interpret the chart and share the information they read from the graphs. The group with the most correct and accurate answers wins.

Sum Up: (3 min)

Sum up the lesson by repeating the important points given in Sum-Up of the unit given at page 201.

Assessment: (0 min)

N/A

Homework: (2 min)

Solve the Q9 of “Unit Check 10” given at page 203 of their textbook.

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 1**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Data Management and Probability".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Data Management and Probability".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

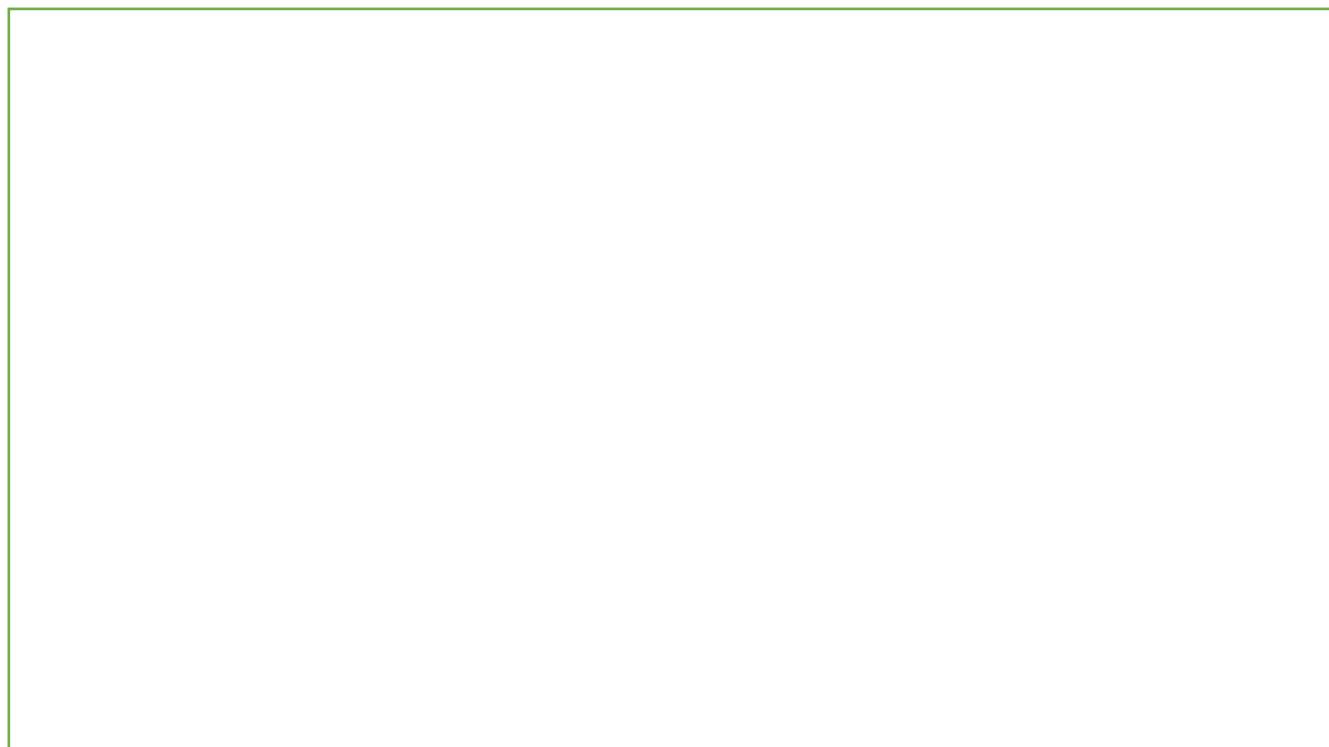
Worksheet

Name: _____

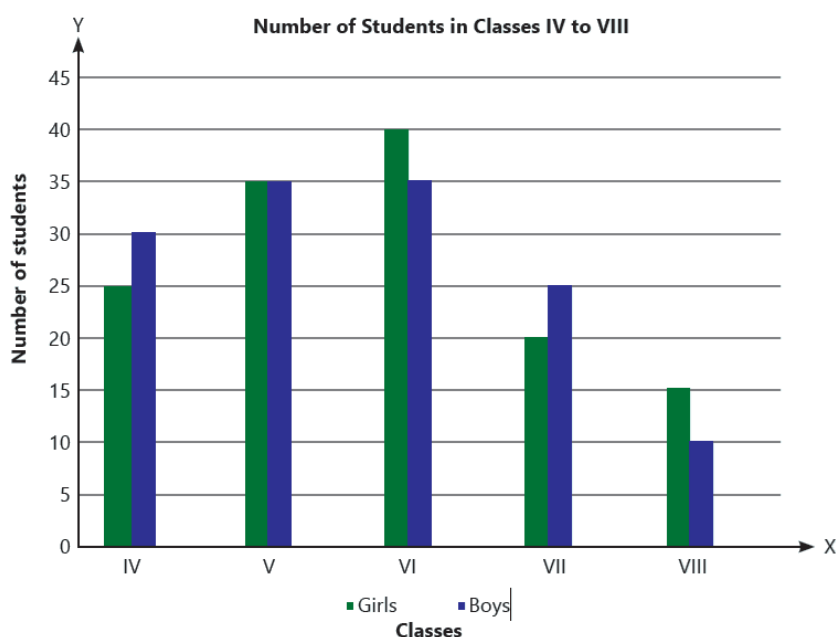
Date: _____

1. The following table shows the weekly sales of notebooks in March and April. Draw a multiple bar graph for this data.

Weeks	Week 1	Week 2	Week 3	Week 4
March	7000	6000	5000	4000
April	5000	3000	1000	1000



2. Observe the given multiple bar graph in vertical form and answer the following questions.



Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

- a) What is the title of the graph? _____
- b) What information is shown on the x-axis? _____
- c) What information is shown on the y-axis? _____
- d) How many students are in class VI? _____
- e) In which class are the least number of students present? _____
- f) In which class are the greatest number of students present? _____
- g) In which class is the same number of boys and girls present? _____
- h) What is the total number of students in classes VII and VIII? _____
- i) What is the difference between the number of students in class IV and class VI?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 2**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Data Management and Probability".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Data Management and Probability".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

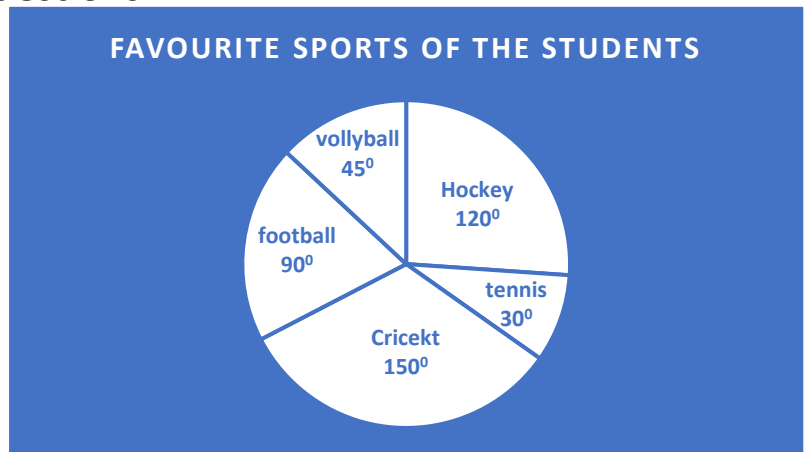
Name: _____

Date: _____

1. The data shows the number of people who say their prayers in the nearby masjid. Draw a pie graph for the following data.

Prayers	Fajr	Zuhr	Asr	Maghrib	Isha
No. of people	60	40	30	70	50

2. The following data shows favourite sports of students. Read the graph and answer the following questions:



- a) How many students like football and cricket?
- b) How many students like hockey?
- c) What is the fraction of students like football and tennis?
- d) How many students do not like volleyball the most?
- e) which sport is mostly like by the students?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

f) How many students were asked about their favourite sport?

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 3**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit "Data Management and Probability".

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, "Assalaamu Alaikum" and start with the name of Allah.

Ask students: How are you? Encourage them to say, "Alhamdulillah".

Ask them a few questions related to the concept of unit "Data Management and Probability".

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher's Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. A survey collected the ages of participants in a community event. Show this in the form of grouped data.

25,30,32,40,45,50,32,35,40,45,55,60,35,40,45,50,32,35,40,45,50,55,60,65,
70 25,30,32,40,45,50,32,35,40,45,55,60,35,40,45,50,32,35,40,45,50,55,60,
65,70.

2. The test scores (out of 100) of a group of students. Show this in the form of grouped data.

85,92,78,89,92,85,78,89,92,85,78,89,92,85,78,89,92,85,78,89,92,85,78,89,
92,85,78,89,92,85

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 4**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Data Management and Probability”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Data Management and Probability”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. The ages of students in a class are: 20, 21, 22, 23, 24, 21, 22, 25, 26, 22, 27, 28, 23, 29. Calculate the mean ages.

2. The monthly incomes (in dollars) of a group of people are: 3000, 3500, 4000, 4500, 4000, 3500, 3000, 4500, 5000. Calculate the mean of the monthly income.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 5**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Data Management and Probability”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Data Management and Probability”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. The heights of trees in a park (in meters) are: 10, 12, 15, 12, 10, 11, 13, 14, 15. Calculate the median and mode height of the trees.

2. The exam scores of a class of students (out of 100) are: 75, 80, 85, 90, 95, 80, 85, 90, 75, 80, 85, 90. Calculate the median and mode exam scores.

3. Differentiate between median and mode with example.

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 6**

Unit Name: Data Management and Probability **Topic:** Revision **Date:** _____

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Data Management and Probability”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Data Management and Probability”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. Describe the following with examples:

a) Random experiment b) Outcomes c) Events d) Probability

2. What is the probability of getting heads when tossing a fair coin?

3. A bag contains 5 red marbles, 3 blue marbles, and 2 green marbles. What is the probability of randomly selecting a red marble?

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Term: 3 **Periodic Unit: 2** **Week: 5** **Lesson Plan: 7**

Unit Name: Data Management and Probability **Topic:** Revision **Date:**

Objective(s):

At the end of this period, the students will be able to:

Revise the concept of the unit “Data Management and Probability”.

Resource Material:

Chalk/Marker, White/Blackboard, Worksheet

Teaching & Learning Activities:

Opening Activities/Warm-up: (5 min)

Say, “Assalaamu Alaikum” and start with the name of Allah.

Ask students: How are you? Encourage them to say, “Alhamdulillah”.

Ask them a few questions related to the concept of unit “Data Management and Probability”.

Tell students that they are going to revise and practice the main concepts of the Unit by solving a worksheet.

Main Activities/Concept Building: (32 min)

Activity:

Give the worksheet to students. Instruct them to complete it. Roam around the class, check their work and guide them if needed.

Sum Up: (3 min)

Based on the worksheets solved by students, retell the basic concepts and correct the common mistakes.

Assessment: (0 min)

N/A

Homework: (0 min)

N/A

Teacher’s Self-Evaluation:

Target: Achieved ☐

Not Achieved ☐

Partially Achieved ☐

Reason/Comments:

Type	Series	Subject	Grade	Teacher	Time
Lesson Planners	SUN (SNC)	Mathematics	6		40 Min

Worksheet

Name: _____

Date: _____

1. What is the equally likely event? Explain with examples.

2. A die is rolled. Find:

a) $P(\text{even numbers})$

b) $P(\text{odd numbers})$

3. A coin is tossed: Find:

a) $P(\text{head})$

b) $P(\text{tail})$