

Learning outcome - 1

Learning outcome: Solves the problems by applying Basic operations on large numbers (Addition, Subtraction, Multiplication & Division) and learns simple number patterns.

Scope & Importance of Learning outcome: Once children learn this, they will realize that numbers are an integral part of life and play an important part in everyday life. Every moment of life, they will be able to deal with everyday situations like playing with numbers and lessons. They try to find solutions to the problems according to the situation. There are many situations in daily life where the things are bought. In such situations it is natural to ask questions about how many items we buy. Is it possible to make these items into two groups? If possible, they are even numbers and otherwise they are odd numbers. By learning these, they come to know that big numbers are even or odd and they apply division rule on them.

Activity 01: Large numbers (Four-digit number or bigger than that) Reading, writing and comparing more numbers.

Aim: Reading, writing and comparing numbers.

Activity details: To motivate children to write down the prices of various items including four-digit, five-digit numbers and let them write on place value table and tell place values and then write numbers in expanded form. Guide the students to read and write numbers by placing commas. Provide many activities to make them understand that their values will change as the position of digits change. Motivating children to put up appropriate signs ($<$, $>$, $=$) by comparing the prices of things according to their previous knowledge.

Ensuring the importance of number knowledge in order to read and write the prices of various things in everyday life.

Activities number in Learning sheets: 1.1, 1.2, 1.3, 1.4, 1.5

Activity 02: Finding nearest number of numbers.

Objective: Finding nearest value of things.

Activity details: Show children, items such as pencil, eraser, books etc and suggest them to find the nearest value of these items.

Example:

- If you have Rs 100 and the price of 1 book is Rs 18 then how many maximum number of books can you purchase?

In this way, create more situations related to daily life to encourage the children to find nearest prices.

Large numbers: Example 6872, fill it with the nearest number for different positions.

Example:

Nearest to 1000's place	Nearest to 100's place	Nearest to 10's place
7000	6900	6970

In this way instruct the children to write nearest price to different numbers.

Activities number in Learning sheets: 1.6, 1.7

Activity 03: Solving problems related to addition and subtraction.

Aim : Solving the addition and subtraction calculations related to the daily life situation.

Activity details: Creating some realistic scenarios for children to solve problems orally or in written form of addition and subtraction. Give the prices of any two items and ask them to find out their sum or differences.

Activities number on Learning sheets: 1.8 TO 1.19

Activity 04: Solving problems related to multiplication and division.

Aim: Solving problems related to multiplication and division in daily life situation.

Activity details: Teachers should ensure the students to learn the steps of multiplication and division by solving a few simple problems. Instruct the children to perform the prescribed calculations. Use some real scenarios.

Example:

- If the price of 1 banana is Rs 5 then what is the price of 10 bananas?
- What is the amount of money each gets if Rs 500 is divided equally among 4 people?

Facilitate the children in solving the problems on Multiplication and division according to the situation.

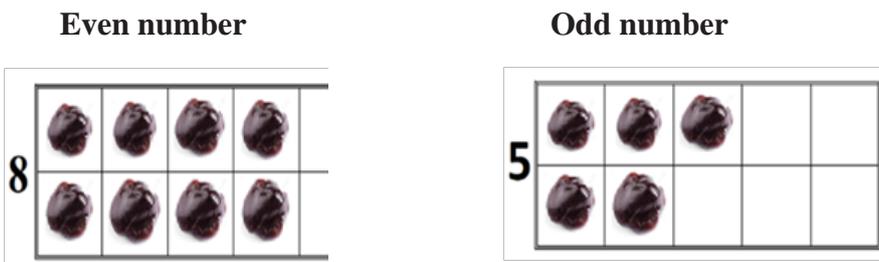
Activities number in Learning sheets: 1.20, 1.21, 1.22, 1.23, 1.24, 1.25

Activity 05: Making objects into two groups.

Aim : Identifying Even and Odd numbers.

Activity details: Let the students make two groups by giving them some tamarind seeds.

Example:



To identify large numbers as even and odd numbers, fill in the blanks by observing

Activities number in Learning sheets: 1.26 to 1.29

Chapters related to textbook: - 1 Knowing numbers, 2 Whole numbers

Evaluation Stages:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Solves problems by applying basic functions on bigger numbers.	Reading, writing and expanding numbers. *Identifies Consecutive numbers.	Finds the nearest number to the given number. Finding sum and difference of numbers in rows and columns. Identifying non consecutive odd and even numbers from 1 to 100.	Estimates the nearest price of the things in everyday life. Finds the product and quotient of numbers. Classify the large numbers as even and odd.	Solves problems involving basic operations related to our daily life. Solving problems on number series.

Learning Outcome- 2

Learning Outcome: Introduction to integers and solves the problems of addition and subtraction.

Scope and importance of Learning outcome: At the end of this class children should be able to identify the positive and negative integers. In addition to this knows the importance of positive and negative integers in daily life. Applies and acquaints the values of integers which are greater than '0' and less than '0' in the daily life. They are given opportunity to identify the integers in daily life. From all these the objective of this learning outcome is achieved.

Before teaching them the integers, children has to know about Natural numbers and Whole numbers. If they lack in the knowledge of Natural numbers and Whole numbers, they should be taught using different teaching and learning aids. The teaching and learning aids are more likely useful to teach the concept of integers also.

Activity 01: Introduction to Natural numbers and Whole numbers.

Objective: Understands Natural numbers and Whole numbers.

Activity details: In this activity the Natural numbers and Whole numbers are introduced. Introducing the Natural numbers which are greater and smaller. Usage of numbers which are smaller and greater than 0 in our daily life. Here teacher has to give more and more examples to achieve better learning outcome.

Natural numbers $N = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, \dots\}$

Whole numbers $W = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, \dots\}$

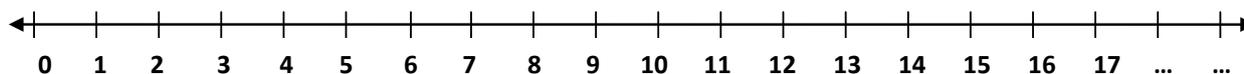
Sl.No	Natural number	Before number	After number
1	13	12	14
2	237	—	—

Activity number in the Learning Sheet: 2.1

Activity 02: Representing the Whole numbers on number line.

Aim: Meaning of Whole numbers and identifying the Whole number on number line.

Activity details: In this activity teacher has to introduce Whole numbers along with number line and its introduction. Draw the line and mark 0 at left side mark equidistant points on the line and name it as, 1, 2, 3, 4, The distance between any two consecutive numbers is considered as one unit.



In this activity the place value of any number and also the relation between any two numbers is written by using the suitable symbol. By this the learning can be made easy.

Sl.No	Numbers	Place/ position on number line	Relation between numbers
1	12, 8	12 is right side of the 8	$12 > 8$
2	12, 16		

Activity number in the Learning Sheet: 2.2 and 2.3

Activity 03: Meaning of Integers, and answering using the integers

Aim: Understands the meaning of integers and answers using integers in the daily life situations.

Activity details: Teacher has to use this activity to show the proper usage of +, - signs. By giving the daily life examples, the positive and negative signs are introduced.

To indicate the heights above the ground level, the numbers with positive signs are used and to indicate the objects which are below water, the numbers with negative signs are used. The learning is made concrete by illustrating with daily life situations that the decrease in quantity is indicated by negative sign.



Activity: With the help of table 2.5 the previous and the next numbers of integers are to be filled. example

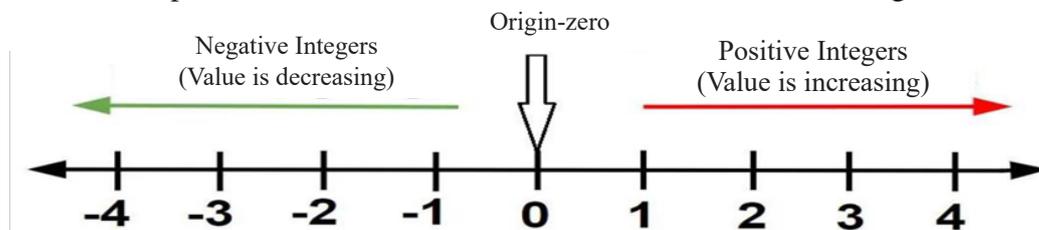
Before number	Integers	After number
	-5	
	0	
	10	
	-73	

Activity number in the Learning Sheet: 2.4 and 2.5

Activity 04: Representing the integers using the number line, and without using the number line denoting by (<, >)

Aim: Represents the integers using the number line, and without using the number line denoting by (<, >)

Activity details: These type of activities helps Pupil to know the numbers on the right side of 0 on the number line are positive, and the numbers which are left side of 0 are negative.



	-5 <input style="width: 50px; height: 20px;" type="text"/> -1
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In activity 2.7 and 2.8 the integers are compared by the suitable signs($<$, $>$) without using the numberline. In activity 2.9 only right / wrong signs have to be used.

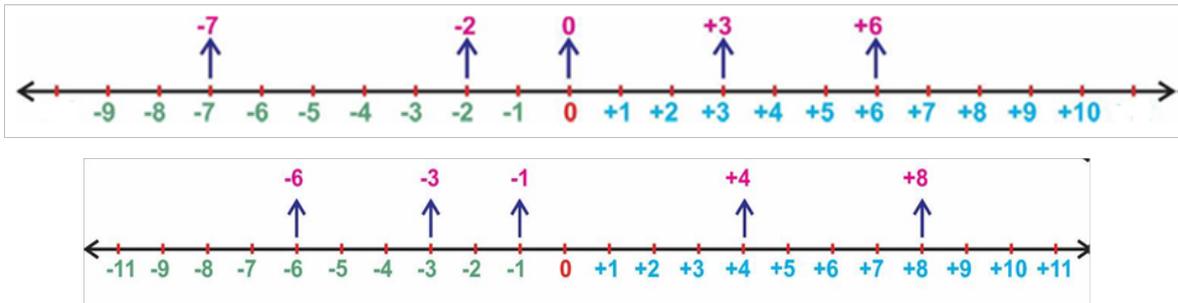
Sl. No	Integers	Position on number line	Relation between numbers	0	$>$	-7
1	-13, 9	9 is to the rightside of-13	$9 > -13$	-53		-9
2	14, -19			3		-19

Activity number in the Learning Sheet: 2.6, 2.7, 2.8 and 2.9

Activity 05: Writing integers in ascending and descending order.

Aim: Writing the integers in ascending and descending order by using number line and without using number line.

Activity details: Here the worksheets are given in order to write the integers in ascending and descending order by using the number line and without using the number line. By practicing these sheets children acquires the competency of writing the integers in ascending and descending order.



Activity number in the Learning Sheet: 2.10, 2.11 and 2.12

Activity 06: Listing the Integers which comes between the numbers

Aim: Listing the Integers which comes between the given numbers

Activity Details: Using the table given in the activity 2.13, the integers are listed between the given numbers.

0 and -9	
-6 and 6	

and also answer the questions given in activity 2.14 so that it helps in improving the knowledge regarding the integers.

- ❖ Four Integers greater than -15 _____
- ❖ Four Integers less than -10 _____

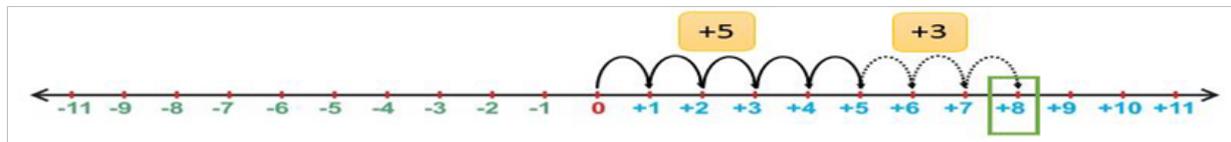
Activity number in the Learning Sheet: 2.13 and 2.14

Activity 07: Solving Addition and Subtraction problems on integers using the number line.

Aim : Solves the addition and subtraction of integers using the number line.

Activity details: In this activity the teacher facilitates the students by showing the addition and subtraction of integers using the number line. Teacher has to provide additional activities that helps in learning this concept. Real situations are to be given for the children.

$$(+5)+(+3) = + 8$$



In the activity 2.17 the table showing the addition of integers by using common laws is given. Help the children to solve this.

Activity number in the Learning Sheet: 2.15, 2.16 and 2.17

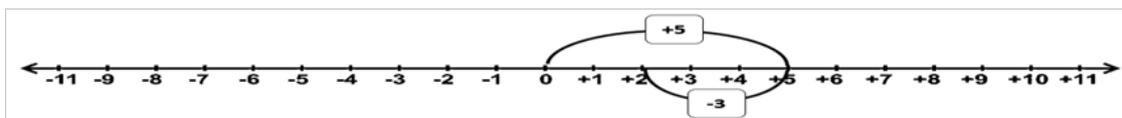
Activity 08: Solving subtraction problems of integers using the number line.

Aim: Solves the problems on subtraction of integers using the number line.

$(+10) + (-19)$	
$(-7) + (-4)$	
$(-53) + (+53)$	
$(-17) + (-43)$	

Activity details: In this activity the teacher facilitates the students by showing the subtraction of integers using the number line. Teacher has to provide additional activities that helps in learning this concept. Real situations are to be given for the children.

$$(+5)+(-3) = +2$$



In the activity 2.19 the table showing the subtraction of integers by using common laws is given. Help the children to solve this.

$(6)-(+2)$	
$(100)-(-60)$	
$(-63)-(+23)$	

Activity number in the Learning Sheet: 2.18, 2.19

Activity 09: By using Suitable signs ($<$, $>$) solving the problems on addition and subtraction of integers.

Aim: Solves problems on addition and subtraction of integers by using Suitable signs ($<$, $>$)

Activity details: After solving the problems on addition and subtraction of integers, a work sheet is given which contains filling the blanks with suitable sign. Help the children to complete this.

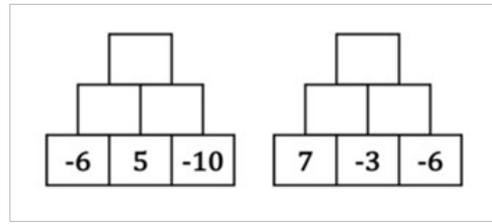
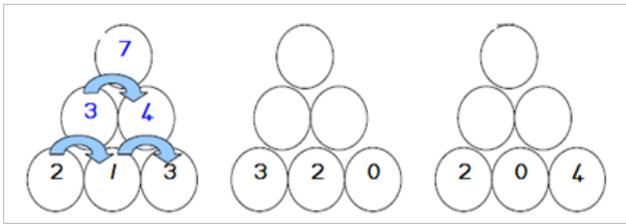
- $(-4) + (-6)$ _____ $(-3) - (-6)$
- $(-21) - (-10)$ _____ $(-31) + (-11)$
- $(-8) -$ _____ $= 0$
- _____ $- (-16) = -10$

Activity number in the Learning Sheet: 2.20, 2.21

Activity 10: Solving the addition and subtraction of integers with the help of pyramids and tables.

Aim: Solves the addition and subtraction of integers by using pyramids and tables.

Activity details: In the given activity the blanks provided in pyramids and tables. Students should fill the blanks by the addition and subtraction of integers which helps in completes learning.



In this activity the table is given with addition and subtraction of integers. The learning is made complete by making the students to fill up the blanks in the table.

Addition	41	29	38	48	58	66	71	Model- $12+(+41)$ $=79$
-12	+29	+17	+26	+36	+46	+54	+59	
-29								

Activity number in the Learning Sheet: 2.22 and 2.23

Related Chapter in the textbook: 6-Integers

Stages of evaluation:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Introduction to integers and solves the problems on addition and subtraction of integers.	Meaning of integers, identifies the positive and negative integers.	Identifies integers on number line and compares by using proper signs.	Solves addition and subtraction of integers by using proper signs using a number line	Solves the basic operation problems like addition and subtraction of integers. Solves application level problems in daily life.

Learning outcome- 3

Learning outcome: Identifies Composite number, Prime number and Multiples & Factors and apply H.C.F & L.C.M for particular situation.

Scope & importance of Learning outcome: By knowing the factors it is very helpful to know that which are all the numbers that divide the given number, so that it can be used to solve problems involving divisions in everyday life. Knowing prime and composite numbers makes it convenient to solve numerical calculations. It is important for children to use this concept related to the HCF and LCM in everyday situations. For example: A bucket contains 4 litres of water another bucket contains 10 litres of water, it is essential to develop the concept of HCF in order to know the smallest and biggest device used to measure it

Activity 01: Writing multiples for different numbers.

Objective: Interpreting multiples by different scenarios in daily life.

Activity details: Encouraging children to list multiples and common multiples by giving them different scenarios such as cat & rat scenes, mountain climbing by children, meow play etc. Similarly, giving children different scenarios of everyday life and interpreting the phenomena.

Activities number in Learning sheets: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6

Activity 02: Finds the factors for different numbers.

Aim: Interpreting factors by different scenarios in daily life.

Activity details: Provide children with a variety of situations to develop the concept of factors and encourage them to list common factors. Similarly, interpreting the factors by giving children different situations of everyday life. Complete the factorial tree for the factors, write the factors for the numbers given in the multiplication chart and encourage them to colour the various numbers given on the chart.

Activities number in Learning sheets: 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14

Activity 03: Identifying numbers as prime and composite numbers.

Aim: Finding prime and composite numbers.

Activity details: Give a number to each of the children in the class. Instruct the children to tabulate in the given table by knowing its factors. Students identify numbers having 2 factors as prime numbers and numbers having more than 2 factors as composite numbers.

Activities number in Learning sheets: 3.15, 3.16

Activity 04: Finding H.C.F in different situations.

Aim : Students learn the scenarios of using H.C.F in everyday life.

Activity details: Encourage students to find the H.C.F of given numbers by knowing the fact that H.C.F is the largest among their common factors. They find H.C.F by listing factors method, prime factorization method and Students learn to solve problems using H.C.F in everyday life situation.

Activities number in Learning sheets: 3.17, 3.18, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26

Activity 05: Finding L.C.M in different situations.

Objective: Students learn the scenarios of using L.C.M in everyday life.

Activity details: Encourage students to find the L.C.M of given numbers by knowing the fact that L.C.M is the smallest among their common multiples. They find L.C.M by listing common multiple method, prime factorization method and Students learn to solve problems using L.C.M in everyday life situation.

Activities number in Learning sheets: 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.27,

Lesson related to text book:- 3. Playing with numbers.

Evaluation stages:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Identifies factors and multiples. Applies H.C.F and L.C.M in particular situation.	Classify broadly into prime and composite numbers.	Finds factors and multiples for given numbers.	Finding common multiples and common factors when two or more numbers are given.	Learn prime factorization method and solve problems related to H.C.F and L.C.M.

Learning Outcome-4

Learning Outcome: The given fractions are identified, compared in the form of equivalent fractions.

Scope and importance of Learning outcome: After learning this learning competency students will be able to identify and compare the fractions in the daily life situation. Students when they come across the objects/ articles in the fraction form before they are made to know the fractions. Different learning materials have to be used to suit the situation.

Activity01: For the given objects paint for $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ parts

Aim: Knows the fractions $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

Activity details: Each student is given a full object or a thing and asked to paint $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

parts of it. By this activity student will not confined to the textbook learns to identify the fractional parts like $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

Activity in the Learning sheet: 4.1 to 4.8

Activity02: The part coloured is written in the form of fraction to the total object.

Aim : Writes fraction form to any figure.

Activity details: Each student represents a fraction for the given object which is a part of the whole. By representing the parts of whole object as a fraction form in the daily life, each child gets the concrete idea of the concept of fraction.

Activity in the Learningsheet: 4.9 , 4.10, 4.11

Activity03: Draws the figures for the different fractions and colour it.

Aim: Draws figures for the fractions

Activity details: Provide different fractions for the children to draw the figures. By this the children will be able to write the fraction figure for any given situation. The learning is made concrete by using different learning materials.

Activity in the Learning sheet: 4.12, 4.13, 4.14

Activity 04: Compares different fractions and identifies bigger and smaller fractions.

Aim : Identifies bigger and smaller fractions.

Activity details: Provide children with the figures with colours representing fractions. Then the children will easily notice which fraction is bigger and which is smaller. By this the children will be able to identify the bigger and smaller fraction.

Activity in the Learning sheet: 4.15, to, 4.17

Activity 05. Students identifies the different fractions from the group of fractions given to them and write its types.

Aim : Writes the different types of fractions.

Activity details: Different types of fractions are provided to them. Students identifies and classifies the fractions.

Activity in the Learning sheet: 4.18

Activity 06: Writes the fraction form of any coloured part of the given figure and identifies the equivalent fractions.

Aim: Identifies equivalent fractions.

Activity details: For any given fraction by showing the Students the pictures of the equivalent fractions, the children will find it very easy in identifying the equivalent fractions. In the same way by multiplying the same number to the numerator and denominator, equivalent fractions are obtained.

Activity in the Learningsheet: 4.19 to 4.27

Activity 07: Identifies and write the bigger or smaller fractions from the given fractions.

Aim: Identifies the bigger or smaller fractions.

Activity details: Provide the children with shapes showing different fractions. By comparing the shapes children identify the bigger and smaller fractions. Children compare the fractions in their daily life. By writing the fractions in ascending and descending order this learning outcome will become concrete in children.

Activity in the Learning sheet: 4.28 to 4.30

Chapter in the textbook:7-Fractions

Stages of evaluation:-

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Given fractions are identified as equivalent fractions and compares	Identifies and write the fraction for any picture in the fraction form	Draws the picture form for the given fractions.	Compares fractions and identifies bigger or smaller fractions.	writes equivalent fractions for the problems in fraction form in their daily life situations.

Learning Outcome - 5

Learning outcome: Applies problems related to addition and subtraction of fractions/decimals related to their daily life situations where they come across length, weight, temperature and converts.

Scope & importance of Learning outcome: After learning this, children will recognize and interchange fractional and decimal images and numbers in their daily life. Student solves the problems similar to the problems related to daily life, by means of self-thinking power the children can easily add and subtract lengths and weights in fractions and decimals.

Activity 01: Write the fractions for the shaded section on the graph sheets and by counting the shaded squares will help to understand the sum of the fractions.

Aim: Add the fractions.

Activity details:- By giving a graph sheet, children can count the shaded parts on the sheet and write fractions and add fractions. When adding fractions of the same denominator, they keep the same denominator and add numerators, with which they learn the sum of fractions with the same denominator. This way of learning reinforces children's learning with ease when they come across fractions in any situation.

Activities number in Learning sheets: From 5.1 to 5.3

Activity 02: Write the fractions for the shaded part in graph sheets and by erasing shaded squares will learn the subtraction of fractions.

Aim: Learn to subtract fractions.

Activity details:- By giving graph sheets, children will count the shaded parts on the sheets and write fractions and subtract fractions by erasing the shaded squares. When subtracting fractions of the same denominator, they keep the same denominator and subtract numerators, with which they learn the subtraction of fractions with the same denominator.

Activities number in Learning sheets: From 5.4 to 5.6

Activity 03: Addition and subtraction of fractions with different denominator by finding equivalent fractions.

Aim: Learn to add and subtract fractions with different denominators.

Activity details:- Assign fractions to children. They multiply the denominator and numerator with the same number so that they can make the same denominator and then they add or subtract fractions. This way of learning reinforces the children to add and subtract unequal fractions in any situation.

Activities number on Learning sheets: From 5.7 to 5.10.

Activity 04: - With the help of a variety of measuring scales, measure the length of various objects and write them in decimal form.

Aim: The length of the object is measured with the help of a measuring scale and writes in decimal form

Activity details: When children are given their daily used items such as string, pen, edge of the book, table length, etc., they easily measure their length in decimal form. From this learning they are mature enough to compute lengths of the everyday situation and write them into decimal form and will learn how to read and write data.



By creating some situations like this, the children will measure accurately. By measuring with the help of a measuring scale, children should be instructed exactly the steps to follow so they can measure accurately in less time.

Activities number on Learning sheets: 5.10 & 5.11

Activity 05: Writing fractions and decimals by colouring the parts of the Dean's block and specifying them in the place value distribution table.

Aim: Write fractional/decimal format for visualized objects.

Activity details:- In Dean's block, by going from one block to the right and dividing into 10 equal parts makes 10 times smaller fraction/decimal is obtained. With this children will know the format of decimal numbers. Similarly, by going left in the Dean's block makes 10 times bigger. By learning the concept of writing fraction and decimal forms for coloured blocks, children will learn how to represent decimal in a place value table.



Fraction = $\frac{2}{10}$ Decimal = 0.2

Activities number in Learning sheets: 5.12 & 5.13

Activity 06: Inter change fractions and decimals and can read decimal numbers.

Aim: Read by interchanging fractions and deciamls.

Activity details:- Providing diferent types of images for framing fractions under any circumstances. With this, students can easily convert fractions into decimal form. By practicing diferent shapes, children can easily convert fractions to decimal forms in any situation and apply them to everyday life.

Activities number in Learning sheets: From 5.14 to 5.18

Activity 07: By comparision of decimals identify them as bigger and smaller and writes them in assending order or decending order.

Objective: Identify bigger and smaller decimals.

Activity details:- By giving children some coloured parts on graph sheets, they can easily understand the concept of decimals and compare them as larger and smaller decimals and write them in ascending or descending order. In this way by comparing decimals in their daily life, the learning will become concrete.

Activities number in Learning sheets: 5.19, 5.20, 5.21

Activity 08: Converting decimal form numbers - Convert Rupees to paise, meter to cm, Km to m, Kg to gm.

Aim: Converting decimals to different form.

Activity details:- Learning outcomes are reinforced by helping children to learn transformation of decimals by creating everyday situations for children thus they convert decimals easily to any form.

Activities number on Learning sheets: 5.22

Activity 09: Add decimals in different situations.

Aim : Add decimals.

Activity details: Give some spare parts to the children. They will write in the decimal form by distributing. This helps in developing the concept of decimals in different situations. Divide the children into two groups. Give them the coloured bean blocks. Children perform addition from them. This helps in concrete learning.

Activities number in Learning sheets: 5.23, 5.24, 5.25, 5.26

Activity 10: Subtract decimals in different situations.

Aim: subtraction of decimals.

Activity details:- Give decimal form of pictures to the children. Children write decimals and subtract them. Simplify by specifying easy rules. The concept of subtraction can be made perfect by cutting and removing parts of it from any one figure.

Creating the concept of subtraction of decimals and creating similar scenarios by separating 2 parts from 1 whole part with 10 boxes.

Activities number in Learning sheets: 5.27, 5.28

Lesson related to text book:- 7-Fractions and 8-Decimals

Evaluation stages :

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Applies problems related to addition and subtraction of fractions/ decimals related to their daily life, to the new situations where they come across length, weight etc	Identify Fractions and Decimals.	Convert fractions to decimals.	Solves Addition and subtraction problems related to fractions and decimals.	Creates fractions and decimals for daily life situations and solve problems of addition and subtraction.

Learning outcome- 6

Learning outcome: Geometrical concepts like Line, Line segment, Angle, Closed and open figures, Triangle, Quadrilateral, Circle are explained by using the objects around us.

Scope and Importance of Learning outcome: After learning this learning outcome students are able to identify the shapes of the buildings, animals, walls, ground(triangle, quadrilateral, circle). Also helpful in knowing the number of Points they included, sides, angles. It helps in developing the skill of drawing the diagrams independently

Activity 01: Identifying and naming the basic terms of geometry.

Aim : Identifying basic Geometrical concepts in daily life.

Activity details: Students are made to identify the points, line segments, angles in the plane figures like triangle, quadrilateral, pentagon etc. Students are asked to draw and also to name or denote the points, angles, line segments in any 5 things around them.

Students are asked to identify the basic geometrical concepts in the surrounding environment.



Activity number in the Learning sheet: 6.1, 6.2

Activity 02: Classifying the open and closed plane figures.

Aim : Identifying and classifying the open and closed figures in our daily life.

Activity details; Ask the students to construct 5 drawings of open and closed figures using a thread or rope and ask them to classify the figures as open and closed one.

Students are asked to list the open and closed figures.

Activity number in the Learning sheet: 6.3, 6.4

Activity 03: Identifying and naming the triangles by measuring their sides and angles.

Aim : Identifying and Naming the different triangles.

Activity details: Students are asked to cut different types of triangles from the paper or a thick cardboard. Also, encourage the students to mention the points, line segment, angles in the so formed triangle shapes. They are able to identify the triangle shapes which they come across in their daily life.

Activity number in the Learning sheet: 6.5, 6.6, 6.7, 6.8

Activity 04: Naming the vertices, sides, angles, and diagonals in the Quadrilaterals.

Aim: Identifying the quadrilaterals and naming the vertices, angles, sides and diagonals.

Activity details: Showing Carrom board, Chess board etc, students are asked to mention the vertices, angles, sides and asked to list the similar objects in their daily life.

Activity number in the Learning sheet: 6.9

Activity 05: Naming the parts of Circle.

Objective: Identifying the objects which are circular in shape and naming the parts related to circle found in the daily life.

Activity details: Students are asked to identify and list out the things which are in the shape of coin. These objects are drawn by tracing on the paper and cut it. It is folded two times and then four times to mark and show the centre, radius, diameter, sector circumference. With help of circular geo board construct a circle and explain the concepts such as circumference, centre of the circle, radius, diameter, sector and segment.

Activity number in the Learning sheet: 6.10

Chapter in the Text book:-4 Basic concepts of Geometry and Understanding 5 Basic figures

Stages of evaluation:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Explains concepts of geometry like line, line segment angle, open, closed figures triangle, quadrilateral, circle etc in the surroundings.	Identifies basic geometric concepts like point/vertex line, line segment, angle ray.	Names basic geometric concepts like point/vertex line, line segment, angle ray. Identifies the plane figures like triangle, quadrilateral, circle.	Identifies and classifies the types of triangles. Classifies the triangle according to the measurement of sides and angles.	Names and identifies the parts of Quadrilateral and circle. Also names and identifies the basic concepts of geometry found in the daily life.

Learning Outcome - 7

Learning outcome: Identifying Parallel lines, Perpendicular lines & intersecting lines

Scope & importance of Learning outcome: Children should be able to identify parallel lines, perpendicular lines and intersecting lines at the end of this class. In addition to this children should be able to identify and name the parallel lines, perpendicular lines and intersecting lines in the daily life situations. Here, in everyday situations, their own means of finding parallel lines, perpendicular lines and intersecting lines must be accommodated. From all these reasons, this learning outcome will be fulfilled in all the children of class room.

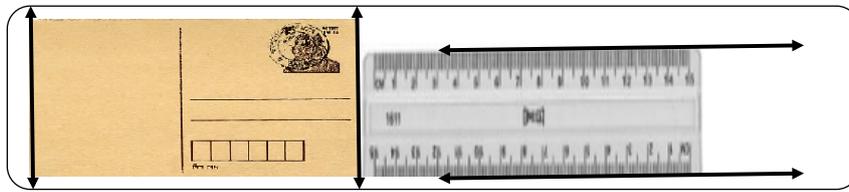
Before teaching children the parallel lines, perpendicular lines, intersecting lines, children need to be more aware of the line and types of lines. If children are unaware of this concept, then there is a need to reinforce using a variety of learning materials. In addition to this in order to develop the concepts of parallel lines, perpendicular lines and intersecting lines more use of learning materials will make the learning concrete.

Activity 01: Understanding the concept of parallel lines and identify parallel lines by showing different models.

Aim: By observing visual patterns, students will understand parallel lines and identify parallel lines

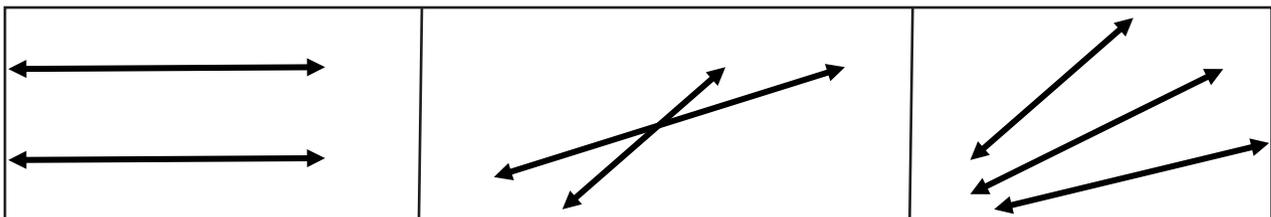
Activity details: In this activity the teacher can use the easily available models or flash cards to develop the concept of parallel lines.

For example post card, measuring scale, horizontal rods of windows, railway track etc.



show the opposite edges of scale and post card. Develop the concept that even after extending the opposite edges to any length they will not meet. Teachers, in addition, can visualize parallel lines by showing scenes of parallel lines in everyday life. Thus students learn the concept of parallel lines easily.

Here, the children view the given pictures and teacher facilitate to locate parallel lines. In addition to this, teachers now can help children in finding more parallel lines by drawing figures of different lines on the black board



Activities number in Learning sheets: 7.1

Activity 02: Solving other problems by observing worked examples.

Aim: Using worked examples, solve other problems and writes parallel lines in symbolic form.

Activity details: In this activity, a sample problem is given. The method of writing parallel lines in symbolic form is explained by showing more problems on the black board. It helps the children to gain the ability of writing parallel lines in symbolic form.

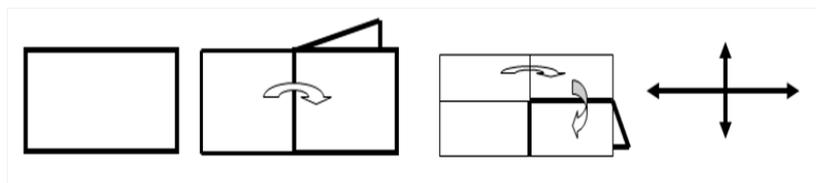
1		<p>In this figure AB is parallel to CD or CD is parallel to AB</p> <p>If written in symbolic form $AB \parallel CD$ or $CD \parallel AB$</p>
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Activities number in Learning sheets: 7.2

Activity 03: Understanding the meaning of perpendicular lines.

Aim: Children learn the meaning of perpendicular lines through an activity.

Activity details: In this activity, teachers create the concept of perpendicular lines by taking a rectangular white sheet and folding it at different points.



In addition to this, if the teachers show the visualisations in the daily life where we come across with the formation of perpendicular lines, then the children will easily understand. For example the English letters with perpendicular lines are



Activities number in Learning sheets: 7.3

Activity 04: By observing model problems other problems are solved.

Aim: With the help of model sums, by solving the remaining problems writing the perpendicular lines in symbolic form.

Activity details: In this activity, a sample problem is given. The method of writing perpendicular lines in symbolic form is explained by showing more problems on the black board. It helps the children to gain the ability of writing perpendicular lines in symbolic form.

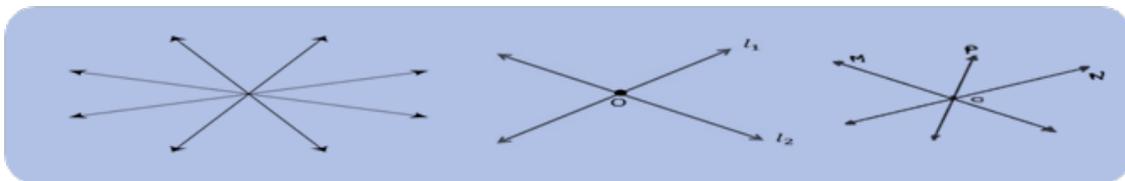
1		<p>In this diagram line MN is perpendicular to the line AB at point M. $MN \perp AB$</p>
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Activities number in Learning sheets: 7.4

Activity 05: Learning about intersecting lines.

Objective: Children learn the meaning of intersecting lines through an activity.

Activity details: In this activity, teachers create the concept of intersecting lines by drawing two, three or more lines passing through a common point on a black board.



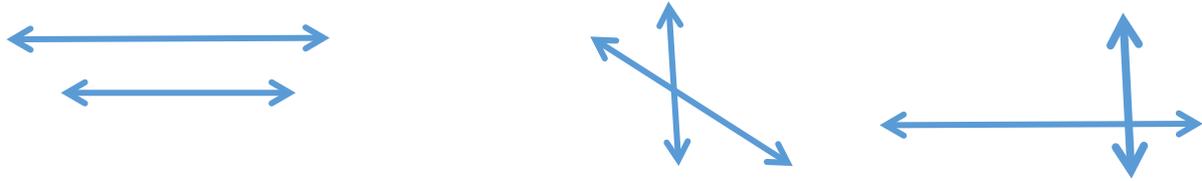
Similarly, in our surroundings, intersecting lines are visualized and learning is made concrete. Also the parallel lines, perpendicular lines and intersecting lines are identified and classified by observing given figures in this activity. In addition to this Teachers can also show the parallel lines, perpendicular lines and intersecting lines in daily life situation.

Activities number in Learning sheets: 7.5

Activity 06: Drawing rough figures.

Aim: Drawing rough diagrams of parallel lines, perpendicular lines and intersecting lines.

Activity details: In this activity facilitate the children in drawing the rough figures of parallel lines, perpendicular lines and intersecting lines. Improve the skills of drawing the rough figures.

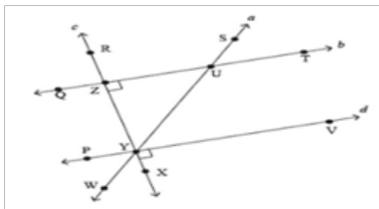


Activities number in Learning sheets: 7.6

Activity 07: Answering questions by observing the figure.

Aim: Answering the questions by observing parallel lines, perpendicular lines and intersecting lines in the given figure.

Activity details: In this activity, children are given a picture of parallel lines, perpendicular lines and intersecting lines. Facilitate the students in answering the questions on pair of lines given in the work sheet. In addition to this, other problems are given to improve learning in children.



Activities number in Learning sheets: 7.7

Lessons related to text book: - 5 Understanding Elementary Shapes.

Evaluation stages:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-3
Identifies parallel lines, perpendicular lines and intersecting lines.	Identifies only parallel lines from given parallel lines, perpendicular lines and intersecting lines.	Identifies only parallel lines and perpendicular lines from given parallel lines, perpendicular lines and intersecting lines.	Identifying and naming parallel lines, perpendicular lines and intersecting lines.	Naming parallel lines and perpendicular lines in symbolic form. And identifies parallel lines, perpendicular lines and intersecting lines in everyday life.

Learning Outcome - 8

Learning outcome -8: Classify the angles according to their measure and estimate the measure of angles with respect to 45° , 90° , and 180° .

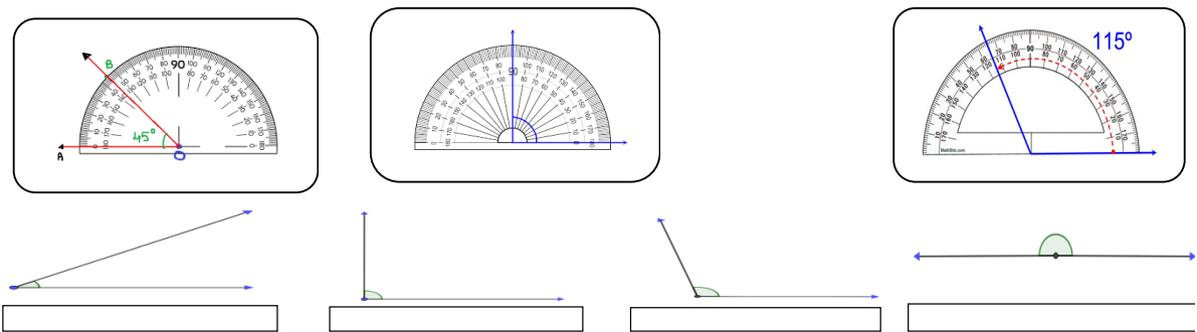
Scope and Importance of learning outcome: On completion of this learning outcome, student should be able to – (i) identify and classify the Acute angle, Right angle, Obtuse angle and Straight angle. (ii) estimate the measure of the angles by observing the figures of 45° , 90° , and 180° angles. Student should be given opportunity to identify and classify the angles in the real life situation surrounding us.

Before teaching the types of angles, we should ascertain that the students have the better knowledge about the basic concepts like point, line, line segment, angle, ray, and curved line. If, any lack of knowledge is noted, then we have to provide some more learning material to strengthen their basic concepts. Using of the geometrical instruments mentioned below eases to learn the concept of acute angle, right angle, obtuse angle and straight angle.

Activity 01: Measuring the angle by Protractor.

Objective: Measure the different types of angles given in the figures, using the protractor.

Activity details: Teacher demonstrates the method of using the protractor to measure the angles. Then, Students are instructed to measure the angles given in the work book. Then teacher draws the figures of different types of angles on the black board. He gives his protractor to each student to measure those angles and ascertains their learning.



Activity number in the Learning sheet: 8.1

Activity02: Defining the types of angles.

Objective: Defining the different types of angles by doing activities.

Activity details: With the help of previous activity, teacher states the names of the angles which measure - less than 90 degree, equal to 90 degree, more than 90 degree and less than 180 degree and angle equal to 180 degree.



Activity number in the Learning sheet: 8.2

Activity03: Classifying the types of angles.

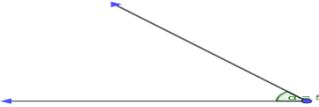
Objective: Angles are grouped as acute, right angle, obtuse angle and straight angle by measuring different angles.

Activity details: In activity 8.3 the measures of different angles are given. Students are asked to classify them as acute angle, right angle, obtuse angle and straight angle. In activity 8.5 the figures of different angles are given. They are also to be classified as acute, right, obtuse and straight angle. Learning can be still improved by drawing some more figures on the black board and making the children to classify them.

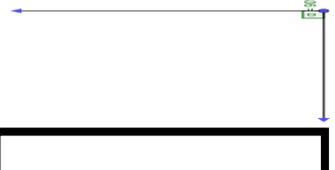
39°
90°
128°
180°
142°
45°



$\alpha = 10^\circ$



$\alpha = 50^\circ$



90°

Activity number in the Learning sheet: 8.3 and 8.5

Activity 04: Who belongs to which group.

Aim: Classifies as acute angle, right angle, obtuse angle and straight angle.

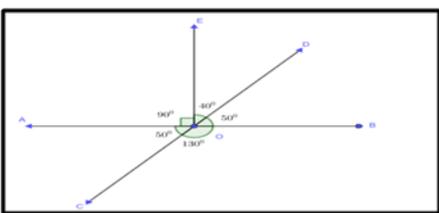
Activity details: In the work sheet the figures of acute angle, right angle, obtuse angle and straight angle are given. In the figure the models of the angles are given. With the help of working sheets they are identified and classified as the group of acute angles, right angles, obtuse angle and straight angle by doing this teacher ascertains the learning.

Activity number in the Learning sheet: 8.4

Activity 05: Writing the type of angle by observing the given figure.

Aim: Writing the measure and type of angle by observing the figures.

Activity details: Here is a figure containing different types of angles. Observing the figure student is made to write the type of angle its measure in the table.

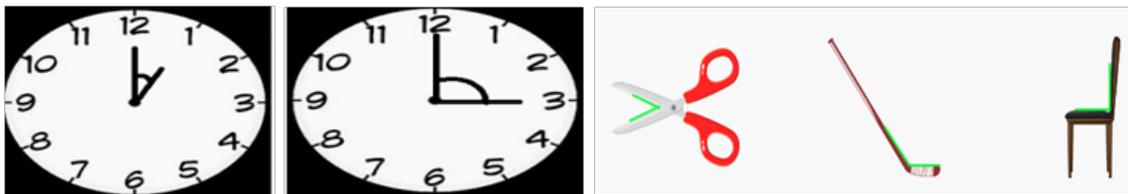
	Angle	Measure	Type of angle
	$\angle AOC$		
	$\angle COB$		

Activity number in the Learningsheet: 8.6

Activity06: Identifying the types of angles formed between the needles of the Clock.

Aim: Identifying the different types of angles formed between the needles of the clock in real life situations.

Activity details: In this activity the real life instances are taken to give examples for acute angle, right angle, obtuse angle and straight angle. The concept of types of angles can be ascertained by making the students to identify the various types of angles formed between the hands of the clock.



Activity number in the Learning sheet: 8.7

Chapter in the Text book:- Understanding the primary shapes.

Stages of evaluation:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
classifies the Angles according to their measurement. Mention and estimates the angles 45° , 90° , and 180°	Classifies the angles as acute angle, right angle, obtuse angle and straight angle.	Names the angles. Classifies as acute angle, right angle, obtuse angle and straight angle	Name the angles as acute angle, right angle, obtuse angle and straight angle estimates their measure.	Identifies the acute angle, right angle, obtuse angle and straight angle in daily life situation.

Learning Outcome - 9

Learning Outcome: Creates a two-dimensional symmetry with one or more linear symmetry.

Scope & importance of Learning outcome: Children will realize the importance of symmetry in their daily life on completion of this learning outcome. The concept of symmetry is a part and parcel of our daily life. The Symmetry is the root cause of the architectural marvels of beautiful buildings. With the idea of symmetry, children will appreciate the beauty of nature. They will know that the symmetry is closely related to the reflection. Beyond the book, they identify the symmetrical images in nature create symmetrical shapes.

Activity 01: Identifying symmetrical figures known to children in everyday life.

Objective: Children understand the symmetry by observing the symmetrical images/shapes seen in their daily life.

Activity details: Teachers will make children learn the concept of Symmetry by giving examples of different shapes that children see in everyday life. It is necessary to raise awareness among students that, symmetry is the cause for awe-inspiring buildings, sarees, colourful shirts etc., so they look beautiful. Thereby creating the aesthetic sense among the children.

Activities number in Learning sheets: 9.1

Activity 02: Symmetrical & Asymmetrical Shapes.

Aim: Understand Symmetrical & Asymmetrical Shapes.

Activity details: Teachers should give the children some figures/shapes. Children observe each figure/shape and examine their symmetry and classify them as Symmetrical shapes and Asymmetrical shapes. By giving examples of our surrounding objects along with learning sheets, concept of symmetry must be taught. With the help of a mirror, by observing the Reflection, concept of symmetry may be strengthened.

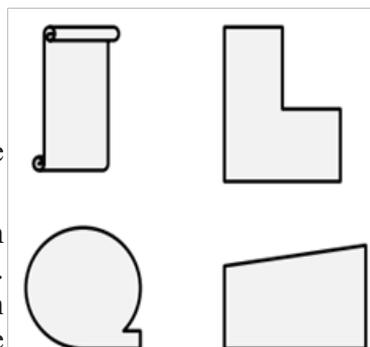


Activities number in Learning sheets: 9.2

Activity 03: Draw axis for symmetrical shapes.

Aim: By understanding symmetrical axis, drawing it observe the symmetry of an object.

Activity: Teachers should give some shapes to the children. Children observe each image/shape carefully and verify for symmetry. Teacher facilitates, to find given shapes can have one or more than one line of symmetry or no line of symmetry and help them to write the line of symmetry.

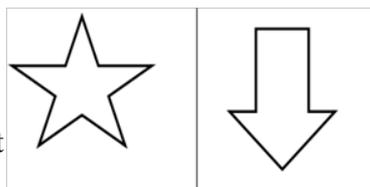


Activities number in Learning sheets: 9.3, 9.5, 9.7

Activity 04: Constructing symmetrical shapes.

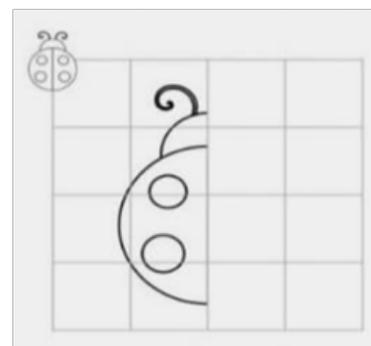
Aim: Students themselves complete, arrange and construct symmetrical shapes.

Activity details: An opportunity to be provided for the children to use many completion figures, allowing them to construct their own symmetrical shapes using different materials such as cardboard sheets, paper sheets. Encouraging to construct various symmetrical designs through soot-threads.



Activities number in Learning sheets: 9.4, 9.6, 9.8, 9.9, 9.10

Lesson related to text book: - 13 Symmetry



Evaluation stages:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Creates a two-dimensional symmetry with one or more linear symmetry.	Identifies symmetrical shapes in our surroundings.	Classifies shapes into symmetrical and Asymmetrical shapes.	Draws axes for symmetrical shapes.	Students construct symmetrical shapes on their own.

Learning outcome-10

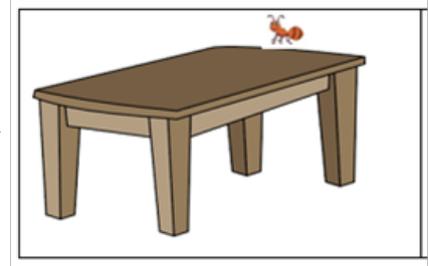
Learning out come-10: Find the area and perimeter of Rectangle shaped objects in our surroundings.

Scope and importance of learning outcome: The things around us are 3 dimensional but we represent them in 2 dimension. To understand the object with inside area occupied by the line/boundary. We need to understand the properties of figures with 2 dimension their area sides boundary in different aspects. Defining the relation between area and its perimeter.

Activity01: Finding the perimeter of different objects by informal ways.

Aim: Students find the perimeter of different objects that they come across their daily life by many in-formal methods.

Activity details: Different situations are provided to the students to measure the perimeter of different objects, by different methods known to them like measuring the lengths of sides of their book and adding all the measurements to find perimeter. The thread is also used to find the perimeter and at the end the length of the thread is itself a perimeter.



Activity number in the Learning sheet: 10.1, 10.2, 10.3, 10.4, 10.5, 10.6

length

breadth

breadth

length

In a rectangle _____ sides

Perimeter of rectangle

= _____ + _____ + _____ + _____

Perimeter of rectangle = Length + breadth + length + breadth

Perimeter of rectangle

= 2 _____ + 2 _____

= 2l + 2b

Activity02: Finds the perimeter of a square and rectangle using the formula.

Objective: Students find the perimeter of square and rectangle by formal method.

Activity details: Students are allowed to find the perimeter of the square and rectangle using formula.

Activity number in the Learningsheet: 10.7, 10.8

Activity 03: Drawing the different shapes on the graph and comparing.

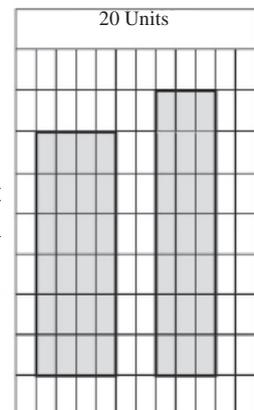
Aim: Students draw the shapes according to the perimeter and compare them.

Activity details: Facilitate the students to draw various shapes with different perimeters on the graph sheets. Facilitate to compare the different shapes and their perimeter. This strengthens the concept of perimeter.

Activity number in the Learning sheet: 10.9

Activity04: Finding the area of objects in in-formal method.

Objective: Students find the area of different shapes by in-formal methods.



Activity details: Students are given opportunity to find the areas of different shapes by informal methods. By using graph sheets. This strengthens the concept of area.

Activity number in the Learning sheet: 10.10, 10.11, 10.20, 10.21

Activity 05: Finds area of square and rectangle using formula.

Aim: Students find the area of square and rectangle by formal method.

Activity details: Students are provided opportunity to find the area of a square and rectangle using the respective formulas, which makes learning ascertained.

Area of Rectangle = Length \times Breadth square units

Area of a Square = Side \times Side square units

Activity number in the Learning sheet: 10.12, 10.13, 10.14, 10.15, 10.16, 10.17

Activity 06: Relation between perimeter and area & its applications.

Aim: Understands the relation between perimeter and area and its applications.

Activity details: Motivate the students to find the perimeter and the area of shapes like Square and Rectangle using the graph sheet. The measures are compared, and the relation between them the area and perimeter is inferred. They solve many problems in this regard that they come across in their daily life.

Activity number in the Learning sheet: 10.18, 10.19

Chapter in the Text book:- 10- Mensuration

Stages of evaluation:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Finds the perimeter of rectangular objects found around us.	Finds the perimeter and area of shapes/ objects by unconventional methods	Finds the perimeter and area of shapes/ objects by conventional methods	Solves the problem by knowing the relation between the perimeter and area of shapes	Develops the skill of using the area and perimeter in daily life situations.

Learning Outcome:- 11

Learning Outcome: Analyze the data collected and represent it on a Pictograph and Bar graph.

Scope & importance of Learning outcome: Once children have learnt this learning outcome, answer the data by analyzing them in any scenario. The purpose of this learning is fulfilled by giving statistics of everyday life scenarios rather than simply emphasizing on mere calculation. Representing the given data by Pictograph and Bar graph students solve the problems by self thinking thorough analysis.

Activity 01: Analyze the data of various vegetables by grouping them.

Aim: Collect and analyze the statistics of visualized material.

Activity details: Give the visualized vegetables. Ask them to express in statistical form. Then the students will analyze them. Similarly, by collecting statistics of situations of their daily lives and discussing them makes children's learning more adequate. Similarly, give children a variety of project tasks to help them understand the concept.

Activities number in Learning sheets: 11.1, 11.2, 11.3

Activity 02: Analyze and interpret the data on a pictograph.

Aim: Students analyse the Pictographs and answer the questions.

Activity details: In this activity, children will be able to discuss, analyze and answer any questions related to pet animals, various organisms, daily weather conditions, vehicles used, child mortality and various pictographs of their liking. In addition, by providing some more pictograph for children, they are easy to understand and can be applied to everyday scenarios.

Activities number in Learning sheets: 11.4, 11.5

Activity 03: Consolidate the data regarding any information, represent them by Pictograph and analyze.

Objective: Creates a pictograph for the data.

Activity details: When visualizing a variety of toys, children will collect the data and draw the pictograph representing this data. In addition, by collecting data of toys they have, and other real life information, they represent them by drawing pictograph. Also they answer the related questions. This allows children to easily create a pictograph for any given information. By this way learning becomes fruitful.

Activities number in Learning sheets: 11.6

Activity 04: Analyze and interpret the bar graphs created for everyday situations.

Objective: Analyze the Bargraph.

Activity details: The literacy rate of women in various states is given here. Children will learn by observing this graph and by discussion. Child who has learnt by this way will be able to analyze any given Bargraph. Learning is reinforced by providing many bar graphs representing the information of daily life for analysis.

Activities number in Learning sheets: From 11.7 to 11.14

Lessons in the text book: - 9. Data Handling.

Evaluation Stages:

Learning outcome	Stage-1	Stage-2	Stage-3	Stage-4
Analyzes the data collected and represent it on a Pictograph and analyze Bar graph.	Identifies Pictograph and Bargraph.	Collect and consolidate the data.	Analyzes and discusses pictographs.	Analyzes the data collected in daily life situations and represent them in pictograph and learn to analyze Bargraph.
