

MERUVAMBAYI M U P SCHOOL
TEACHING MANUAL
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Class : v
Subject: Mathematics

UNIT - 2

WHEN LINES JOIN

We have already learnt the ability to draw geometrical shapes by drawing different lines. In this chapter we are going to discuss the situations when lines joins to form an angle, construction of angles using set squares, construction of quadrilateral using set square and discuss its features.

Learning Outcomes

- Students will able to draw geometrical shapes such as rectangle, square ,.....using set squares and explain its features.
- The students can find out the things which are formed by an angle by examine the surroundings
- They can identify the things which are straight up and slanted
- Draw angles using set square and able to solve problems
- They can identify the polygons and name them according to their sides
- Elaborate the idea to draw plan of house

Concept

- There are many things around us going upward – some straight up and other slanted
- Four sided figures are called quadrilaterals. The four corners of rectangle and square are right angled. The opposite sides of rectangle are equal and all sides of squares are equal
- When two lines join to form an angle
- We can draw angles accurately using set square
- By arranging the corners of set squares in different way to form interesting geometrical shapes

Materials

- Ruler , set squares , card board , ICT pictures

Learning Activities

Topic 1 - Straight and slanted

- Showing the pictures of different thing which are straight and slanted on the screen
- What is the peculiarities of these pictures – Discussion
- Students can able to recognize straight and slanted pictures
- Showing the pictures of Pisa Tower in Italy and discuss about the picture
- Collect the pictures of different things which are straight up and slanted

Topic 2 – Polygons

- Showing the pictures of different quadrilateral given in the textbook
- Discussion – How to form this quadrilateral what is the peculiarities of its sides
- Some sides go straight up from the bottom lines and some are slanted
- Complete the table given in the textbook individually (Which line is upright and which line is slant?)
- Introduce polygons
- Draw different polygons and colour it

Topic 3 – Set Squares

- Discussion – How a carpenter cut out a rectangle from a wooden plank
- Carpenters use their set squares to cut out rectangle
- Activity
Using cardboard make a model of set squares
- Introduce the set squares in the geometry box
- Draw a set square in the notebook

Topic 4 – Draw a line straight up from a given line

- Using set square check the left and right lines of a rectangle are straight up from the bottom
- Explain how to draw a line straight up to the given line using set squares
- Introduce corners of set square
- Activity – Using set square draw two line straight up from a given line
- Introduce Geogebra

Topic 5 -

- Complete the activities given in the textbook with the help of teacher
- Giving more examples to practice

Topic 6

- Students are asked to find out the things which are rectangular shape
- Discuss the features of sides and corners of these rectangular shaped thing
- They understand the opposite sides of rectangle are of same length and all angles are right angles
- Draw rectangles using set squares

Topic 7

- Construction of rectangles and squares

Topic 8 - Tilting rectangle

- Drawing rectangles by using the other two corners of set squares (other than square corner)
- Discuss the features of this rectangle (Tilting rectangles)

Topic 9 - Drawing new shapes

- With the help of teacher draw different shapes in notebook by using various corners of a set square
- Draw the given figure in notebook by using only one corner of a set square
- Draw similar figure around a point using other corners of set square

Topic10 - Upright and slanted

- Showing the pictures of different rectangles formed by using various corners of set square
- Students are trying to find out the features of these rectangles
- Students will acquire the knowledge that when two lines meet at a point to make an angle
- Make the paper cuttings of capital English alphabets and discuss the angles formed in each letter
- Drawing the pictures of different things that formed an angle in our day to day life

Topic 11 - Spread an angle

- Making different angles using straw
- Showing the model of two clocks that shows different angles
- Discussion – Are the angle formed in both clocks same?
 - Which has largest angle?
 - Which has smallest angle?
- Students will make different angles by adjusting the needle of the clock

Topic 12 - Joining angles

- Students are asked to draw angles using a corner of a set square
- With the same corner again asked to draw another angle on the top
- Naming the angles
- Introduce the use of symbol ' \angle ' to denote the angle
- Giving more examples to draw more than one angle at the same corner
- Draw the angles given in textbook pg no 30 in their notebook

Topic 13 - Draw plan of house

- Discussion - showing the plan of different houses and discuss the procedure to draw plans
- Practice the children to take appropriate scale to draw the plan of house
- By taking different scale asked to draw the plan