

Teaching Manual

Class: 5

Subject : Mathematics

Unit :- Lines and Circles

Teacher Name :- VAK

Learning Objective :- *To draw attractive geometrical figures with definite dimensions and accuracy using mathematical concepts related to slope of lines.*

DAY		Activities & Processes	Reflections
Day 1	Activity 1	Picture Observation - Steep and Sloped	
		1 Children observe a set of slanted and upright shapes. Discussing teacher with students Which are upright/ vertical? What are the slanted/inclined ones?	
		2 How are inclined and vertical ones distinguished?	
	Activity 2	3 A few different responses and experiences	
		Straight lines - inclined lines	
		2(1) Images of lines drawn on different surfaces	
		The steep and sloping ones will show the children "	
		What are the slanted ones?	
		What are the steepest ones?	
	2(2)	"Let them discover individually. of their discovery	
		Reason will also be asked"	
	2(3)	A few questions will ask in whole class and some in individually ⇒ How to draw a vertical line? ⇒ Which device can be used from the geometry box to draw the vertical lines ? ⇒ What does steep mean? ⇒ How do you draw the line using the setsquare?" ⇒ How to draw a slanted line using setsquare?" ⇒ How do you put the setsquare on the line?	
Day 2		From vertical lines to squares	
	Activity3 3(1)	May pose a problem in the form of a puzzle. "Two vertical lines of equal length are drawn at both ends of a line 8 cm long. What will be the length of the line drawn joining the other ends of these lines? "	

		3(2)	Children should guess and write the length of the line- The reasoning behind the guess should also be written.
		3(3)	"The discovery of the children will understand by looking at the book (not saying it loud.)
		3(4)	Give the children an opportunity to check themselves by drawing a picture
			<i>("There are..... children in my class who cannot use Set Square properly and they need special attention")</i>
		3(5)	Like this 5 cm long line at both ends. The other ends of the perpendicular lines of length 3 cm are joined. ⇒ What shape will it take? ⇒ What are its dimensions?
		3(6)	"Making vertical lines in the TB Have the children read the passage individually."
		3(7)	The method adopted by the children to draw the picture and the method in the text will compare and discuss in general class
	Activity 4	Lines with the same slope	
		4(1)	If lines of same slope and same length are drawn at the ends of a line 5 cm long, what will be the distance between them? Let the children have their say
		4(2)	Now some questions may be asked in general ⇒ How to draw oblique lines? ⇒ How to draw more lines on the same slope? ⇒ How to use set square for this.? ⇒ which corner of the setsquare may use to increasing the slope.?"
		4(3)	After the discussion let the children draw a picture.
			How is the line drawn at both ends with equal slope? <i>(Let's watch while the kids are drawing.)</i>
		4(4)	The children are measuring the opposite sides . Are they equal?
		4(5)	For those who draw unequally will help to find the cause/error that occurred
	Activity 5	Slope inwards :-	
		5(1)	A question may be raised in general:- Draw parallel lines inwards at both ends of a 5cm long line and join it.

Day 3	Activity 6		How many centimetres are the slanted lines? Could it be 5cm more? Will it be less?
			Let the children respond after seeing the picture in their mind ❖ A line with the same inward slope at both ends ⇒ How to draw lines? ⇒ Which instrument in the instrument box
		5(2)	
		5(3)	Will be discussed with the children
			with the help of the set square in the above manner
		5(4)	Let's measure the length by drawing an inward slant
			Discovery may be discussed in general class. ⇒ <i>Are the lengths equal?"</i> ⇒ <i>How much did you get?</i> ⇒ <i>Is the length of the slanted line the same for all?</i> ⇒ <i>Did everyone draw on the same slope?</i> ⇒ <i>Which setsquare was used by each one.?</i> ⇒ <i>Which corner of the set square is used?</i> ⇒ <i>who used the sharpest corner .How long is the slanted line</i> ⇒ <i>Can you draw a slanted line using right angled corner?</i> ⇒ <i>What is the length of the slanted line when 45 degree set square is used?</i>
		5(5)	
	Activity 6	For Math Project :-	
		6(1)	Recalling the experience of drawing an inward slant Let's pose a learning problem ⇒ How many triangles can be drawn by joining and covering the oblique lines of the same line using different corners of the set squares? ⇒ Is there any relationship between the measurement of slope and the length of the slanted line? what relationship?
		6(2)	Opportunity for children to visualize the picture and guess the answer
		6(3)	How to find out? - Let them think
		6(4)	Opportunity to state means of discovery <ul style="list-style-type: none"> Let's draw the picture on a different slope Let's measure the length of the line at each slope Let's see what changes as the slope increases, so does the length of the lin

		6(5)	Let the children individually draw pictures and Measure them
			(" Whom shall I help directly. ! ")
		6(6)	Findings may be tabulated on board.
		6(7)	And for a few about the work they did An opportunity should also be given to report the findings
Day 3	Activity7	Draw a picture of four sided figures :- <i>(assessment as the learning)</i>	
		7(1)	Let the children draw double sided pictures of the pictures in TB?
		7(2)	How to assess the pictures ? Discuss with children. listing the indicators <ul style="list-style-type: none"> Each slope in TB Figs <ul style="list-style-type: none"> ➤ Which set of squares is drawn using which corner? ➤ Did the children draw the picture realizing this? ➤ Is the slope drawn using the same set of square corners? ➤ Are the lengths of the sides of the drawn pictures correct? ➤ Is the constructed slope accurate? ➤ When the length of the side of the figure is doubled, does the slope change? Why?
		7(3)	"Each one valued the image of his friend and write a comment in the note book
		7(4)	Opportunity to change the drawing by considering the suggestions of friends
			<i>I can find and help those who need my special help.</i>
DAY 4	Activity8	The picture of the square box. <i>(assessment of the learning)</i>	
		8(1)	Let us observe the picture of the square box in the TB
		8(2)	How to draw a square box of length 6 cm? The picture in TB will be observed and discussed. <ul style="list-style-type: none"> ⇒ What things should be taken care of? ⇒ Which instruments in the instrument box can be used ? ⇒ Which shape will be drawn first? ⇒ How to draw the length, width and height of the box? ⇒ How to specify the width of the box? ⇒ Which corner will be used of the set square to draw the oblique line?"
		8(3)	Opportunity for children to draw individually.
		8(4)	At this level assessment of children can be done.

			<ul style="list-style-type: none"> ✚ Who drew the attractive square box by drawing straight lines and equally inclined lines with precision and measure? ✚ Who drew the attractive square box by accurately drawing vertical lines and equally sloping lines? ✚ Who drew the square box Using only vertical lines ✚ Who drew Squares with fixed sides with precision or in a certain measure ✚ Who else drew the square without accuracy ? 	
		8(5)	Let's support."	
		8(6)	"Who will be those who are still far below the goal? Special support can be given to them.."	