

## LESSON PLAN 4

**CLASS : 6** TEACHER'S NAME

NAME OF THE UNIT	SUB-TOPICS	NO OF PERIODS REQUIRED			Time line for teaching	
		Teaching	Practice	TOTAL	From	To
<b>BASIC GEOMETRICAL IDEAS</b>	4.1 INTRODUCTION	<b>2</b>	<b>4</b>	<b>6</b>		
	4.2 POINTS					
	4.3 A LINE SEGMENT					
	4.4 A LINE					
	4.5 INTERSECTING LINES	<b>2</b>	<b>4</b>	<b>6</b>		
	4.6 PARALLEL LINES					
	4.7 RAY					
	4.8 CURVES	<b>3</b>	<b>5</b>	<b>8</b>		
	4.9 POLYGONS					
	4.10 ANGLES					
<b>TOTAL</b>	<b>7</b>	<b>13</b>	<b>20</b>			
	<b>KEY CONEPTS</b>	<b>KEY VOCABULARY</b>				
<b>PRE-REQUISITES</b>	Every Pupil is expected to have basic knowledge in # different geometric shaped objects like edge of a book, tip of a pen etc., # English alphabet # usage of different Mathematical instruments with finger dexterity # nomenclature of different objects of mathematical instrument box	# Point, tip, compass, divider # Line, Line Segment, end, edge # Ray, end points # Intersecting lines, point of intersection # Parallel lines, equidistant # Angles, measure, vertex, arms # Curve, Simple curve, Open curve, closed curve # sides, vertices, diagonals			# adjacent # common point # direction # Opposite # Interior, region # boundary # Exterior # Polygon	

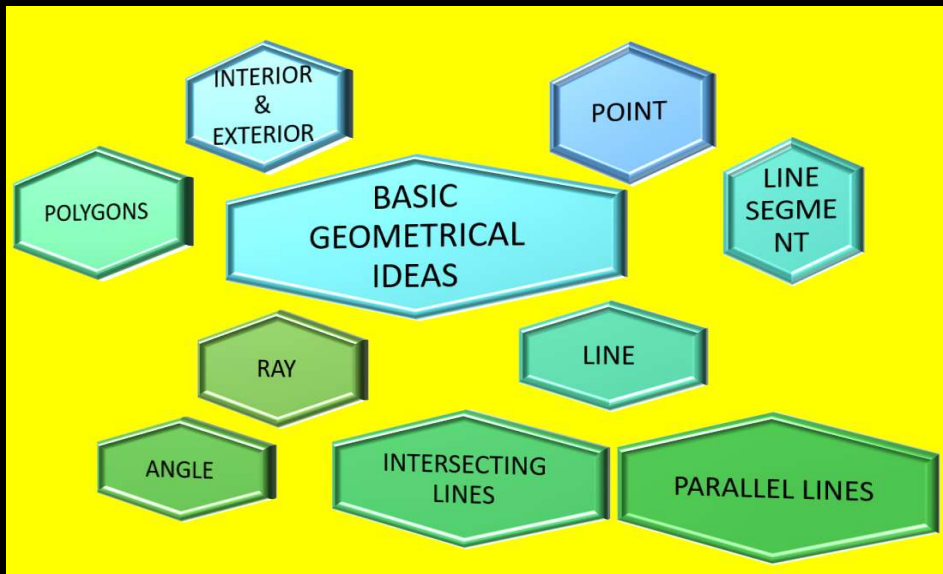
## Learning Outcomes

After Completion of this lesson every student will be able to

- # identify the basic geometrical figures and shapes like line, line segment, point, ray in real life objects
- # draw line segment, line, ray and can name them
- # recognize intersecting lines, parallel lines, angles, Polygons in real life objects
- # name the vertices, sides, angles of polygons
- # define different basic geometrical shapes and recognize interior, exterior, boundary regions of any polygon or angle
- # distinguish between Simple curve & Complex curve, Open Curve & Closed Curve.
- # appreciates the importance of all these basic geometrical shapes in real life situations

## Teaching Learning Process

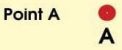
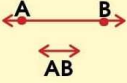
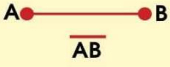
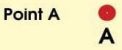
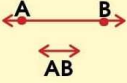
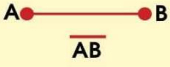
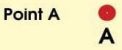
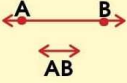
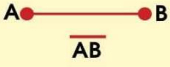
### MIND MAPPING

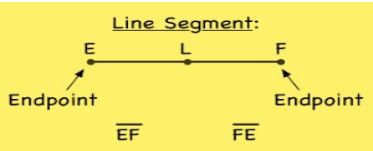
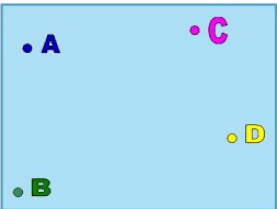


### Experience & Reflection

# Pupils will recollect their knowledge on basic geometrical shaped objects like edge of a book, tip of a pencil, shape of a field, black board etc., and utilize the knowledge in exploring different basic geometrical shapes

# Students will experience the Basic geometrical shapes in real life situations.

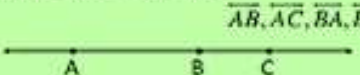
TEACHING PERIOD : 1,2		INTRODUCTION, POINTS, A LINE SEGMENT, A LINE									
CONCEPTS/STEPS	TEACHER ACTIVITY ( I DO)	GROUP ACTIVITY ( WE DO)	INDIVIDUAL ACTIVITY ( YOU DO )								
KEY WORDS & PRE REQUISITES	Brain storming session involving children with pre-requisites vocabulary and concepts related to previous knowledge. Introduction of new vocabulary and key words associated with the concept # Point # Tip # Compass # Divider # Line # Line Segment # end Points # Edge	* Students read the pre-requisites and answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books								
MIND MAPPING	Teacher writes the key word " BASIC GEOMETRICAL IDEAS" on the black board and will elicit its other related words through questioning and will draw pupils' attention towards key concepts in the lesson	Hetrogeneous groups are created. One group will read the words and other will explain the meaning	Pupils individually read the keywords associated with knowing our numbers								
CONCEPTUAL UNDERSTANDING	Teacher introduces the concepts of a point, line, line segment by focussing pupils' attention towards various real life objects and later by conducting an activity in which pupils will be directed to put a dot by using different objects like tip of a pen, tip of a compass, tip of a pencil, tip of needle. Who ever puts the most tiny (almost invisible) dot will be the winner. Here teacher provides an idea of a point as an almost invisible tiny dot and tells that Every Point is named after an English capital alphabet Later teacher conducts an another activity by putting two points on the black board. Here teacher invites pupil to the BB and asks to find the shortest distance between those two points. After identifying the shortest distance, teacher specifies that shortest path between two points is nothing but a line segment and will be named after with the two endpoints say Later teacher introduces the concept of a line by asking children to imagine what could be the shape if they extend the line segment in either ways un endingly. At this juncture teacher gives a detailed discription about how a line is named with any two points on it, and a line segment is named after its end points only. Finally teacher clarifies each minute point about these 3 basic geometrical shapes.	Whole class pariticipates in the activity and ascertains learning of the concept of a point, line segment and a line	every child learns the concept through the learning activity.								
LEARNING ACTIVITY		<table border="1"> <thead> <tr> <th>Definition</th> <th>Example with Symbol</th> </tr> </thead> <tbody> <tr> <td><b>Point:</b> A point is an exact location or position with no size.</td> <td>Point A </td> </tr> <tr> <td><b>Line:</b> A Line is a straight path that extends in opposite directions. Line doesn't have width as well as definite ends in both directions.</td> <td></td> </tr> <tr> <td><b>Line Segment</b> is part of a line with two endpoints, i.e a beginning and an ending point.</td> <td></td> </tr> </tbody> </table>		Definition	Example with Symbol	<b>Point:</b> A point is an exact location or position with no size.	Point A 	<b>Line:</b> A Line is a straight path that extends in opposite directions. Line doesn't have width as well as definite ends in both directions.		<b>Line Segment</b> is part of a line with two endpoints, i.e a beginning and an ending point.	
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SUMMARY	Techer writes the summary of the concept and definitions and asks children to read write and note	pupils will note down and read in groups	every individual reads the summary and notes it down								
ASSESSMENT	Teacher gives some questions under Try these section an asks children to solve	every group will do the sums by discussion among each other	every individual solves the sums on their own								

PRACTICE PERIOD: 1 to 4	INTRODUCTION, POINTS, A LINE SEGMENT, A LINE		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (YOU DO)
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Point # Tip # Compass # Divider # Line # Line Segment # end Points # Edge	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher puts some points, draws some line segments and lines and names them. Now teacher asks children to name some more by watching similar lines    	Each group will read the similar lines and will frame some more by discussion	Every Individual names some more using similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to spell, read, note down and practice.	pupils will note down and read the numbers in groups	every individual spells and reads the summary and notes it down
WRITING/ EDITING	Teacher gives some sums related try these section and asks children to write them and checks the writings of children	One group will check the writings of the other and vice versa	Slow learners are focused and teacher will ascertain that every individual knows basic geometric shapes and their naming.

**NAMING A LINE**

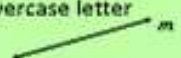
Line is named using any two points on a line or with a lower case letter.

a) Two points on a line:

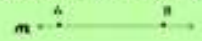


*AB, AC, BA, BC, etc...*

b) Single lowercase letter

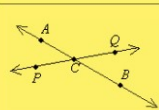
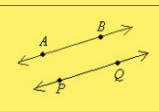
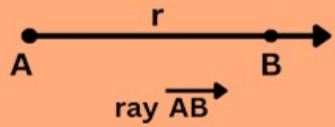


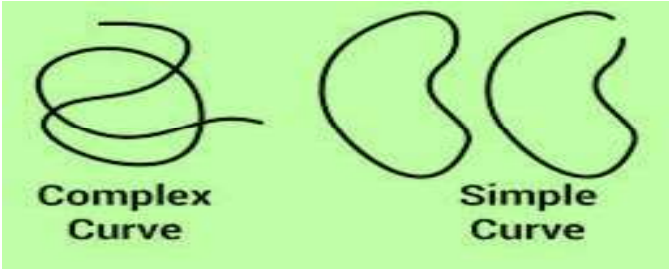
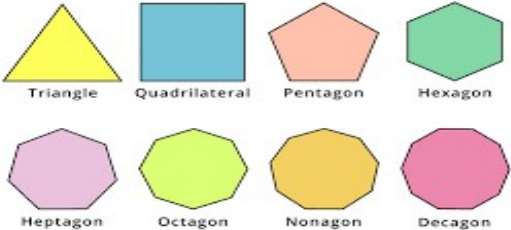
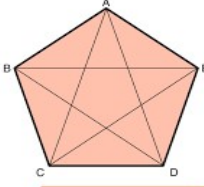
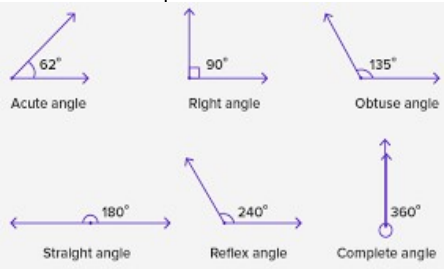
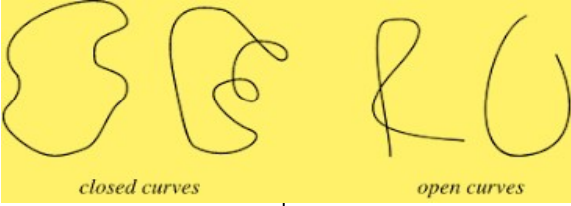
Example: name the line below.

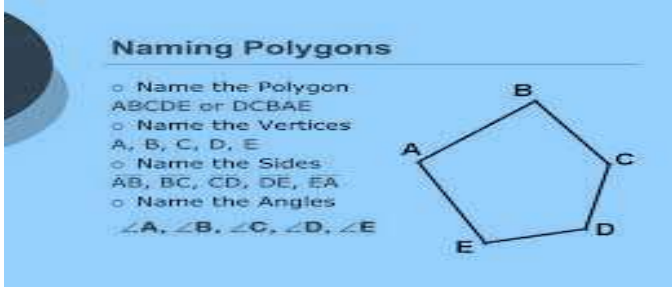


*Ans. Line may be AB or BA*

TEACHING PERIOD : 3,4		INTERSECTING LINES, PARALLEL LINES, RAY	
CONCEPTS/STEPS	TEACHER ACTIVITY ( I DO )	GROUP ACTIVITY ( WE DO )	INDIVIDUAL ACTIVITY ( YOU DO )
KEY WORDS	Brain storming session involving children with key words # Intersecting lines # parallel lines # Ray # Starting Point # Point of intersection # Equidistant	* Students read the keywords answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
CONCEPTUAL UNDERSTANDING	Teacher illustrates the concept of intersecting lines, parallel lines and a ray by giving some real life illustrations like adjacent edges of a table represent intersecting lines, any two cross bars of a window represent parallel lines and the beam of a torch, or sunlight represent rays. Here teacher explains the basic terms like point of intersection, equidistant lines etc., and related symbols.	Each group will understand the concept of intersecting lines, parallel lines and a ray by discussion among themselves	every child learns the concept through the learning activity.
LEARNING ACTIVITY	<div data-bbox="548 732 984 867" data-label="Diagram"> <p>Ray: A ray is a part of a line with one endpoint (i.e. starting point) and continues forever in the other direction.</p> </div> <div data-bbox="579 907 961 1141" data-label="Image"> </div> <div data-bbox="993 907 1392 1141" data-label="Image"> </div>	<div data-bbox="1285 667 1665 862" data-label="Diagram"> <p>Intersecting lines</p> </div> <div data-bbox="1486 873 1833 1198" data-label="Diagram"> <p>Parallel Lines</p> </div>	
SUMMARY	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupils will note down and read the summary in groups	Every individual reads the summary and notes it down and adopts the procedure
ASSESSMENT	Teacher gives some questions from Try These sections as well as sums of exercise 4.1 and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own

PRACTICE PERIODS: 5 to 8	INTERSECTING LINES, PARALLEL LINES, RAY		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY ( YOU DO )
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Intersecting lines # parallel lines # Ray # Starting Point # Point of intersection # Equidistant	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	Every child comes to the board and reads the key words and notes them down in their note books
SIMILAR LINES READING	Teacher gives some examples of Parallel lines, Intersecting lines and a ray and asks children to give some more  <div data-bbox="548 704 1224 1013" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>Pairs of Lines in a Plane</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Intersecting Lines – Lines that cross each other. <math>\overline{AB}</math> intersects <math>\overline{PQ}</math> at <math>C</math></p> </div> <div style="text-align: center;">  <p>Parallel Lines – Lines that do not touch. They are always the same distance apart. <math>\overline{AB} \parallel \overline{PQ}</math></p> </div> </div> </div>	Each group will read the similar lines and will frame some more by discussion  <div data-bbox="1339 769 1755 979" style="border: 1px solid black; padding: 5px; background-color: #f4a460;"> <p style="text-align: center;">   <b>Naming a Ray</b> </p> </div>	Every Individual will do a few more by watching similar lines
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and definitions and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that every child is able to understand different
WRITING/ EDITING	Teacher gives some questions from Exercise 4.1 and asks children to solve those sums and teacher checks the writings of children	One group will check the writings of the other and vice versa	lines and a ray in successive upcoming practice sessions

TEACHING PERIOD : 5,6,7	CURVES, POLYGONS, ANGLES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (I CAN DO)
KEY WORDS	Brain storming session involving children with key words # Curve # Simple Curve # Open curve # Closed curve # Region # Interior # Exterior # Adjacent # Opposite # Polygon # Border # Angle # Arms # Measure # Vertices # Vertex # Diagonals	* Students read the keywords and answer the questions to the teacher (whole class activity)	Every Pupil will read and write the key words in their note books
CONCEPTUAL UNDERSTANDING	Teacher demonstrates the concept of Curve, Simple Curve, Open Curve, Closed Curve, Polygons, Angles by some specific pictorial illustrations and describes the concept and explains different key terms involved in these concepts and their nomenclature.	Each group will learn about different types of curves, Polygons and Angles through discussion	every child learns the concept through the learning activity.
LEARNING ACTIVITY	 <p><b>Complex Curve</b>      <b>Simple Curve</b></p> <p><b>Polygons</b></p>  <p>Triangle    Quadrilateral    Pentagon    Hexagon Heptagon    Octagon    Nonagon    Decagon</p> <p><b>Diagonals of a Polygon</b></p>  <p><b>Formula:</b> Number of diagonals = <math>\frac{n(n-3)}{2}</math> here, n = number of sides In <math>\square ABCDE</math>, n = 5</p> <p><b>Angles</b></p>  <p>Acute angle    Right angle    Obtuse angle Straight angle    Reflex angle    Complete angle</p>	 <p><i>closed curves</i>      <i>open curves</i></p>	
SUMMARY	Teacher writes the key words and nomenclature of different parts of an angle, polygon, simple, complex, open and closed curves and asks children to note down the summary and adopt	Pupils will note down and read the summary in groups	Every individual reads the summary and notes it down and adopts the procedure
ASSESSMENT	Teacher gives some questions from exercise 4.2 and asks children to solve those sums	Every group will do the sums by discussion among each other	Every individual solves the sums on their own

PRACTICE PERIODS: 9 to 13		CURVES, POLYGONS, ANGLES		
CONCEPTS/STEPS	TEACHER ACTIVITY (I DO)	GROUP ACTIVITY (WE DO)	INDIVIDUAL ACTIVITY (I DO)	
KEY WORDS READING	Teacher writes the key words from previous class's teaching period and asks children to read and write them in note books # Curve # Simple Curve # Open curve # Closed curve # Region # Interior # Exterior # Adjacent # Opposite # Polygon # Border # Angle # Arms # Measure # Vertices # Vertex # Diagonals	Whole class activity : one child comes to the board and reads the key words loudly and the remaining class follows.	Every child comes to the board and reads the key words and notes them down in their note books	
SIMILAR LINES READING	Teacher will name the sides and vertices of a polygon and asks children to name some more parts of different geometrical shapes by watching the similar lines 	Each group will read the similar lines and will frame some more by discussion	Every Individual will do operations on a few more whole numbers	
SUMMARY/ SYNOPSIS	Teacher once again writes important key words and important summary of the concept learnt and asks children to note down and adopt.	Pupil groups will read and adopt the procedure	Teacher focuses on every individual so that each one understands and utilizes the concepts in successive upcoming practice sessions	
WRITING/ EDITING	Teacher gives some questions from Exercise 4.2 and asks children to solve those sums and teacher checks the writings of children	One group will check the writings of the other and vice versa		