INDEX

LESSON PLAN-1

Preliminary Information:

Registered number: ; Subject: Mathematics ; class: 9th

Unit: I TOPIC: Lines and Angles Time: 45 mints ; Date: 01.04.2024

Teaching learning points: Name of the observer: P. Prasanti.

1] Introduction to the topic "Lines and Angles".

2] Examples of the concept like example of linear pair from daily life.

3] observation of some objects around us.

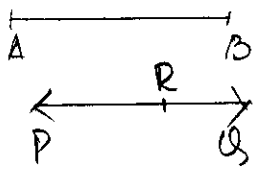
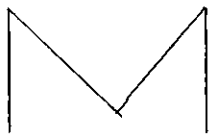
Academic Standards:

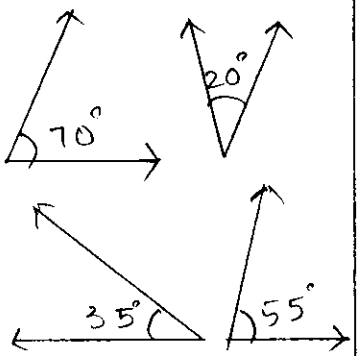
1. Problem solving: Students will be able to solve mathematical Problems related to angles.
2. Reasoning proof: Applies the properties of lines and angles in solving problems
3. Communications: Understands the importance of Geometry in daily life.
4. Connection: Recalls and recognizes basic terms of geometry
5. Visualisation and Representation: Develops drawing and accuracy skills; develops accuracy in using geometrical instruments.

6] Teaching learning material:

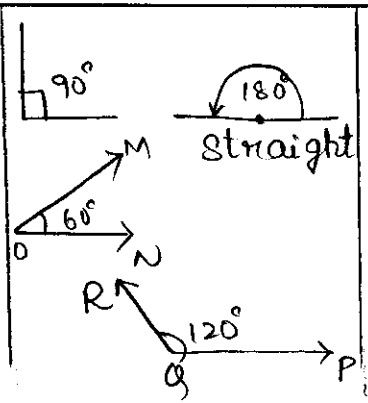
1] Charts presenting definition of "Lines and angles"

2] Board, chalk, Duster, maths textbook, ruler, compass, protractor
Models of different charts with the application of the Properties of lines and angles.

Content Analysis	Teaching learning Activities	Blackboard work	Teaching Learning material
Greetings Brain Storming	Good morning children! In order to learn this lesson, the students should have knowledge in basics of geometry. what is this? "A line" what is this? "A line segment" How an angle is formed! How many angles are made by this figure? "three angles" The angles made are acute or obtuse! acute. 50° and 40° together make right angle. Similarly 60° and 30°	G  	

Declaration: Relative of the topic : Conceptual understanding 1. Reading 2. Whole class Activity 3. Connection: 4. Visualisations and representation	Today let us define the relative angles and more interesting things about angles and lines. our today topic is " Lines and Angles" " We can make many pairs of angles which make the right angle (90°). Here 75°, 20° and 35°, 55° form complementary angles" *Children! open your mathematics Text-book, turn page and read the topic. *children! Tell the key words and what is to be observed. * children observe the different figures and their measures of various shapes and models. * children read the topic carefully and familiar with the concept of complementary	"Lines and Angles"  If two parallel lines are cut by a transversal ↓ corresponding angles are equal.	Text book/ Handouts

angles, lines and angles
understood six types of angles depending on their size and degrees
* Right Angle, Straight Angle, Acute angle, obtuse angle, Reflex and full angle

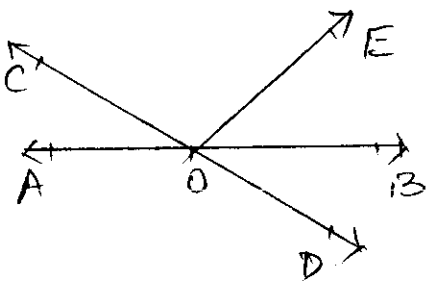


4. Generalisation and Summerisation:
* Till now we have learned the concept of "Lines and Angles" (Complementary Angles)
* Recall and recollect the previous knowledge.

5. Practice and Recaptulation:
* Define the term linesegment
* State the difference a line and line segment

Home work: *Applies knowledge and skills in doing the homework.

* In the figure, lines AB and CD intersect at O. If ∠AOC + ∠BOE = 70° and ∠BOD = 40°, find ∠BOE and reflex ∠COE.



LESSON PLAN-2

Preliminary Information:

Registered number: ; Subject: Mathematics ; class: 9th

Unit: I ; Topic: Lines and Angles Time: 40 mins ; Date: 02.04.2024

" Name of the observer: P. Prasanti

Teaching learning points:

1] Introduction to the topic "Lines and Angles"

2] Examples of the concept

3] observation with objects and drawing models.

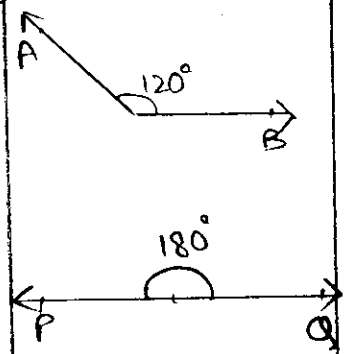
Academic Standards:

1. Problem Solving: Students will be able to solve mathematical Problems related to angles
2. Reasoning proof: Applies the properties of lines and angles in solving problems
3. Communication: understands the importance of Geometry in daily life
4. Connection: Recalls and recognizes basic terms of geometry
5. Visualization and Representation: Develops drawing and accuracy skills; develops accuracy in using geometrical instruments

b] Teaching learning material:

1] charts and models explaining the chapter "Lines and Angles"
Board, chalk, Duster, maths textbook, ruler, compass, protractor,
2] Methods of models of different charts with the application of the properties of lines and angles

Content Analysis	Teaching learning Activities	Black board work	Teaching learning material
Greetings	Good morning students		
Brain Storming	In order to learn this lesson, the students should have knowledge in basics of geometry.		
	what is this? "Line"		Explanation.
	what is this? "A line segment"		
	How an angle is formed?		
	How many angles are made by this figure? "Three angles"	three angles	
	The angles made are acute or obtuse? acute.	acute	
	this is an acute angle of 60°, tell me to make it a right angle? "30"	"30"	

Declaration Relative of the Topic Conceptual understanding 1. Reading 2. whole class Activity 3. Connection	Today let us define the more interesting things about angles and lines and the properties this is an obtuse angle of 120°. To make it a straight angle (180°) how many degrees should be added to this angle ? 60° Good, such pairs of angles which together make a straight angle are called "Supplementary angles" [Draw an angle of 60° more]. Children! open your mathematics textbook, turn page and read the topic. children! Tell the keywords and what is to be observed children observe the different figures and their measures of various shapes and models.	"Lines and Angles" [Supplementary angles"]  	Text book / Handouts

4. Visualization and Representation	children read the topic carefully and familiar with the concept of Supplementary angles, lines and angles. Understood the types of angles like straight line, acute angle, obtuse angle, line & line segment		

Generalisation and Summerisation:

* Till now we have learned the concept of "Lines and Angles" The Student have recall and recollect [Supplementary Angles]
* the previous knowledge of angles and complementary angles

Practice and Recaptulation:

* Define the term Supplementary Angles with more examples
* ∠s and ∠If one angle is 37° find the second angle —?

Home work:

* Find out what will be the measure of supplement of each of the following angles

(i) 100° (ii) 90° (iii) 55° (iv) 125°.

LESSON PLAN-3

Preliminary Information:

Registered number: ; Subject: Mathematics; class: 9th.

TOPIC: Lines and Angles; Time: 40mnts ; Date: 03.04.2024

"Name of the observer: P. Prasanti"

Teaching learning points.

1] Introduced the topic Lines and Angles

2] Have already studied the concept of complementary and Supplementary angles

3] observation with objects and drawing models.

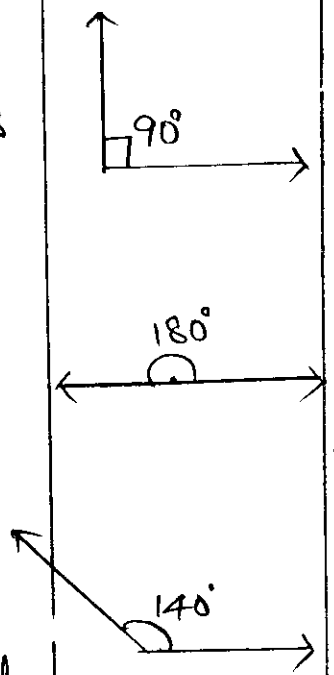
Academic Standards:

1. Problem Solving: Students will be able to solve mathematical problems related to angles
2. Reasoning proof: Applies the properties of complementary and supplementary angles to solve the problems.
3. Communications: Understands the importance of Geometry in daily life, recalls and recognize basic terms
4. connection: Develop positive attitude towards the learning mathematics, solve mathematical problems
5. Visualisation and Representation: Appreciate the usefulness, Power and beauty of mathematics, develops accuracy.

Teaching learning materials

1] charts and models explaining the chapter "Lines and angles".

2] Boards, chalk, Duster, maths textbook, ruler, compass, protractor, models of different charts of lines and angles.

Content Analysis	Teaching learning Activities	Black board	Teaching learning material
Greetings	"Good morning Students"; "Good morning ma'am!"		
Brain Storming	In order to learn this lesson, the students should have knowledge in basics of geometry? Sum is 90° what is complementary angle? 90° How an angle is formed? How many angles are made by this figure? three angles". The angles made are acute or obtuse? acute. How many degrees should be added to this angle 140°? 40°		Text book/ Hand outs

Declaration Relative of the Topic	Today let us define the more interesting things about angles and lines and the properties They have a common arm, The non common arms are on either side of the common arm, isn't it! Such pairs of angles are called "Adjacent angles" [Draw some angles on board] "Are the angles 1 and 2 adjacent? These?" "Yes"	"Lines and Angles" "Yes" teacher	
Conceptual understanding 1. Reading 2. Whole class Activity	children! open your mathematics textbook turn page and observe the examples of "Adjacent angles" children! Tell the keywords and what is to be observed Adjacent angles. children observe the different figures and their measures of	"Adjacent angles"	Text book/ Handouts

Connection Visualisation and representation.	Various shapes and models. children read the topic carefully and familiar with the concept of Adjacent angles → a pair of angles which have :	i) Common vertex * Common arm.	

4. Generalisation and Summerisation :

* Till now we have learned the concept of "Lines and Angles" [adjacent angles]
* the student have recalled and recollect the
* Previous knowledge of angles, complementary, Suplementary angles.

5. Practice and Recaptualtion :

* Prove adjacent angles are Supplementary
* Draw some examples of adjacent angles ?

6. Homework :

Draw paires of angles : Draw pairs of angles as described, Such as complementary angles, Supplementary angles that are not adjacent.

LESSON PLAN - 4

Preliminary Information:

Registered number: ; Subject : Mathematics ; class : 9th

TOPIC : Lines and Angles. , Time : 45 minutes ; Date : 04.04.2024

" Name of the observer : P. Prasanti

Teaching learning points:

1] Introduced the topic Lines and Angles.

2] Have already studied the concept of Complementary, Supplementary and adjacent angles.

3] observation with objects, drawing models, perform and record the angles like adjacent angles.

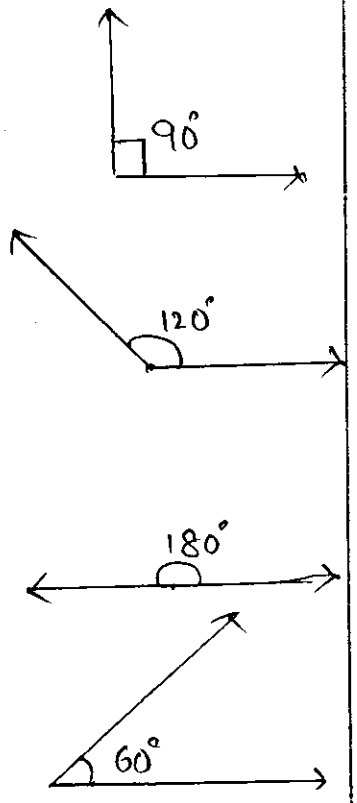
Academic Standards:

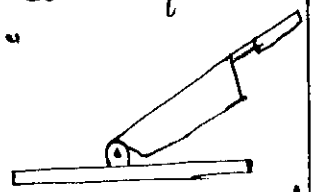
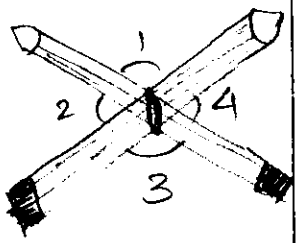
1. Problem Solving: Students will be able to solve mathematical problems related to angles.
2. Reasoning proof: Applies the properties of adjacent angles and lines and angles to solve the problems.
3. Communications: Understands the importance of Geometry in daily life, recalls and recognize basic terms.
4. Connection: Develop positive, attitude towards the learning mathematics, Solve mathematical problems.
5. Visualisation and representation: Appreciate the usefulness, Power and beauty of mathematics, develops accuracy.

Teaching learning materials:

1] charts, and models explaining the chapter "Lines and angles"

2] Boards, chalk, Duster, maths textbook. ruler, compass, protractor, models of different charts on lines and Angles.

Content Analysis	Teaching learning Activities	Black board work.	Teaching learning material
Greetings Brainstorming	"Good morning Students", Good morning In order to learn this lesson, the students should have Knowledge in basics of geometry. what is adjacent angle? have common arm How an angle is formed! How many angles are made by this figure? "three angles" The angles made are acute or obtuse? acute. How many ~~degre~~, can you tell about angles have non-common sides called!		

Declaration Relative of the topic	Today, Let us define the more interesting things about angles lines and the properties Linear pair and Such pair of adjacent angles whose non-common sides are opposite rays are called "Linear pair" Can you tell some examples ? chopping board * If two pencils are tied at middle then four angles are formed. which angle is opposite to ∠2 ? ∠4 which angle is opposite to ∠1 ? ∠3. Such type of angles which are Vertically opposite to each other are called "Vertically opposite angles"	"Lines and Angles" "Linear pair" "  chopping board 	
Conceptual understanding 1. Reading 2. whole class Activity	Children! Open your mathematics textbook, and understand the concept from some more examples. Children! Tell the Keywords and what is to be observed.		Text book/ handouts

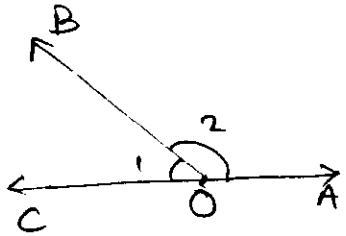
Connection Visualisation and repre-sentation.	children observe different figures and their measures of various models. children read the topic carefully and familiar with the concept of linear pair & vertically opposite angles.		

4. Generalisation and Summerisation:

* Till now we have learned the concept of lines and Angles and further in detail about the complementary angles, Supplementary
* angles, adjacent angles, Linear pair and Vertically opposite angles.

5. Practice and recapitulation:

* See the figure, of linear pair of angles, tell me what will be sum of these angles 1 and 2,

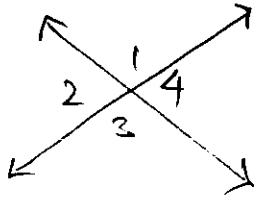


* Can you tell that the angles in a linear Pair are Supplementary

6. Home work:

Now draw a pair of intersecting lines like this and measures the angles formed. what you observe?

Are Vertically opposite angles equal?



LESSON PLAN-5

Preliminary Information:

Registered number: ; Subject: Mathematics ; class: 9th

TOPIC: Number System ; Time: 45 minutes ; Date: 05.04.2024

"Name of the observer: P. Prasanti"

Teaching learning points:

1] Introduce the Concept of number systems, rational and irrational numbers;

2] Representing irrational numbers on number line

3] Concept of real numbers, decimal expansions of real numbers

Academic standards:

1. Problem Solving: Students will be able to understand the mathematical problems and Concept of number system
2. Reasoning proof: To enable students to understand the concept of rational, irrational and real numbers
3. Communications: To enable students to become proficient in operating real numbers.
4. Connection: the students will be able to understand and Recalls and recognizes rational numbers,
5. Visualisation and Representation: irrational numbers and real numbers, laws of exponents.

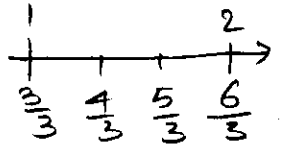
Develops skills in accuracy, speed and calculations.

Teaching learning points/materials:

1] charts, models explaining the chapter "The number system".

2] Board, chalk (coloured), duster, maths textbook. etc.

Content Analysis	Teaching learning Activities	Black board work	Teaching learning
1. Greetings 2. Brainstorming	"Good morning children"! Good morning ram. In order to learn this lesson, the students should have knowledge on number systems- Natural no.s, whole no.s, Integers, Decimals, fractions, and mathematical operations on them. " what are natural numbers"? (recalls) " what are whole numbers" what are Integers what are rational numbers represent rational numbers in number line?	$\{\ldots -3, -2, -1, 0, 1, 2, 3\}$. $Q = \{1/2, 3/4, -10/15, 3/-7\}$	

Declaration Relative of the topic	These are the interesting things going to learn about numbers in this chapter. our topic today is. 1) Is every Integer a rational no's? Yes 2) Express three rational numbers on number line ?. Have you noticed that there are still many rational numbers exist between 1 and 2". we observed that there are many rational numbers between any two The numbers which cannot be written as P/q form. Do such exist ! Yes such numbers are called irrational numbers.	"Number system"  $\sqrt{2}, \sqrt{3}, \sqrt{15}$ π are also Irrational numbers	
Conceptual understanding 1. Reading 2. whole class Activity	children! open your mathematics textbook, and understand the concept from some more examples. children! Tell the keywords and what is to be observed		Text book/ handouts

Connection Visualisation and representation	Appreciates the contributions made by the subject to mankind Appreciates the contributions made by the great mathematicians.		

4. Generalisation and Summerisation:
* We have studied the rational numbers between two given numbers; Locates rational and irrational numbers on number line; expresses irrational numbers in decimal form.

5. Practice and recapitulation:
* Find three different irrational numbers between the rational numbers 5/7 and 9/11.
* Visualise 3.765 on the number line, using successive magnification.

6. Homework:
* What is the product of a rational and an irrational number?
* Find five rational numbers between 3/5 and 4/5.

LESSON PLAN-6

Registered number: Subject: mathematics ; class: 9th

TOPIC : Number System ; Time : 40mnts ; Date : 06.04.2024

Teaching learning points : "Name of the observer : B. Sanyasi Rao"

1] Introduce the concept of number systems, rational numbers and irrational numbers.

2] Representing irrational numbers, concept of real numbers, decimal expansions of real numbers.

Academic Standards:

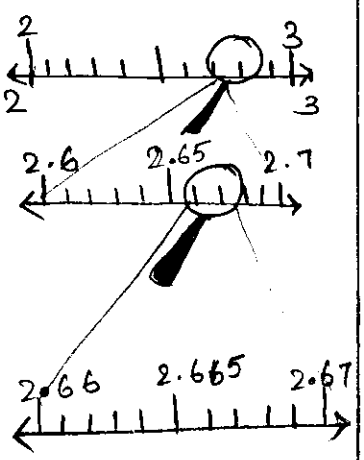
1. Problem Solving: Students will be able to understand the mathematical problems and concept of number system
2. Reasoning proof: To enable students to understood the concept of rational, irrational and real numbers.
3. Communication : To enable students to become proficient in operating real numbers
4. Connection : the students will be able to understand and recall and recognize rational number.
5. Visualisation and representation: Irrational numbers and real numbers, laws of exponents. Develops skills in accuracy, speed and calculations.

Teaching learning materials:

1] Charts, models, explaining the chapter "The number system".

2] Board, chalk (coloured), dusters, maths text book etc.

Content Analysis	Teaching learning Activities	Black board work	Teaching learning Activities
Greetings brain storming.	"Good morning children". "Good morning ma'am". In order to learn this lesson, the students should have knowledge on number systems - Natural no's, whole no's, Integers, Decimals, fractions and mathematical operations on them. 1. what are natural and whole numbers. 2. what are Integers? (recalls) 3. what are irrational and rational numbers.	Integers rational Irrational numbers	

Declaration Relative of the topic Conceptual understanding 1. Reading 2. whole class Activity	Now, we are going move further in the lesson "The Number System" Suppose we need to locate 2.665 on number line. we know that this number lies between 2 and 3. " this process of visualizing representation of numbers on the number line is called as process of " ~~no~~ successive magnification". Teacher explains example-11 from the textbook about visualizing recurring decimal on number line. children! open your mathematics text book and some of the exercises of (Exercise 1.2) and practice. * children! Tell the keywords and what is to be observed to enhance recurring decimals on the number line.	"Number System"  	Text book / Handouts

connection Visualisation and representation	* Appreciates the contributions made by the subject to the mankind. * Appreciates the skill used to understand minute calculations.		

4. Generalisation and Summerisation:
   * we have studied rational numbers, irrational numbers, recurring numbers
   * Visualizes the given recurring decimals on the number line using successive magnification.

5. Practice and recapitulation:
   Complete the following:
   * The decimal representation of the rational number $\frac{8}{27}$ is
   * ∅ is _____ number. [Hint a rational / an irrational].

6. Homework:
   * Do the sums of the exercises from the textbook as classwork for practice

LESSON PLAN - 7

Preliminary Information:

Subject: Mathematics ; class: 9th

Registered number:

Time: 40mnts ; Date: 08.04.2024

TOPIC: "Number system"

"Name of the observer: B. Sanyasi Rao"

Teaching learning points:

1] Introduce the concept of rational number, irrational number Representing irrational numbers, concept of real numbers, decimal
2] expansions of real numbers.

Academic standards:

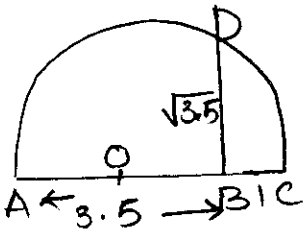
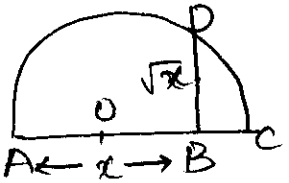
1. Problem Solving: Students will be able to understand the mathematical problems and concept of number system
2. Reasoning proof: To enable students understand the concept of rational, real and irrational numbers
3. Communication: To enable students proficient in operating real numbers.
4. Connection: The Students will be able to understand and recall and recognize rational number
5. Visualisation and representation: Develops skills in accuracy, speed and calculating the numbers.

Teaching learning materials:

1] charts, models, explaining the chapter "the number system".

2] Board, chalk (coloured), duster, maths textbook etc.

Content Analysis	Teaching learning Activities	Black board work	Teaching learning
Greetings brain storming	"Good morning children", Good morning ma'am In order to learn this lesson, the students should have knowledge, on number system – natural no's, whole no's, Integers, decimals, fractions and mathematical operations on them. 1. what are natural and whole no's 2. what are integers?. 3. what are irrational and rational number. 4. Positive and negative integers?	" Integers rational and irrational numbers	

Declaration Relative of the Topic Conceptual understanding 1. Reading 2. whole class Activity	Now we are moving further with the Topic "Number System" we have learnt that rational numbers satisfy commutative, associative, distributive laws for addition and multiplication. Irrational numbers also satisfy the above mentioned properties. * Explains how to find $\sqrt{x}$ for any positive real number x geometrically as given in the textbook through demonstration Teacher explains the identities of square root numbers children! open your maths textbook and the exercises * children understand the numbers and are motivated to learn new things.	"Number system"  

Connection Visualisation and representation	→ Develops logical thinking. * Develops observation and analytical abilities * classifies the given numbers		

4. Generalisation and Summerisation:
   * The pupil is able to discriminate between numbers and type of numbers, The pupil is able to syntheses and analyse
   * definition of number
5. Practice and recapitulation:
   * which of the following rational numbers have the terminating decimal representation.

   i) 3/5 ii) 7/20 iii) 2/13 iv) 27/40 (v) 133/125 (vi) 23/7.

6. Homework:
   * Teacher assigns homework of some of the excercises of Exercise 1.5 as classwork to practice the given exercises.

LESSON PLAN-8

Preliminary Information:

Registered number :

Subject : Mathematics ; class : 9th

TOPIC : Quadilaterals ; Time : 40 mnts ; Date : 08.04.2024

" Name of the Observer : B. Sanjay Rao

Teaching learning points:

1] Identifies different types of quadilaterals

2] Uses the properties of quadilaterals in solving problems related to quadilaterals like finding angles of the given quadilateral

Academic Standards:

1] Problem Solving : Applies knowledge and skills in real-life situations;

2] Reasoning proof : Applies knowledge and skills in solving problems related to quadilaterals;

3] Communication : Acquires and develops mathematical attitude to meet the demands of daily life.

4) Connection : Inculcates habits of patience, self study and discipline.

5) Visualisation and representation : Develops analytical, logical and reasoning abilities.

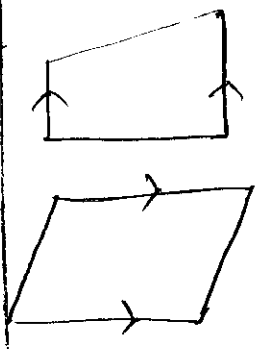
Appreciates how mathematics contributes to one's understanding

Teaching learning materials

1] Board, chalk, Duster, Maths text book, charts.

2] Sketches, Four-sided figures, Straws, pins etc.

Content Analysis	Teaching learning Activities	Blackboard	Teaching learning
Greetings brain storming	"Good morning, Student"! "Good morning ma'am!". In order to learn this lesson, the students should have knowledge in polygons. 1. what a closed figure made of three line segments?" Triangle. 2. what a closed figure made of four line segments! Quadilateral 3. what a closed figure made of Six line segments! Problematic Question.		Explanation Demonstration Heuristic and Induction methods

Declaration Relative of the topic	Today we are going to learn more about polygons and Quadilaterals Our today's lesson / topic is * "The Sum of the measures of the external angles of any polygon is 360°. This is true whatever be the number of sides of the polygon". * "what is a polygon called as having four sides ?" 1. A quadilateral with pair of parallel sides it called as Trapezium. "A Kite is a special type of Quadilateral in which two distinct Consecutive Pairs of sides are of equal measures children! open your maths textbook and the exercises. * "children understand the numbers and are motivated to learn new things."	"Understanding Quadilaterals "Quadilaterals" 
Conceptual understanding 1. Reading 2. whole class Activity		

Connection Visualisation and representation	* To enable students to organize their ideas more logically; To provide basis for mathematical skills which will be needed for different purposes		

4. Generalisation and Summerisation:
   * Enable students understand the properties of quadilaterals
   * Applies the knowledge and properties in solving the reasoning abilities.
   *

5. Practice and recapitulation:
   * The diagonals of which quadilateral are equal and bisect each other at 90°?
   * Is it possible to draw a quadilateral whose all angles are obtuse angles.

6. Homework:
   * Prove that the angle bisectors of a parallelogram form a rectangle.
   * In trapezium ABCD, AB||CD. Calculate ∠C and ∠D if ∠A = 55° and ∠B = 70°

LESSON PLAN-9

Preliminary Information:

Registered number : Subject : Mathematics ; class : 9th

TOPIC : "Quadilaterals" Time : 45mnts ; Date : 10.04.2024

Teaching learning points: "Name of the observer : B. Sanyasi Rao"

1] Identifies different types of quadilaterals

Uses the properties of quadilaterals in solving problems related

2] to quadilaterals like finding angles of the given quadilateral

Academic Standards:

1. Problem Solving : Applies knowledge and skills in real-life situations;
2. Reasoning proof : Applies knowledge and skills in solving problems related to quadilaterals;
3. Communication : Acquirees and develops mathematical attitude to meet the demands of daily life.
4. Connection : Inculcates habits of patience, self study and discipline.
5. Visualisation and representation : Develops analytical, logical and reasoning abilities.

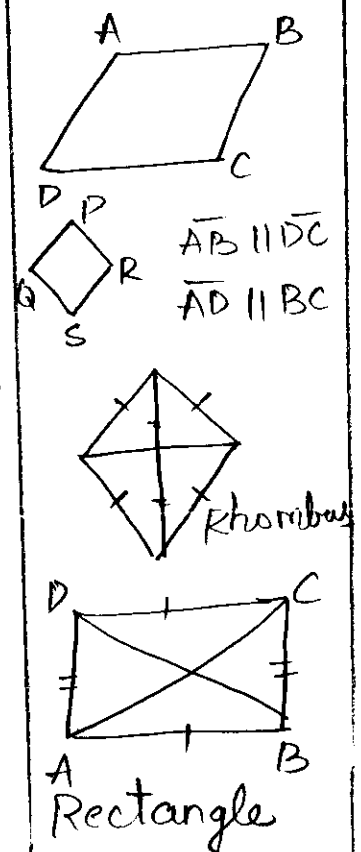
Appreciates how mathematics contribute to one's understanding.

Teaching learning materials

1] Board, chalk, Duster, maths text book, charts

2] Sketches, four-sided figures, streaws, pins etc.

content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings Brain storming	"Good morning, Students"! "Good morning teacher!" In order to learn this lesson the students should have knowledge in polygons. 1. what a closed figure made of three line segments? "Triangle. 2. what a closed figure made of four line segments? Quadilateral 3. what a closed figure made of Six line segments! Problematic question.		Explanation method

Declaration Relative of the Topic	Today we are going to learn about "polygons and Quadilaterals" our today's topic is. "A parallelogram is a quadilateral in which opposite sides are parallel to each other. "A Rhombus is a parallelogram having its diagonals perpendicular bisectors to each other". "A Rectangle is a parallelogram having all its four angles of measure 90° (right angle")	Understanding Quadilateral  Rectangle
Conceptual understanding 1. Reading 2. whole class Activity	"children! open your maths textbook and the exercises". *"children understand the numbers and are motivated to learn new things"	

connection Visualisation and representation	To enable students to organize their ideas more logically. To provide basis for mathematical skills for which will be needed for different purposes		

A. Generalisation and Summerization:

* Applies properties of quadilaterals in solving the exercises
* Applies the knowledge and properties of parallelogram in solving and develops analytical and reasoning abilities.

5. Practice and Recapitulation:

* prove that the angle bisectors of a parallelogram form a rectangle
* A quadilateral is a _____, if its opposite sides are equal.

6. Homework:

* calculate all the angles of a parallelogram if one of its angles is twice its adjacent angle.
* calculate all the angles of a quadilateral they are in the ratio 2:5 :: 4:1

LESSON PLAN-10

Preliminary Information:

Registered number: Subject: Mathematics ; class : 9th

TOPIC : Coordinate Geometry; Time : 40 mnts ; Date : 10.04.2024

" Name of the observer : B. Sanyasi Rao"

Teaching learning points:

1] To enable the students to give information about cartesian plane, coordinates of a point, Notations etc.

2] To enable the students to understand the terms related to cartesian plane and solve problems like plotting planes.

Academic standards:

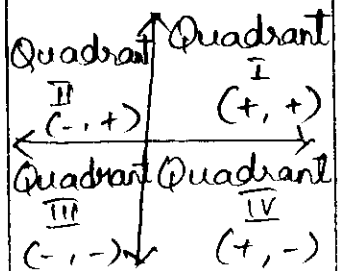
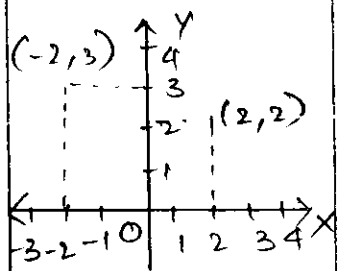
1. Problem Solving : Students will able to discuss (tell) about learning the history of Cartesian Coordinate
2. Reasoning proof : Students will be able to discuss the terms related to cartesian plane
3. Communication : understand, describe, differentiate, define,
4. Connection : Students will be able to recall the coordinate geometry
5. Visualisation and representation: To create interest in mathematics and attitude

Teaching learning materials:

1] chalk, duster, board, maths textbook

2] Sketches, models, charts, maps (explaining the examples).

Content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings brain storming.	"Good morning Students" "Good morning teacher!" In order to learn this lesson the students should have knowledge in co-ordinate geometry. 1. what are rectangular axis 2. What is the distance between two points? 3. What is section formula? 4. What is a plane? A two-dimensional surface formed by two number lines	$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$ No answer.	

Declaration Relative of the topic	Today, we are going to learn an interesting topic "coordinate Geometry" Co-ordinate ⇒ The branch of Geometry geometry where the position of Points on the plane is defined with the help of an ordered Pair of numbers known coordinates coordinate or ordinate → the distance of the point from the x axis is known as y-coordinate or ordinate * the origin indicated by the letter 'O' is the horizontal and Vertical intect.	"Coordinate Geometry  
Conceptual understanding 1. Reading 2. whole class Activity 3. Connection	Pupil will read about the coordinate geometry from text book. Pupil teacher will define all the terms used to coordinate geometry It enhances scientific approach of students in mathematics.	

Visualisation and representation	Students knowledge about number line and other geometrical structures of mathematics		

4. Generalization and Summerisation:
   * Student will understand the concept taught.
   * Pupil teacher will define all the terms used in coordinate geometry

5. Practice and recapitulation:
   * How many quadrants are there in the plane?
   * what is the value of abscissa and ordinate in III coordinate
   * plot (5, -2) on graph.

6. Homework:
   * Draw a triangle on the graph by using points (3, 3), (0, 0) and (6, 0).
   * plot (4, -3) and (2, 6) on graph.
   * plot (4, 0) and (6, -2) on graph.

LESSON PLAN - 11

Preliminary Information:

Registered number: Subject: mathematics; class: 8th

TOPIC: "Cube and cube roots" Time: 30 mnts; Date: 12.04.2024

Teaching learning points:- "Name of the observer: B. Sanyasi Rao"

1] To enable students to gain skills in finding cubes and cube roots of numbers;

2] Recalls and recognizes cubes and cube roots of numbers.

Academic Standards:-

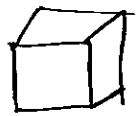
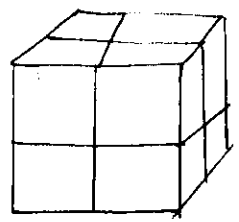
1. Problem Solving: Finds the cube and cube roots of the given numbers; also using prime factorization method.
2. Reasoning proof: Tests whether a given number of perfect square or not
3. communication: finds out smallest number that must be multiplied
4. Connection.: Applies knowledge and skills in real-life situations.
5. Visualisation and representation: Applies knowledge and skills in solving problems related to cube and cube roots;

Teaching learning materials :

1] Board, chalk, Duster, maths text-book etc

2] Explain with charts and models.

Content Analysis	Teaching learning Activities	Black board work	Teaching learning
Greetings Brain Storming	"Good morning students"! "Good morning ma'am!" In order to learn this lesson, the students should have knowledge in mathematical tables, basic mathematical operations and Square and Square roots. we get a Square of a number if that number is multiplied by itself twice * what is the number obtained so called as ? ???	"$2 \times 2 = 2^2 = 4$"	

Declaration Relative of the TOPic	"Today we are going to learn cubes and cube roots our today's topic is ⇒ * explains the story of Ramanujan number (1729) * A cube is solid object with all its sides equal" * How many cubes of side 1cm will make a cube of side 2cm? * How many perfect cubes are there from 1 to 10? A) There are only 10 perfect cubes between "1 and 100".	"Cubes and cube roots"   "Eight"	
Conceptual understanding 1. Reading 2. whole class Activity	* children open your text; Teacher explains with examples and asks students to find cubes * Teacher shows some interesting Patterns formed by adding consecutive odd numbers forming cubes".		

Connection	Appreciates the subject.		
Visualisation and Representation	Develops analytical skills * finds whether the given number is a perfect cube or not.		

4. Generalisation and Summerisation:

* Finds the cubes of the given numbers, identifies which one is perfect cube from the given numbers and small number to be multiplied to make it a perfect cube.

5. practice and recapitulation:

* Is 392 a perfect cube. If not, find the smallest natural number by which 392 should be multiplied so that the Product is a perfect cube
* find the cube of 3.5.

6. Homework:

* "Teacher gives some of the exercises as home work for practice along with the textbook examples".

LESSON PLAN-12

Preliminary Information:

Registered number: Subject: mathematics; class: 8th

TOPIC: "cube and cube roots"; Time: 30 mnts; Date: 13.04.2024

"Name of observer: B. Sanyasi Rao".

Teaching learning points:-

1] To enable students to gain skills in finding cube and cube roots of numbers;

2] Recalls and recognizes cubes and cube roots of numbers;

Academic Standards:

1. Problem solving: Finds the cube and cube roots of the given numbers; also using prime factorisation method.
2. Reasoning proof: Tests whether a given number of perfect Square or not.
3. Communication: finds out smaller number that must be multiplied and divided.
4. Connection: Applies knowledge and skills in real-life situations.
5. Visualisation and representation: Applies knowledge and skills in solving problems related to cube and cube roots.

Teaching learning materials:

1] Board, chalk, duster, maths text book etc.

2] Explanation with charts and models.

Content Analysis	Teaching learning Activities	Black board work	Teaching Learning
Greetings brain storming	"Good morning students!" "Good morning ma'am"! In order to learn this lesson, the students should have knowledge in mathematical operations and Square and Square roots. * we get a square of a number if that number is multiplied by itself twice * what is the number obtained so called as ! ?!?!	$3 \times 3 = 3^2 = 9$	

Declaration Relative of the Topic	Today we are going to learn more about the topic our todays topic is ⇒ " we observe that each prime factor appears three times in its cubes In prime factorization of any number, if each factor appears three times, then the number is a perfect cube. $216 = 2\times2\times2\times3\times3\times3 = 2^3\times3^3 = 6^3$ Now lets check of 500 $500 = 2\times2\times5\times5\times5$ – 500 is not a perfect cube	"cube and cube roots". 2 | 216 2 | 108 2 | 54 3 | 27 3 | 9 3 | 3 1 2 | 500 2 | 250 5 | 125 5 | 25 5 | 5 1
Conceptual Understanding 1. Reading 2. whole class Actacity	* children open your textbook. Teacher explains with examples and aice students to find cubes * Teacher shows some interesting Patterens formed by adding Consecutive odd numbers forming cubes.	

Connection Visualisation and representation	Appreciates the subject. Develops analytical skills * finds whether the given number is a perfect cube or not.		

4. Generalisation and Summerisation:
Find the cubes of the given numbers, identifies which one is perfect cube from the given small number to be multiplied to make it a perfect cube.

5. Practice and recapitulation:
* Find the cube root of 13824 by prime factorisation method
* Find the cube root of 17576 through estimation.
* Find the cube root of 8000

6. Homework:
State true or false
1. cube of any odd number is even ③ there is no perfect cube which ends with 8.
2. A perfect cube does not end with two zeros.

LESSON PLAN - 13

Preliminary Information

Registered number :

Subject : Mathematics ; class : 9th

TOPIC : "Circles"

Time : 35 mnts ; Date : 15.04.2024

"Name of the observer : B. Sanyasi Rao"

Teaching learning points :

1] To enable the child to solve mathematical problems of his/her daily life.

2] To create a suitable type of discipline in the mind of the child.

Academic Standards :

1. Problem Solving : To develop a practical approach towards mathematical problems
2. Reasoning proof : students will understand the different dimensions of a circle.
3. Communication : students will be able to draw and develop rational approach towards mathematical problems
4. Connection : To mathematize the mind of a child.
5. Visualisation and representation : Students will be able to

draw chord, diameter, arc, circumference, segment and sector of a circle.

Teaching learning materials:

1] Blackboard, chart, duster, book. (text book)

2] charts, working models of the topic, cuttings of circle shape.

content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings brain storming	"Good morning students!" "Good morning ma'am!" In order to learn this lesson the students should have the knowledge of shapes and basic geometry. * Give me some examples of circle shape from daily life? Coin * How do you cut a wheel into equal parts? From centre * what should we call this unequal part?	Coin, button unequal Problematic question.	

Declaration

Relative of the topic

Today we are going to study about different dimensions of circle, today's topic is "circle"

* the collection of all the points in a plane, which are at a fixed distance from a fixed point in the plane, is called a circle, O is the centre and OP is the radius of circle.
* A circle divides the plane on which it lies into 3 parts.
* Interior, circle, exterior of the circle.

Conceptual understanding

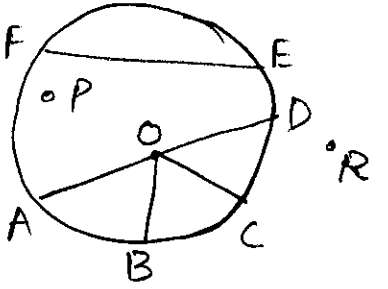
1. Reading
* children! open your maths textbook and the exercises
2. whole class Activity
* children understand the numbers and are motivated to learn new things.

"Circle"

circle

connection	To inculcate critical thinking among the students.		
Visualisation and representation	To develop observational skills among the students in the subject of mathematics.		

4. Generalisation and Summerisation:
   * Today we have learnt about parts of a circle :- There are many parts of the circle., exterior, interior circles.
   * Students will have knowledge about geometrical figures.
5. practice and recapitulation : In order to recapitulate the topic,
   * asks the students to identify
     a) the centre of the circle
     b) a diameter.
     c) Two points in the interior.



6. Homework.
   * Prepare a stick puppet of parts of a circle is Radius, chord, Diameter etc.

LESSON PLAN - 14

Preliminary Information

Registered number:

Subject : Mathematics ; class : 9th

TOPIC : "CIRCLES"

Time : 35 mnts ; Date : 16.04.2024

"Name of the observer : B. Sanyasi Rao"

Teaching learning points :

1] To enable the child to solve mathematical problems of his/her daily life.

2] To create a suitable type of discipline in the mind of the child.

Academic Standards :

1) Problem Solving : To develop a practical approach towards mathematical problems

2) Reasoning proof : Students will understand different dimensions of a circle.

3) Communication : Students will be able to draw and develop rational approach towards mathematical problems.

4) Connection : To mathematise the mind of a child.

5) Visualisation and representation : Students will be able to draw segment, chord, arc.

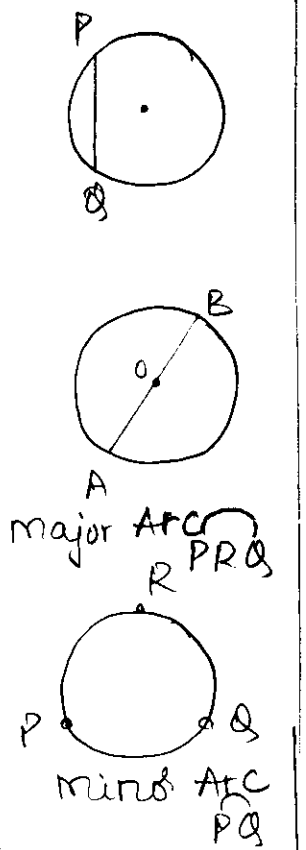
draw chord, diameter, arc, segment, and sector of a circle.

Teaching learning materials:

1] Blackboard, chart, duster, textbook

2] charts, working models of the topic, cuttings of circle shape.

Content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings brain storming	"Good morning students!" "Good morning ma'am!" In order to learn this lesson the students should have the knowledge of shapes and basic geometry. * How do you cut a wheel into equal parts. * what should we call this unequal part?	"from centre" Problematic question	

Declaration Relative of the Topic Conceptual understanding 1. Reading 2. whole class Activity.	Today we are going to study about different dimensions of the topic "circles" * If you take two points P and Q on a circle, then the line segment PQ is called a chord of the circle. * the chord, which passes through the centre of circle, is called a diameter of the circle. Arc: A piece of a circle between two points is called an arc. Three pieces → minor arc, major Arc. * children! Open your maths text book and learn the exercises. * children understand the numbers and are motivated to learn new things.	"Circles" 

Connection	To inculcate critical thinking among the students.		
Visualisation and representation	To develop observational skills among the students in the subject of mathematics.		

4. Generalisation and Summerisation:

* Today, students will have knowledge about geometrical figures like diameter, radius, chord, arc, interior and exterior circle.

5. Recapitulation and practice:

Fill in the blanks

* circle is the collection of all the points in the plane which are at a _____ distance.
* Diameter is double of _____.

6. Homework:

Teacher will assign some Assignment for student better understanding.

* "Make a chart explaining all the different parts of the circle with examples."

LESSON PLAN-15

Preliminary Information:

Registered Number: Subject: Mathematics; Class: 8th

TOPIC: "Heron's formula" Time: 35 mnts; Date: 16.04.2024

"Name of observer: B. Sanyasi Rao"

Teaching learning points:

1) To develop logical and reasoning power of the students.
2) To enable the students to use the concept of the mathematics in their daily life.

Academic Standards:

1. Problem Solving: To enable the students to understand the concept of Heron's formula.
2. Reasoning proof: To arouse interests among students.
3. Communication: To create scientific attitude among students
4. Connection: Pupil will observe the formula and try to understand the concept
5. Visualisation and representation: will enable the students

define the heron's formula in the pupil.

Teaching learning materials

1] A well equipped classroom, blackboard, chalk, duster, Pointer.

2] charts, Models, Flashcards related to the topic.

Content Analysis	Teaching learning activities	Blackboard work	Teaching learning
Greetings	"Good morning students"! "Good morning ma'am!"		
Brain Storming	"In order to learn this lesson the students should have the knowledge of Geometry". 1) what is this ? (.) 2) By joining three different Point, name the figure (△) 3) Area of the triangle 4) Do you know another method to find area of triangle	"a point" a triangle $A = \frac{1}{2} \times B \times H$ - NO response.	

Declaration:	Well students, today we will study about the topic in detail	'Heron's formula'.	
Relative of the Topic.	Heron's formula → It is used to find the area of a triangle when the length of all its sides.		
	Heron's formula for Area of triangle According to Heron, to find the area of any triangle, whether it is a scalene, or equilateral by using the formula.	Area = $\sqrt{s(s-a)(s-b)(s-c)}$	
Conceptual understanding 1. Reading	A $\triangle ABC$, who sides are a, b, c. thus the area of triangle is children! open your maths text book and chapter "Heron's"	$s = \frac{(a+b+c)}{2}$	
2. whole class Acticity.	Pupil teacher will define the heron's formula to the Complete class using activity		

Connection Visualisation and representation	Pupil will observe the formula and use it wherever applicable * will solve the questions and clear the concept by giving examples.		

4. Generalisation and Summerisation:
   * Heron's formula is used to determine the area of a triangle when the length of all three sides is given
   * It is a fundamental concept applied in many fields.

5. Recapitulation and practice
   * If sides of triangles are 16 cm, 2 cm and 4 cm. find area of triangle by using Heron's formula
   * examples of Heron's formula.

6. Homework: Do the Sum as Assignment in the homework
   * A triangle PQR has sides 4 cm, 13 cm and 15 cm Find the area of the triangle ?

LESSON PLAN - 16

Preliminary Information:

Registered number: Subject: Mathematics; Class: 8th

TOPIC: "Heron's Formula"; Time: 40 mnts; Date: 18.04.2024

Teaching learning points: "Name of the observer: B. Sanyasi Rao"

1] To develop logical and reasoning power of the students.

2] To enable the students to use the concept of the mathematics in their daily life

Academic Standards:

1) Problem Solving: To enable the students to understand the Concept of Heron's formula.

2) Reasoning proof: To arouse interests among students.

3) Communication: To create scientific attitude among students Pupil will observe the formula and try to

4) Connection: understand the concept.

5) Visualisation and representation: It will Enable the students define the Heron's

define the heron's formula and its applications to the pupil

Teaching learning materials

1] A well equipped classroom, blackboard, chalk, duster, pointer.

2] charts, models, flash cards related to the topic

Content Analysis	Teaching learning Activities	Black board	Teaching learning
Greetings brain storming	"Good morning Students!" "Good morning ma'am!" "In order to learn this lesson the students should have the knowledge of Geometry" 1) what is this ? (.) 2) By joining three different points, name the figure (△) 3) Area of the triangle 4) Do you know another method to find area of a triangle	Point Triangle $A = \frac{1}{2} \times B \times H$ - NO-response-	

Declaration Relative of the Topic Conceptual Understanding 1. Reading 2. whole class Activity	well, students today we will dive deep into the topic in detail. In order to understand further, there is need to be understand the basic Heron's formula, Heron's formula for Quadilateral: If ABCD is a quadilateral, where AB ∥ CD and AC and BD are diagonals. AC divides quad ABCD into two triangles ADC and ABC. Area of quad ABCD = Area of Δ ADC + Area of Δ ABC children! open your maths text book, turn pages for Heron's and understand the examples. Pupil teacher will observe the heron's formula in Complete class using activities	"Heron's" formula Area of quad ABCD = Area of Δ ADC + Area of Δ ABC	

Connection Visualisation and representation	People will observe the formula and use it whenever applicable * will solve the questions and clear the concept by giving examples		

4. Generalisation and Summerisation:
   * Heron's formula is used to determine the area of a triangle when the length of all three sides is given.
   * this formula does not involve the use of the angles of a triangle.
5. Recapitulation and practice:
   * Give the formula for Area of triangle

   True or false:
   * Mathews derive the heron's formula
   * Area of the triangle is $\sqrt{s(s-a)(s-b)(s-c)}$.

6. Homework:

   Fill in the blanks:
   * Heron's formula is given by _____.
   * Another name for Heron's formula is _____.

LESSON PLAN-17

Preliminary Information:

Registered number: Subject: Mathematics ; class: 9th

TOPIC: "STATISTICS" Time: 35 mnts ; Date: 19.04.2024

Teaching learning points. "Name of observer: B. Sanyasi Rao"

1) Introduction to the topic "statistics"

2) To enable them to get knowledge about collection of data.

Academic standards:

1. Problem Solving: To develop the interest of students in learning mathematics
2. Reasoning proof: To develop the scientific approach in mathematics in the students.
3. Communication: To develop the abilities of imagination, reasoning and observation.
4. connection: students will be able to identify the primary and secondary data from the given set of data.

5- Visualisation and representation: The student will be to draw the grouped and ungrouped frequency distribution

Teaching learning materials:

1) Models, charts, chalk, duster, pointer, blackboard etc.

2) Display models and charts explaining the subject.

Content Analysis	Teachinglearning Activities	Blackboard work	Teaching learning.
Greetings	"Good morning children!" "Good morning ma'am!"		
Brain storming	The students must have at least general familiarity with survey, data, information etc. * How governments collect information about different thing in country? * What is data? * How can you present data?	"By doing Survey" Set of information "Problematic question".	

Declaration Relative of the Topic	Now, teacher will announce the topic, today we will study the facts or figures, which are numerical or otherwise, collected with a definite purpose, called data. * the data in random manner is called 'raw data' * the difference of the highest and the lowest values of the data is called range of the data". * Give five examples of data that you can collect from day to-day life	Presentation of data "statistics" 'raw data.	
Conceptual understanding 1. Reading 2. whole class Activity.	* children open your textbook while explaining, since the information is printed on it. * children! Tell the keywords and what is observed in the explanation part.		

Connection Visualisation and Representation	* Appreciates the contributions made by the subject to the mankind * Appreciates the skill used to understand the minute calculations		

4. Generalisation and Summerisation:
   * "we, in this topic have studied the branch of mathematics related with collection, organisation analyses and interpretation of data"

5. Practice and recapitulation:
   * the blood groups of 30 students of class VIII are recorded as follows: A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O.
     A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O.
     Represent this data in the form of frequency distribution table.

6. Homework:
   * the distance (in km) of 40 engineers from their residence to their place of work: 5 8 10 20 25 11 13 7 12 31
     19 10 12 17 18 11 32 17 16 2
     Construct grouped frequency table

LESSON PLAN - 18

Preliminary Information:

Registered number: Subject: Mathematics ; class: 9th

TOPIC: "STATISTICS" Time: 35 mnts ; Date: 20.04.2024

"Name of the observer: "B. Sanyasi Rao"

Teaching learning points:

1] Introduction to the topic "statistics"

2] To enable them to get knowledge about collection of data

Academic standards:

1) Problem solving: To develop the interest of students in learning mathematics

2) Reasoning proof: To develop the scientific approach in mathematics in the students.

3) Communication: To develop the abilities of imagination, reasoning and observation.

4) connection: Students will be able to identify the primary and secondary data from the given set of data.

5) Visualisation and representation: The student will be to

draw the grouped or ungrouped frequency distribution.

Teaching learning materials:

1] Models, charts, chalk, duster, pointer, blackboard etc

2] Display models and charts explaining the subject

Content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings brain storming	"Good morning Students!" "Good morning ma'am!" The students must have atleast general familiarity with survey, data, information etc. 1) How governments collect information about different thing in country? 2) what is data? 3) How can you present data?	"By doing survey" Set of information "problematic question"	

Declaration Relative of the Topic Conceptual understanding 1. Reading 2. whole class Activity	Now, teacher will announce the topic, to day we will study Let us go further into the topic today with examples. 1) Consider the marks obtained (out of 100 marks) by ~~30~~ students of class IX of a School. 10, 20, 36, 92, 95, 40, 50, 60, 70, 92, 92, 88, 80, 70, 72. Recall that number of students; certain number of marks called frequency Above table on the blackboard called ungrouped frequency distribution * children open your textbooks while explaining, since the information is printed on it". * "Children! Tell the keywords and what is observed in the explanation part."	Presentation of data "statistics" Marks frequency 10 1 20 1 36 2 92 2 95 2 40 2 50 4 60 4 70 1 92 1 88 2 80 3 70 4 72 1 Total 30

Connection Visualisation and representation.	* Appreciates the contributions made by the subject to mankind * Appreciates the skill used to understand the minute calculation		

4. Generalisation and Summerisation.
   * "we, in this topic have studied the branch of mathematics related with collection, organisation and interpretation of data"

5. Recapitulation and practice
   * the relative humidity (in %) of a certain city for a month of 30 days
     98.1 98.6 99.2 90.3 86.5 84.9 90.2 95.7 97.3 89.
   * Construct a group frequency table with classes 84-86, 86-88.
   * which month or season do you think this data is about?

6. Homework.
   * three coins were tossed 30 times simultaneously. Each time the number of heads occurring was noted
     0 1 2 2 1 2 3 1 3 0 1 3 1 1 2 2 0 1 2 1 3 0 0 1 1 2 3 2 2 0
     Prepare a frequency distribution.

LESSON PLAN - 19

Preliminary Information:

Registered number: Subject: Mathematics ; class: 8th

TOPIC: "Squares and Square roots" Time: 35 mnts ; Date: 22.04.2024

Teaching learning points: "Name of Observer: B. Sanyasi Rao"

1) Introduction to Squares and Square roots"
2) Interesting patterns of adding numbers and Square numbers".

Academic Standards:

1. Problem Solving: To enable students to understand the concept of Squares and Square roots of numbers;
2. Reasoning proof: To enable students to gain skills in finding Squares and Square roots of numbers;
3. Communication: To enable students understand how mathematical characteristics such as accuracy,
4. Connection: Recalls and recognizes squares and Square roots of numbers;

5) Visualisation and representation: Develops techniques and skills in finding squares and square roots of numbers".

Teaching learning materials:

1] Board, chalk, Duster, maths, textbook etc.

2] models and charts explaining the topic well.

Content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings	"Good morning students!" "Good morning ma'am!"		
brain storming	In order to learn this lesson, the student should have knowledge on square and area of square.		
	* How many sides do a square have?	"Four sides"	
	* what is area of square'	Side×Side.	
	"If sides of some squares are given to you, Tell the area. 2×2 expressed as 2^2,		

Declaration Relative of the Topic	"Today we are going to learn how can we check a number is a square number or not. Our today's lesson is Before that we have to understand the properties of Squares. which of the following numbers $19^2, 24^2, 26^2, 36^2, 34^2$ would have digit 6 at its units place? we observe that the numbers having one zero at end have its square of two zeroes $[20^2 = 400]$ and if a number has 3 zeros at end then how many zeroes does its square contain?	"Squares and Square root". $24^2, 26^2, 36^2, 34^2$ "Six Zeroes"	
Conceptual understanding 1) Reading 2) whole class Activity	* children, kindly open the mathematics textbook and look into the text. Acquires and develops mathematical attitude to finish the exercises.		

Connection Visualisation and representation	Inculcates the habit of patience, self-study and discipline. * Develops problem-solving abilities; Appreciates the subject		

4. Generalisation and Summerisation:
   * Squares and Square roots both concepts are opposite in nature to each other. Squares are the numbers, generated after multiplying a value by itself.
5. Recapitulation and practice
   * Find whether each of the following numbers is a perfect square or not ?
     1) 121 (2) 55 (3) 81 (4) 49 (5) 69.
   * Can you say how many numbers are there between 6^2 and 7^2.
6. Homework.
   * What will be the number of zeros in the Square of the following numbers a) 60 b) 400.

LESSON PLAN - 20

Preliminary Information:

Registered number: Subject: Mathematics; class: 8th

TOPIC: "Squares and Square roots" Time: 40 mnts; Date: 23.04.2024

Teaching learning points: "Name of the observer: B. Sanyasi Rao"

1] Introduction to Squares and Square roots".

2] Interesting patterns of adding numbers and Square numbers".

Academic standards: "To enable students to understand the

1) Problem Solving: concept of Squares and Square roots of numbers"

2) Reasoning proof: To enable students to gain skills in finding Squares and square roots of numbers"

3) Communication: To enable students understand how mathematical characteristics such as accuracy,

4) connection: Recalls and recognizes squares and roots of numbers.

5) Visualisation and representation: Develops techniques and

Skills in finding square and square roots of numbers"

Teaching learning materials:

1] Board, chalk, Duster, maths textbook etc.

2] Models and charts explaining the topic well.

Content Analysis	Teaching learning Activities	Blackboard work	Teaching learning
Greetings brain storming	"Good morning students!" "Good morning ma'am!" In order to learn this lesson. the student should have knowledge on square and area of square. * How many sides do a square have? * what is area of square "If sides of some squares are given to you, Tell the area. 2×2 expressed as 2^2	"four sides" side×side 2^2.	

Declaration Relative of the Topic Recapitulation Homework. Conceptual understanding 1. Reading : 2. whole Class Activity :	"Today we are going to learn how a number is a square or not Triangular numbers are the number whose dot pattern can be arranged as triangles" "If we combine two consecutive triangular numbers, we get a square". * How many natural numbers lie between 9^{2} and 10^{2} & 11^{2} and 12^{2} * How many non square numbers lie between pairs of numbers. 1) 100^{2} and 101^{2} (2) 90^{2} and 91^{2} (3) 1000^{2} and 1001^{2}. * children kindly open your mathematics textbooks, and go through the Exercises of chapter discussed above. * Acquires and develops mathematical attitude to finish the exercises.	"Squares and Square root"