

Mathematics is the Queen of All Sciences

TEACHING PLANS

(Year and Unit Plans)

Subject: MATHEMATICS

6th CLASS

Teaching Plan for

- What to teach
- Why to teach
- How to teach

Name of the Teacher

Designation

School.....

Mandal.....

District.....

PREFACE

In the ever-evolving landscape of school education, particularly in the teaching of Mathematics, the role of a well-structured teaching plan cannot be overstated. Teaching, learning, and assessment are intricately interlinked processes that require thoughtful planning, timely execution, and continuous reflection. In this context, this booklet, titled “Teaching Plans for Classes 6th to 10th – Year Plan & Unit Plan in Mathematics”, is a valuable and timely contribution to the professional toolkit of every mathematics teacher.

Effective classroom transaction hinges on meticulous and purposeful planning. Planning acts as the compass that guides teachers through the academic year, ensuring that curricular goals and learning outcomes are achieved within the stipulated timeframe. This booklet offers a comprehensive and structured approach to teaching mathematics, integrating pedagogical expertise with innovative practices in education.

The booklet includes two core planning formats that are essential for successful mathematics instruction:

1. Year Plan – This section provides a macro-level view of the academic year for each class from 6th to 10th. It includes clearly articulated class-wise learning outcomes, monthly allocation of syllabus and units, a detailed period distribution for each unit, essential teaching-learning resources (TLMs, ICT tools, and AI-integrated tools), and a calendar of monthly mathematics activities. Additionally, space for teacher reflections has been included to encourage introspection and self-improvement.
2. Unit Plan – Focusing on the meso level of planning, the unit plans present unit-wise learning outcomes, structured concept maps, clearly demarcated subtopics with associated textbook exercises, and an array of resources such as digital tools, manipulatives, and learning management systems. Each unit includes teacher notes, facilitating a deeper understanding of pedagogical approaches, and provision for teacher reflections and Headmaster's observations for professional dialogue and review.

These plans are more than just templates—they are crafted by a team of eminent and experienced mathematics educators who are well-versed in content, pedagogy, and the practical realities of classroom teaching. As senior resource persons and subject experts, their experience in training teachers, developing curriculum materials, and leading innovative practices in mathematics education adds immense value to this work.

Furthermore, this booklet also includes a Model Teacher Diary, which aims to support reflective teaching. The diary format encourages teachers to document their day-to-day teaching experiences, track student progress, and refine their strategies based on ongoing assessment and classroom feedback.

In the spirit of the National Education Policy (NEP) 2020, which emphasizes competency-based learning, integration of ICT, and continuous professional development of teachers, this booklet aligns with national priorities and classroom

realities. It encourages the use of digital tools, AI, and experiential learning in the teaching of mathematics to improve student engagement and learning outcomes.

It is hoped that this resource will serve as a practical guide and a source of inspiration for all mathematics teachers working in schools. Whether a new teacher seeking guidance or an experienced teacher aiming to refine practice, these plans provide clarity, structure, and motivation. More importantly, they help transform classroom teaching into a meaningful, engaging, and outcome-oriented experience for students.

Let this booklet be a light post guiding every teacher toward creating a vibrant, interactive, and learning-centered mathematics classroom. Through meticulous planning and reflective practice, let us all work toward improving the mathematical abilities of every child.

With sincere appreciation for the teacher community's dedication and commitment to excellence.

Note: *These teaching plans are meant to serve as models only. Teachers may modify or design their own plans based on their convenience and specific classroom needs.*

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TEACHING DIARY

Date:

Teacher Name : Subject:

| S.No | Period | Class | Name of the Unit/ Chapter | Name of the Sub-topic/Concept | Learning Outcomes to be achieved | Remarks |
|------|--------|-------|---------------------------|-------------------------------|----------------------------------|---------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |

Signature of the Teacher

Signature of the Headmaster

SOME USEFUL ICT RESOURCES FOR TEACHING LEARNING AND ASSESSMENT PROCESS IN MATHEMATICS

<https://www.nctm.org/pows/>

<https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/cubes/>

<https://ncert.nic.in/science-laboratory-manual.php?ln=en>

<https://ncert.nic.in/exemplar-problems.php?ln=en>

<https://arvindguptatoys.com/math-magic.php/toys-from-trash.php>

<https://mathforlove.com/>

<https://activities.graspablemath.com/>

<https://mathequalslove.net/>

<https://apps.mathlearningcenter.org/geoboard/>

<https://www.geogebra.org/u/community+team>

<https://www.robocompass.com/>

YEAR PLAN

CLASS: 6th

SUBJECT: Mathematics

Number of Allotted Periods: 182 Periods

Learning Outcomes that Students should achieve by the end of the Academic Year:

The learner

- ❖ Reads the large numbers in Indo-Arabic, English systems and compare the numbers.
- ❖ Applies LCM and HCF in real life situations.
- ❖ Explains properties of whole numbers. Explains significance of zero also.
- ❖ Solves problems involving addition and subtraction on integers.
- ❖ Solves problems in real life situations by using ratio and proportion.
- ❖ Solves problems in daily life situations involving addition and subtraction of fractions and decimals.
- ❖ Expresses relationships in a given situation in daily life in the form of an expression or equation by using variable.
- ❖ Demonstrates an understanding of geometrical ideas like point, line segment, straight line, ray and curve.
- ❖ Identifies simple closed figures. Expresses angle, vertex and side of the figure in mathematical notations.
- ❖ Identifies circle and parts (center, diameter, radius, arc, and sector) in it and explains.
- ❖ Calculates perimeters of regular polygons and area of a given rectangle.
- ❖ Represents the data collected from real life situations in a tabular form by using tally marks and in a pictorial form and a bar graph.
- ❖ Identifies 3D shapes like sphere, cube, cuboid, cylinder, cone in real life situations on the basis of their fundamental properties.
- ❖ Demonstrates symmetry in objects by using symmetrical line.
- ❖ Draws multiple symmetrical lines to the figures wherever possible.

| Number of Unit | Name of the Unit | Month | Number of periods required | TLM required | Activities to be conducted | Sign of Subject Teacher | Sign of the Headmaster | Remarks |
|----------------|--------------------------------|--------------------|----------------------------|---|-----------------------------------|-------------------------|------------------------|---------|
| 1 | Knowing Our Numbers | June, July | 11 | | | | | |
| 2 | Whole Numbers | July | 15 | Number line (Flexi), Grid Paper, Match sticks, charts. | Preparation of Project and review | | | |
| 3 | Playing with Numbers | July | 23 | Coins, chart of factors. | | | | |
| 4 | Basic Geometrical Ideas | August | 15 | 2D shapes, match sticks, Chart of 2D shapes in our surroundings. | | | | |
| 5 | Measures of Liners and Angles. | August | 9 | Geometry box, straws, Chart of angle shapes in our surroundings. | Quiz | | | |
| 6 | Integers | September | 11 | Number line, coins. | Preparation of Project and review | | | |
| 7 | Fractions and Decimals | September, October | 25 | Chart of different types 2D figures divided into parts, fractions charts. | Preparation for SA-1 Exams | | | |
| 8 | Data Handling | October | 7 | Charts, graph papers. | | | | |
| 9 | Introduction to Algebra | November | 13 | Match sticks, balance, charts. | Preparation of Project and review | | | |

| | | | | | | | | |
|----|--------------------------------|--------------------|----|---|---------------------------------------|--|--|--|
| 10 | Perimeter and Area | November, December | 11 | Different types of 2D shapes (both regular and irregular), graphs papers. | | | | |
| 11 | Ratio and Proportion | December | 11 | Grid papers, pictures. | National Mathematics Day Celebrations | | | |
| 12 | Symmetry | January | 7 | Letters on cards, Different types of figures, Rangoli patterns. | | | | |
| 13 | Practical Geometry | February | 15 | Geometry box, charts. | Quiz | | | |
| 14 | Understanding 2D and 3D shapes | February | 9 | 2D and 3D shapes and models. | Preparation of Project and review | | | |
| 15 | Revision | | | | Preparation for SA-2 Exams | | | |

Academic Standards:

1. Problem Solving
2. Reasoning – Proof
3. Communication
4. Connection
5. Visualization and Representation

1. KNOWING OUR NUMBERS

Class: VI

Name of the Unit: 1. Knowing Our Numbers.

Learning Outcomes: The learner

- Estimates the outcomes of Number operations.
- Writes any five-digit numbers in words and vice versa.
- Compares five-digit numbers with concept of place values.
- Uses appropriate symbols $<$, $>$, $=$ in comparing large numbers.
- Writes the numbers in expanded form and compact forms.
- Learns about the International system.
- Solves word problems of large number concepts in daily life.

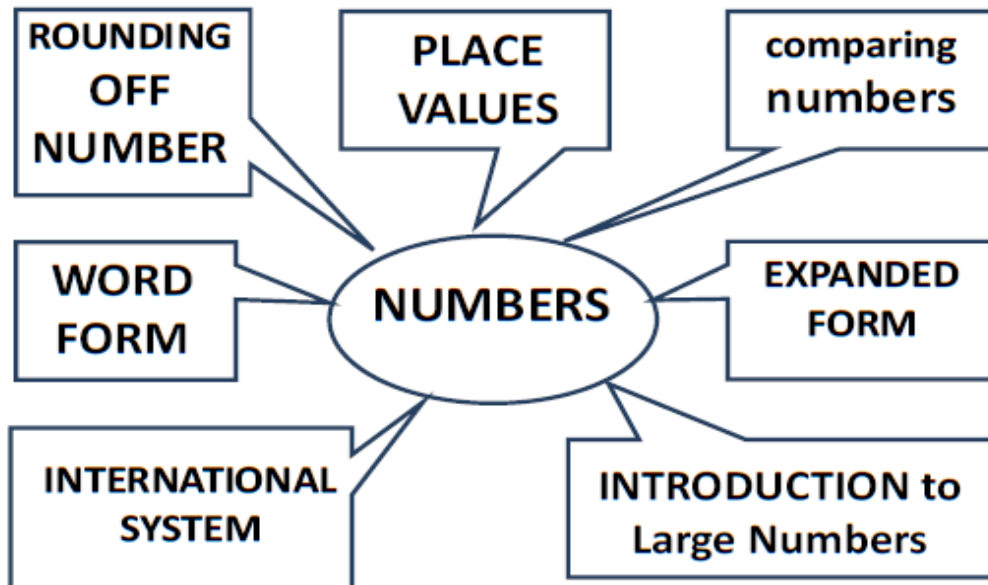
Prerequisites: Students must know the following:

Digits, Numbers, Place values, Expansion forms, Ascending & descending orders.

Number of allotted periods: 11 Periods

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|---------------------|--|------------------|---------|
| Knowing our Numbers | 1. Prerequisites | 1 | |
| | 2. Estimating and Comparing numbers. Estimation of rounding off numbers | 2 | |
| | 3. Revision of place values. Introduction to large numbers. | 2 | |
| | 4. Expanded form writing in words. | 2 | |
| | 5. International System | 2 | |
| | 6. Large numbers used in our daily life. | 2 | |
| | TOTAL | | 11 |

CONCEPT MAP:



Required TLM: Chart of place values, Chart of numbers in International system

Teacher's References:

Teacher's Reflections:

2. WHOLE NUMBERS

Class: VI

Name of the Unit: .2. Whole Numbers

Learning Outcomes: The learner

- Writes the predecessor and successor of a given whole number.
- Represent whole numbers on number line.
- Represents additions, subtractions and multiplications of whole numbers on number line.
- Solves the real life problems related to Whole numbers.

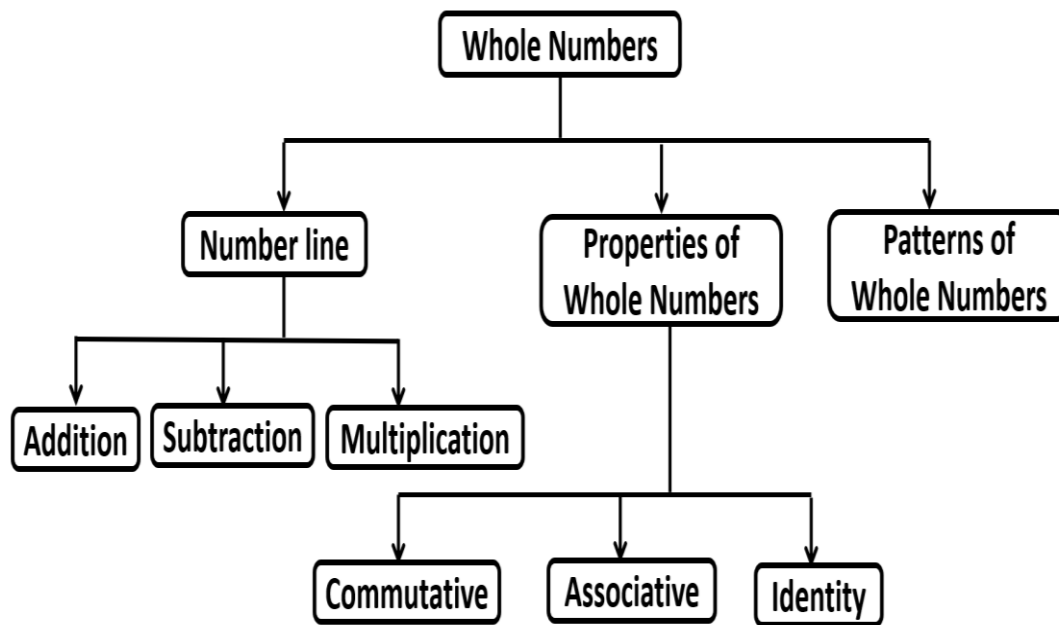
Prerequisites: Students must know the following:

Natural numbers, place values, comparison of numbers, ascending and descending orders, basic operations (addition, subtraction, multiplication and division), number line and zero.

Number of allotted periods: 15 Periods.

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|------------------|--|------------------|---------|
| 2. Whole Numbers | 1. Prerequisites and Introduction | 1 | |
| | 2. Representation of whole numbers on number line (predecessor and successor). | 2 | |
| | 3. Addition and subtraction on number line. | 2 | |
| | 4. Multiplications on number line | 2 | |
| | 5. Properties of whole numbers – Division by zero, commutativity of whole numbers. | 2 | |
| | 6. Associativity of whole numbers on addition and multiplication | 2 | |
| | 7. Identity (for addition and multiplication) | 2 | |
| | 8. Patterns in whole numbers. | 2 | |
| | TOTAL | | 15 |

CONCEPT MAP:



Required TLM: Chart of Number line representing whole numbers, Chart of properties of Whole numbers.

Teacher's Reference:

Teacher's Reflections:

3. PLAYING WITH NUMBERS

Class: VI

Name of the Unit: 3. Playing with Numbers

Learning Outcomes: The learner

- Writes multiples and factors of any given number and segregates prime and composite numbers.
- Prime factorize the given number in different methods.
- Checks whether a number is divisible by 2, 3, 4, 5, 6, 8, 9, 10 and 11 or not by using various divisibility rules.
- Applies divisibility rules while solving the problems.
- Finds H.C.F. and L.C.M. of given numbers using different methods.
- Understands the importance of different strategies with numbers in real life situations.

Prerequisites: Students must know the following:

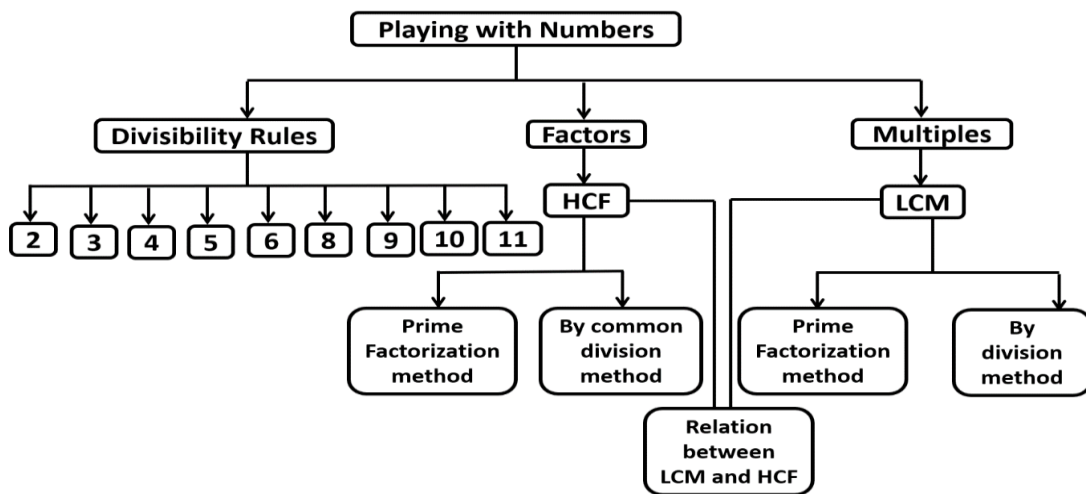
Natural numbers, Whole numbers, place values, multiplication tables, basic operations (addition, subtraction, multiplication and division)

Number of allotted periods: 23 Periods

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------------|--|------------------|---------|
| 3. Playing with Numbers | 1. Introduction and Prerequisites | 1 | |
| | 2. Divisibility of 2 and 3 | 2 | |
| | 3. Divisibility of 6 and 9 | 2 | |
| | 4. Divisibility of 5 and 10 | 2 | |
| | 5. Factors of given numbers | 2 | |
| | 6. Prime and composite numbers | 2 | |
| | 7. Methods of prime factorization (Division method and factor tree method) | 2 | |

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|--|--|----|--|
| | 8. Highest Common Factor by prime factorization method and common division method. | 2 | |
| | 9. Least Common Multiple by prime factorization method and division method. | 2 | |
| | 10. Relationship between LCM and HCF | 2 | |
| | 11. Divisibility of 4 and 8 | 2 | |
| | 12. Divisibility of 11 | 2 | |
| | TOTAL | 23 | |

CONCEPT MAP:



Required TLM : Chart of divisibility rules, Chart showing relation between LCM and HCF

Teacher's Reference:

Teacher's Reflections:

4. BASIC GEOMETRICAL IDEAS

Class: VI

Name of the Unit: 4. Basic Geometrical Ideas.

Learning Outcomes: The learner

- Identifies the basic geometrical figures and shapes like point, line, line segment and ray etc.
- Draws line segment, line, ray and can name them.
- Recognizes the intersecting lines, parallel lines, angles, polygons in real life objects.
- Name the vertex, angles and sides of the given polygons.
- Recognizes the interior, exterior and boundary regions of any given polygon.
- Differentiates between simple curve, complex curve, open curve and closed curve.
- Understands the importance of Basic Geometrical shapes in real life situations.

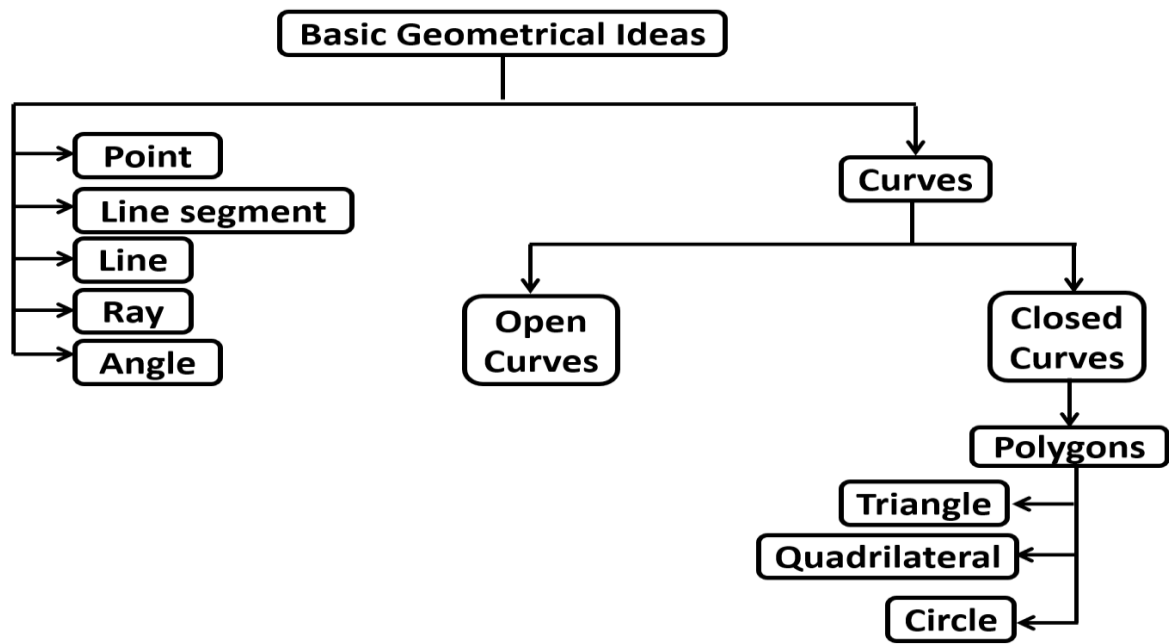
Prerequisites: Students must know the following:

Basic geometrical shapes in real life and surrounding objects, Geometry box, different shapes in Rangoli.

Number of allotted periods: 15 Periods (8 Teaching periods + 7 Practice Periods)

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-----------------------------|--|------------------|---------|
| 4. Basic Geometrical Ideas. | 1. Introduction of Basic Geometrical shapes | 1 | |
| | 2. Point, line segment, line, ray | 2 | |
| | 3. Curves – open curves, closed curves | 2 | |
| | 4. Polygons – (Interior, exterior and boundary regions of given polygon) | 2 | |
| | 5. Angles and their naming | 2 | |
| | 6. Triangle – Parts of the triangle | 2 | |
| | 7. Quadrilateral – Parts of the quadrilateral | 2 | |
| | 8. Circle – Parts of the circle | 2 | |
| | TOTAL | | 15 |

CONCEPT MAP:



Required TLM: Charts showing Basic Geometric Concepts and different types of Polygons.

Teacher's References:

Teacher's Reflections:

5. MEASURES OF LINES AND ANGLES

Class: VI

Name of the Unit: 5. Measures of Lines and Angles.

Learning Outcomes: The learner

- Identifies the basic geometrical figures and shapes like point, line, line segment and ray etc.
- Draws line segment of any given measure and can compare lengths of two or more line segments.
- Recognizes perpendicular lines, parallel lines, intersecting lines.
- Classifies the types of angles.
- Can name the different polygons based on number of sides.

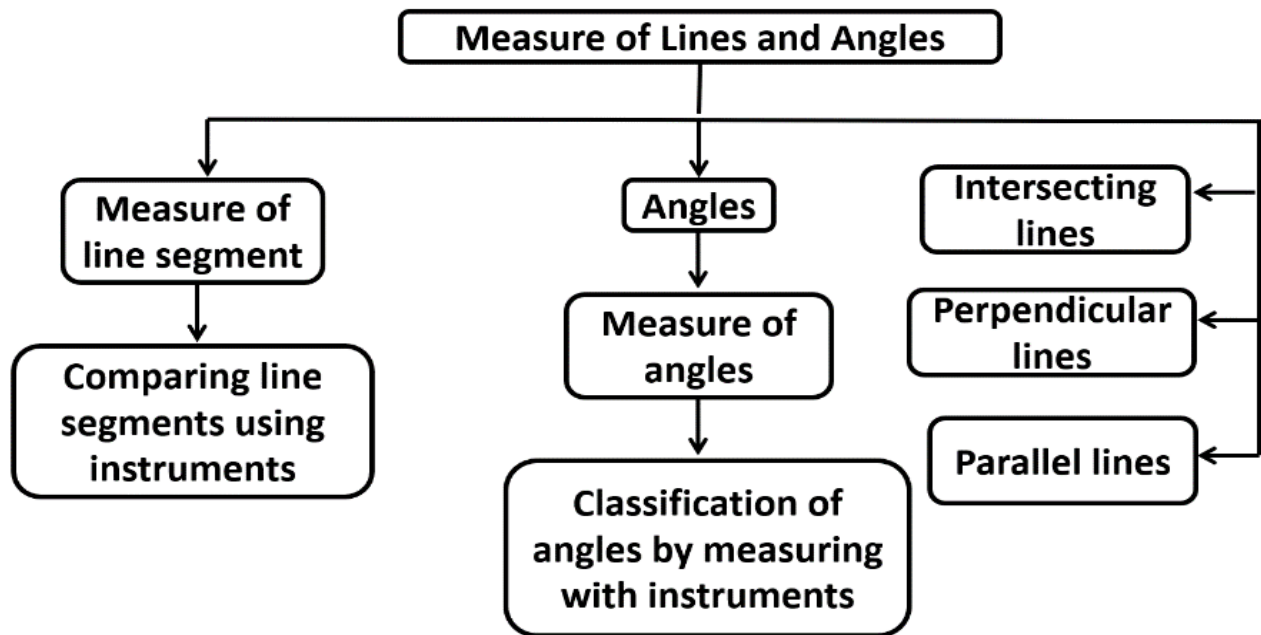
Prerequisites: Students must know the following:

Point, line segment, line, ray, angle, curve, polygons, vertex, geometrical instruments (ruler, protractor, compass).

Number of allotted periods: 9 Periods.

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|----------------------------------|---|------------------|---------|
| 5. Measures of Lines and Angles. | 1. Introduction of Measure of line and angles. | 1 | |
| | 2. Measure of a line segment and comparing line segments using instruments. | 2 | |
| | 3. Measure of an angle using protractor. | 2 | |
| | 4. Types of angles. | 2 | |
| | 5. Intersecting lines, perpendicular lines and parallel lines. | 2 | |
| | TOTAL | | 9 |

CONCEPT MAP:



Required TLM: Charts of different types of Lines, Chart of classification of angles,

Teacher's References:

Teacher's Reflections:

6. INTEGERS

Class: VI

Name of the Unit: 6. Integers

Learning Outcomes: The learner

- Recognizes that positive numbers, zero and negative numbers collectively make integers.
- Represents integers on number line.
- Arranges given set of integers in both ascending and descending orders.
- Represents addition and subtraction of integers on number line.
- Express the additive identity in own words.

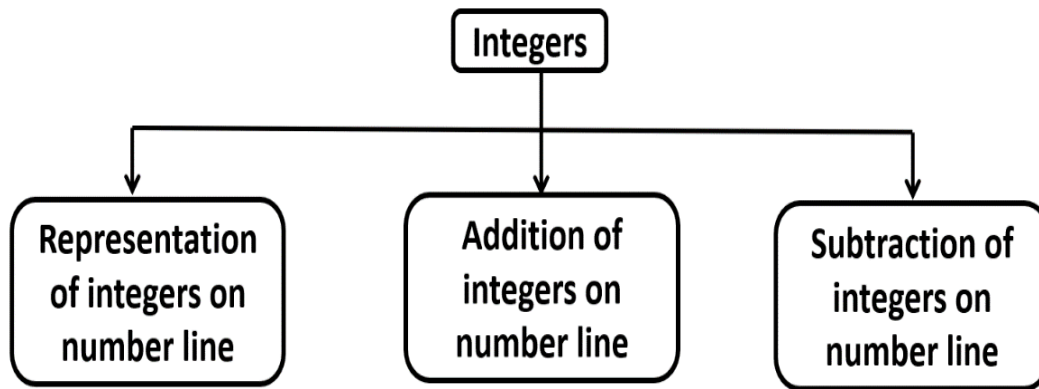
Prerequisites: Students must know the following:

Natural numbers, Whole numbers, representation of natural numbers and whole numbers on number line, addition and subtraction of whole numbers on number line, basic operations.

Number of allotted periods: 11 Periods .

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|------------------|---|------------------|---------|
| 6. Integers | 1. Introduction of Integers | 1 | |
| | 2. Uses of negative numbers in daily life situations. | 2 | |
| | 3. Representation of integers on number line. | 2 | |
| | 4. Ordering of Integers. | 2 | |
| | 5. Additions of integers on number line. | 2 | |
| | 6. Subtraction of integers on number line. | 2 | |
| | TOTAL | | 11 |

CONCEPT MAP:



Required TLM : Chart of Number line representing Integers.

Teacher's Reference:

Teacher's Reflections:

7. FRACTIONS AND DECIMALS

Class: VI

Name of the Unit: 7.Fractions and Decimals.

Learning Outcomes: The learner

- Recognizes fractions and expresses part out of whole as a fraction.
- Uses fractions and decimals in different situations which involves lengths, money and temperature etc.
- Solves the problems in daily life situations involving addition and subtraction of fractions/decimals.
- Represents fractions on number line.
- Discriminates the proper, improper and mixed fractions.
- Compares proper fractions as well as improper fractions.
- Arranges fractions and decimals in ascending and descending orders.
- Handles both addition and subtraction involving fractions and decimals.

Prerequisites: Students must know the following:

Natural numbers, Whole numbers, integers, fractions, whole, part, numerator, denominator, addition, subtraction, number line.

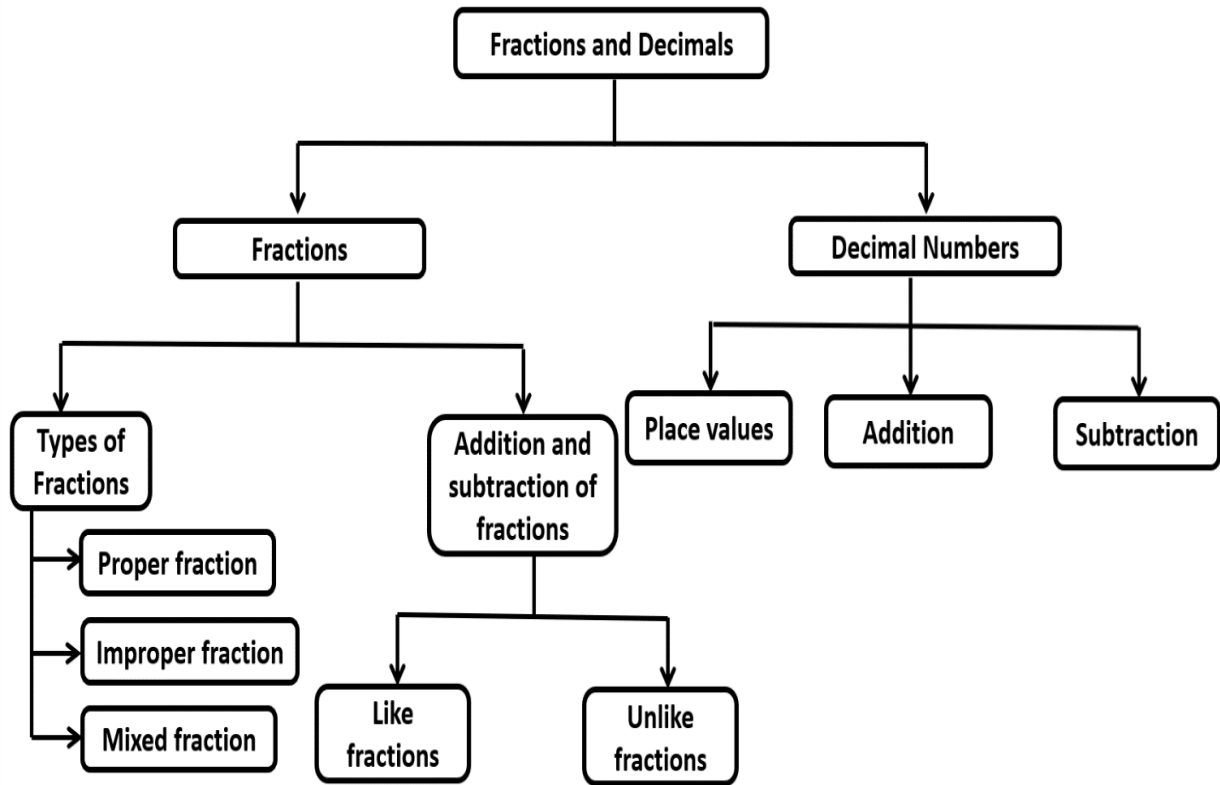
Number of allotted periods: 25 Periods .

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------------|---|------------------|---------|
| Fractions and Decimals. | 1. Introduction of fractions and decimals. | 1 | |
| | 2. Types of fractions, numerator and denominator. | 2 | |
| | 3. Fractional numbers on number line. | 2 | |
| | 4. Equivalent fractions. | 2 | |
| | 5. Simplest form of a fraction. | 2 | |
| | 6. Like and unlike fractions. | 2 | |
| | 7. Comparison of like and unlike fractions. | 2 | |
| | 8. Ascending and descending orders of fractions. | 2 | |
| | 9. Addition of like fractions. | 2 | |

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| | 10. Addition of unlike fractions and addition of mixed fractions. | 2 | |
| | 11. Subtraction of fractions (like, unlike and mixed fractions) | 2 | |
| | 12. Introduction of decimal numbers and place values in decimal numbers. | 2 | |
| | 13. Addition and subtraction of decimal numbers. | 2 | |
| | TOTAL | 25 | |

CONCEPT MAP:

Required TLM : Charts , colour papers, graph papers,



Required TLM: Chart of types of Fractions, Chart showing place values of decimal T

Teacher's Reference:

Teacher's Reflections:

8. DATA HANDLING

Class: VI

Name of the Unit: 8. Data Handling.

Learning Outcomes: The learner

- Converts raw data into classified data.
- Interprets tabular data into variable form.
- Understands the merits and demerits of bar graphs and pictographs.
- Understands the usage of bar graphs and pictographs in daily life situations.

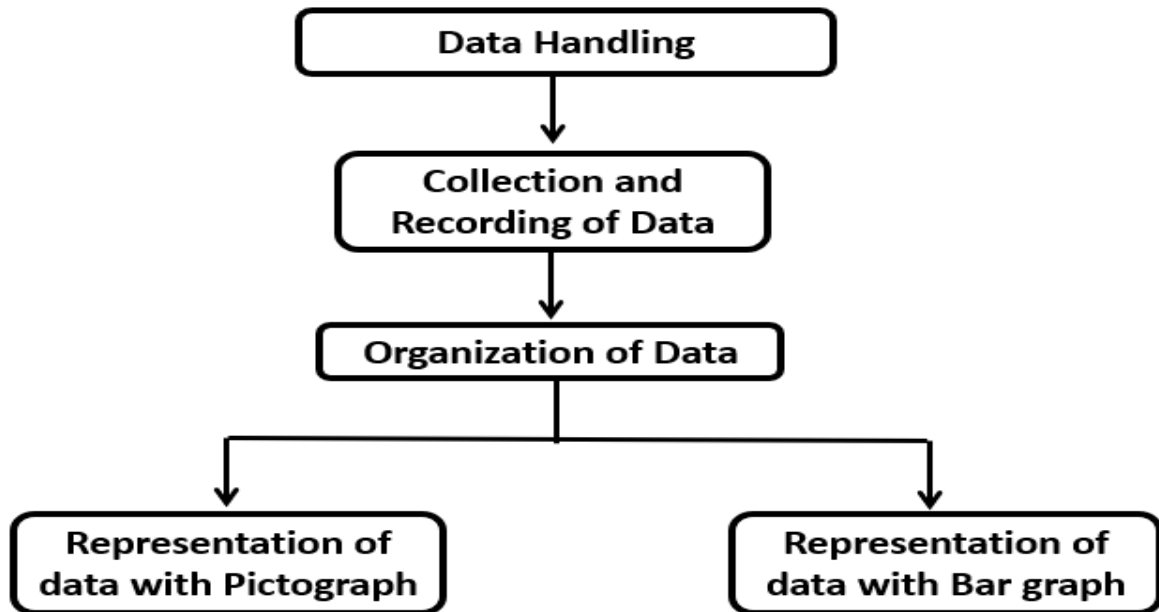
Prerequisites: Students must know the following:

Collection of data.

Number of allotted periods: 7 Periods .

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------|---|------------------|---------|
| 8. Data Handling. | 1. Introduction of Data Handling. | 1 | |
| | 2. Recording of Data and Organization of Data | 2 | |
| | 3. Representation of Data with pictograph. | 2 | |
| | 4. Representation of Data with Bar graph. | 2 | |
| | TOTAL | | 7 |

CONCEPT MAP:



Required TLM: Charts of Pictographs and Bar graphs

Teacher's Reference:

Teacher's Reflections:

9. INTRODUCTION TO ALGEBRA

Class: VI

Name of the Unit: 9. Introduction to Algebra

Learning Outcomes: The learner

- Generalizes the given patterns and expresses them in the form of algebraic expressions.
- Transforms real-life situations into algebraic expressions.
- Expresses the even and odd numbers in the form of $2n$ and $2n + 1$.
- Understands the usage of algebraic expressions in the contexts of finding unknown values.
- Inter links the number system with algebraic system by using simple context.

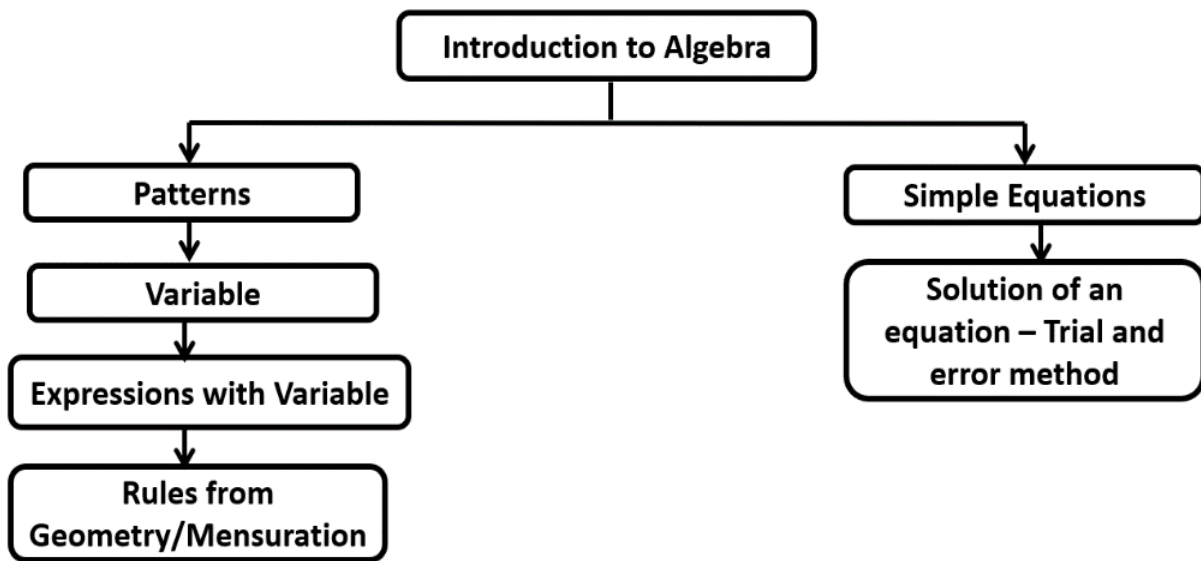
Prerequisites: Students must know the following:

Shapes, even numbers, odd numbers, square, rectangle, area, perimeter.

Number of allotted periods:13 Periods

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------------|--|------------------|-----------|
| Introduction to Algebra | 1. Introduction of Algebra. | 1 | |
| | 2. Making rules with patterns. | 2 | |
| | 3. Expressions with variables. | 2 | |
| | 4. Using operations of addition, subtraction, multiplication, division of variables. | 2 | |
| | 5. Rules from Geometry/Mensuration. | 2 | |
| | 6. Simple equations & LHS, RHS of an equation. | 2 | |
| | 7. Solution of an equation – Trial and error method. | 2 | |
| | TOTAL | | 13 |

CONCEPT MAP:



Required TLM: Charts of Patterns, simple equations and Variables

Teacher's Reference:

Teacher's Reflections:

10. PERIMETER AND AREA

Class: VI

Name of the Unit: 10. Perimeter and Area.

Learning Outcomes: The learner

- Understands and differentiates perimeter and area of a figure.
- Finds the perimeter and area of given figures which involves more than 2 shapes.
- Identifies the different shapes with same perimeter from given shapes.
- Gives the measurements of rectangle/square which have same area but different perimeter.
- Finds the errors in solving problems of perimeter and area and rectifies them.

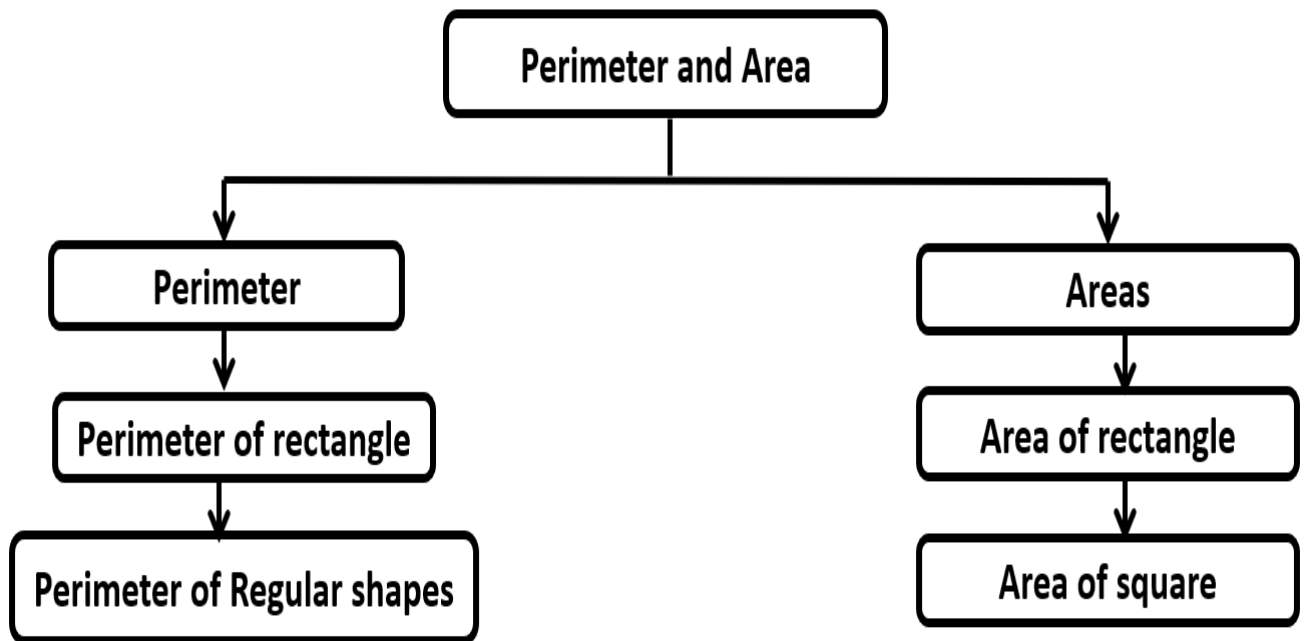
Prerequisites: Students must know the following:

Regular polygons, sides of square, rectangle, measuring of line segment.

Number of allotted periods: 11 Periods.

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|------------------------|--|------------------|-----------|
| 10.Perimeter and Area. | 1. Introduction of Perimeter and area. | 1 | |
| | 2. Perimeter – Perimeter of the rectangle. | 2 | |
| | 3. Perimeter of regular shapes. | 2 | |
| | 4. Areas – Area of irregular shapes. | 2 | |
| | 5. Area of the rectangle. | 2 | |
| | 6. Area of the square. | 2 | |
| | TOTAL | | 11 |

CONCEPT MAP:



Required TLM: Chart of Regular shapes, Graph papers.

Teacher's Reference:

Teacher's Reflections:

11. RATIO AND PROPORTION

Class: VI

Name of the Unit: 11. Ratio and Proportion.

Learning Outcomes: The learner

- Understands ratio and proportion.
- Understands the comparison of given ratios.
- Writes ratios in symbolic and equivalent fraction form.
- Verifies the rules of proportion involving the ratios.
- Solves the verbal problems related to ratio and proportion in daily life situations.

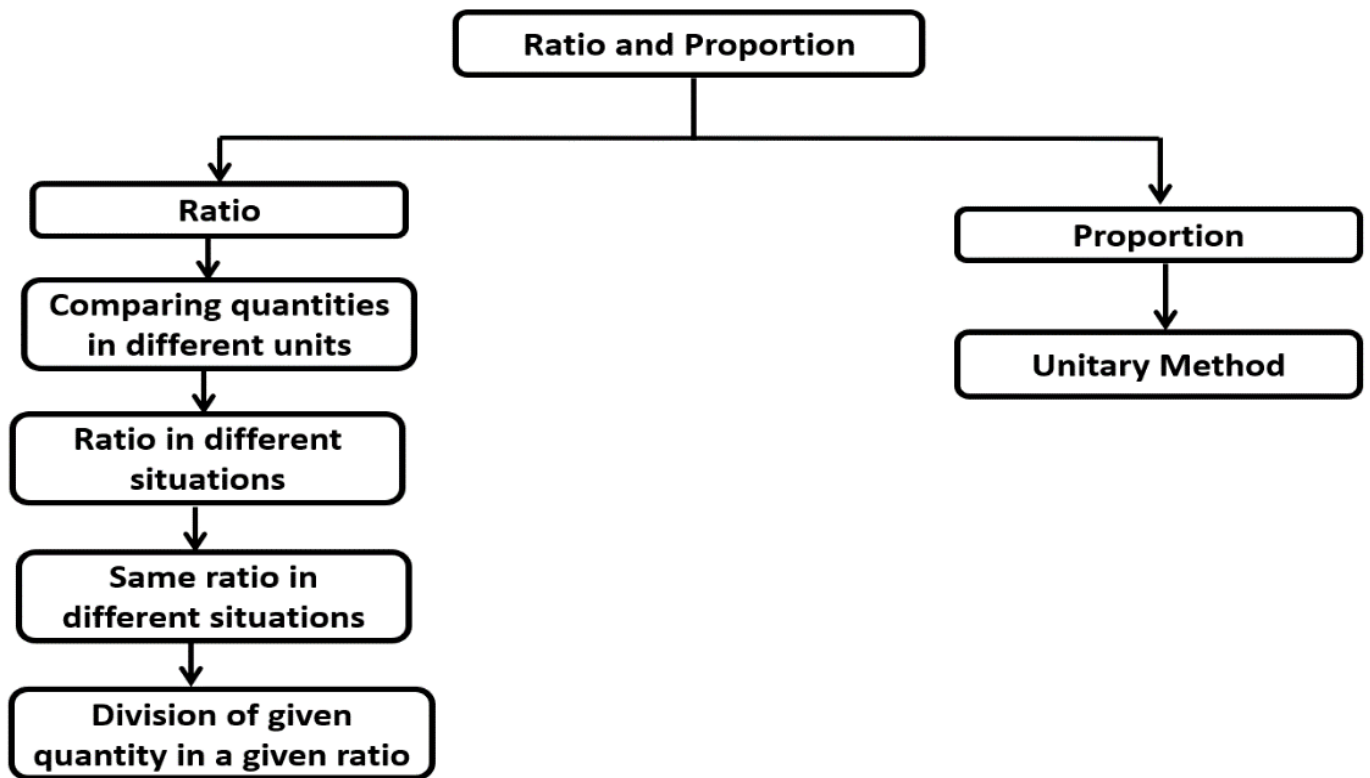
Prerequisites: Students must know the following:

Quantities, fractions, comparison, and units.

Number of allotted periods: 11 Periods .

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|---------------------------|---|------------------|-----------|
| 11. Ratio and Proportion. | 1. Introduction of Ratio and proportions. | 1 | |
| | 2. Comparing quantities with different units. | 2 | |
| | 3. Ratio in different situations. | 2 | |
| | 4. Same ratio in different situations. | 2 | |
| | 5. Division of given quantity in a given ratio. | 2 | |
| | 6. Introduction of proportion – Unitary method. | 2 | |
| | TOTAL | | 11 |

CONCEPT MAP:



Required TLM: Chart of different ratios.

Teacher's Reference:

Teacher's Reflections:

12. SYMMETRY

Class: VI

Name of the Unit: 12. Symmetry.

Learning Outcomes: The learner

- Understands the symmetric axis of given 2D shapes and alphabets.
- Distinguishes symmetrical and non-symmetrical shapes.
- Understands the reflection symmetry with its axis in 2D shapes.
- Draws the symmetric axes for given 2D shapes.
- Appreciates the nature of reflection symmetry in their surroundings.
- Draws multiple symmetric lines to the figures wherever possible.

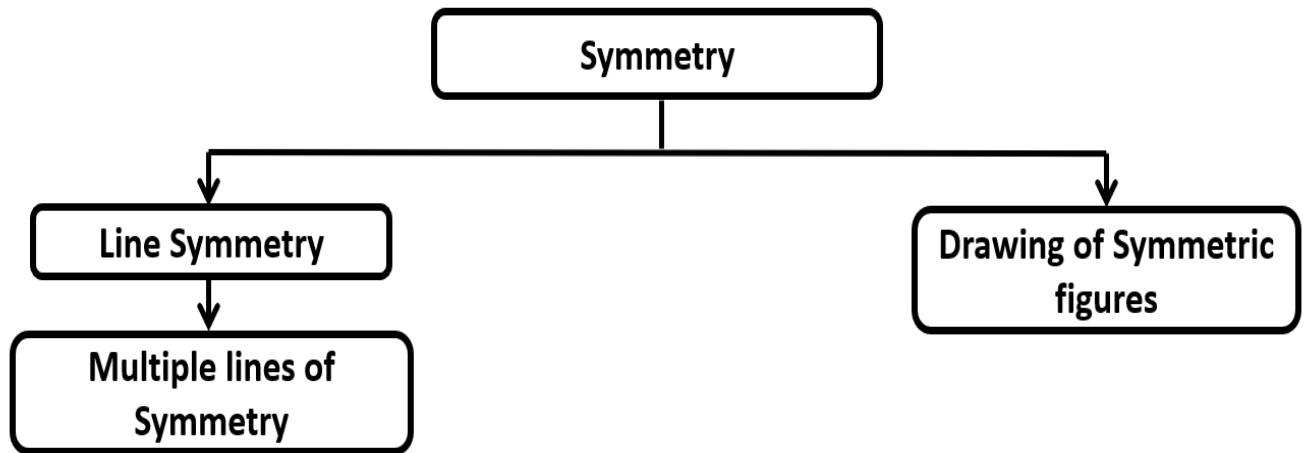
Prerequisites: Students must know the following:

2D shapes, alphabets, line segment, lines, different designs of rangoli.

Number of allotted periods: 7 Periods .

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|------------------|---|------------------|---------|
| 12. Symmetry. | 1. Introduction of Ratio and proportions. | 1 | |
| | 2. Comparing quantities with different units. | 2 | |
| | 3. Ratio in different situations. | 2 | |
| | 4. Same ratio in different situations. | 2 | |
| | TOTAL | | 7 |

CONCEPT MAP:



Required TLM: Chart of different symmetric figures

Teacher's Reference:

Teacher's Reflections:

13. PRACTICAL GEOMETRY

Class: VI

Name of the Unit: 13. Practical Geometry.

Learning Outcomes: The learner

- Draws the line segment, circle, perpendicular bisector, angle, angle bisector.
- Understands the construction of line segment, circle, perpendicular bisector, angle, angle bisector.
- Estimates that whether given lines are perpendicular or not.
- Estimates whether the given line is angle bisector or not.

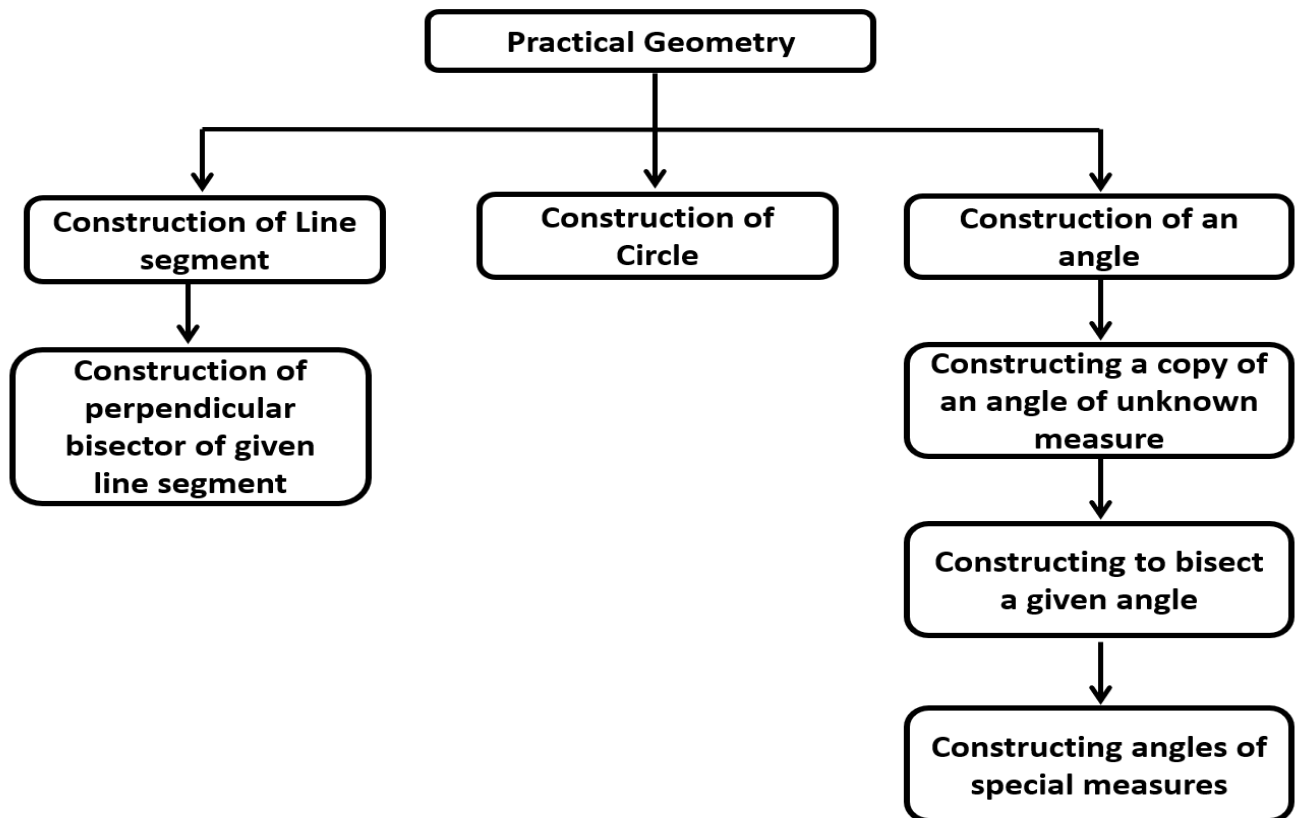
Prerequisites: Students must know the following:

Line, line segment, perpendicular, circle, ruler, protractor and compass

Number of allotted periods: 15 Periods.

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------------|--|------------------|---------|
| 13. Practical Geometry. | 1. Introduction of Practical Geometry. | 1 | |
| | 2. Construction of line segment of given length. | 2 | |
| | 3. Construction of circle. | 2 | |
| | 4. Construction of perpendicular through a point on a given line. | 2 | |
| | 5. Perpendicular to a line through a point which is not on it. | 2 | |
| | 6. Construction of angles using protractor – constructing a copy of an angle of unknown measure. | 2 | |
| | 7. Construct to bisect a given angle. | 2 | |
| | 8. Constructing angles of special measures. | 2 | |
| | TOTAL | | 15 |

CONCEPT MAP:



Required TLM: Geometry Box, Chart of basic geometric concepts.

Teacher's Reference:

Teacher's Reflections:

14. UNDERSTANDING 3D AND 2D SHAPES

Class: VI

Name of the Unit: 14. Understanding 3D and 2D shapes.

Learning Outcomes: The learner

- Understands 3D and 2D shapes.
- Identifies 3D shapes like cube, cuboid, cone, cylinder, sphere in real life situations on the basis of their fundamental properties.
- Explains the difference between 3D and 2D shapes.
- Differentiates the 3D shapes as per faces, edges and vertices.
- Understand the relationship between cube, cuboid, cylinder and their net diagrams.

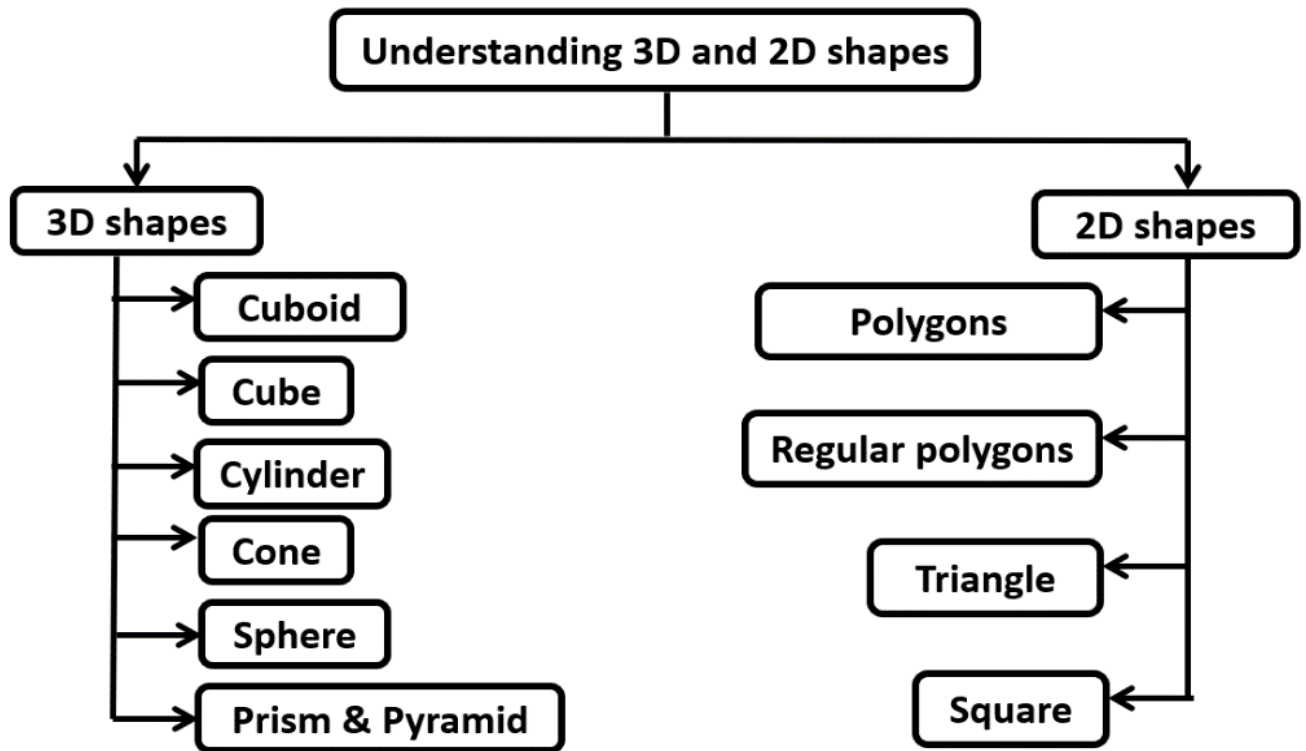
Prerequisites: Students must know the following:

3D and 2D shapes in surroundings, line segment, angles, vertices, polygons.

Number of allotted periods: 9 Periods.

| Unit/Lesson Name | Sub-topics | Teaching Periods | Remarks |
|-------------------------------------|---|------------------|---------|
| 13. Understanding 3D and 2D shapes. | 1. Introduction to 3D and 2D shapes. | 1 | |
| | 2. Understanding of 3D shapes - cube and cuboid. | 2 | |
| | 3. Understanding of cylinder, cone and sphere. | 2 | |
| | 4. Understanding of Prism and Pyramid. | 2 | |
| | 5. Understanding of 2D shapes – Regular polygons. | 2 | |
| | TOTAL | | 9 |

CONCEPT MAP:



Required TLM: 3-D Models, Net diagrams.

Teacher's Reference:

Teacher's Reflections: