MATHEMATICS
LESSON PLAN

2023

LESSON PLAN

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Unit: 01 **Methodology: Demonstration & lecture method.**

Unit name: INTEGERS.

Date: From to

Objectives:

1. Concept of integers.
2. Properties of integers.
3. Multiplication and division of integers.
4. To understand the properties under multiplication and division.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher test the previous knowledge of students by asking the different questions about numbers. Students already learnt about this.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class about number line, smallest number, negative numbers ect. After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

<table>
<tr>
<td>Explain</td>
<td>Introduction: start the class by explaining about integers. Do some problems as we done in the previous year on this chapter.
Properties of integers:
Explain all properties under addition, subtraction, multiplication and division. Give some problems to do the work. Then verify themselves.
<table>
<tr><th>Property</th><th colspan="4">Operations on Integers</th></tr>
<tr><th>Name</th><th>Addition</th><th>Subtraction</th><th>Multiplication</th><th>Division*</th></tr>
<tr><td>Closure</td><td>$a + b \in Z$</td><td>$a - b \in Z$</td><td>$a \times b \in Z$</td><td>$a \div b \notin Z$</td></tr>
<tr><td>Commutative</td><td>$a + b = b + a$</td><td>$a - b \neq b - a$</td><td>$a \times b = b \times a$</td><td>$a \div b \neq b \div a$</td></tr>
<tr><td>Associative</td><td>$(a + b) + c = a + (b + c)$</td><td>$(a - b) - c \neq a - (b - c)$</td><td>$(a \times b) \times c = a \times (b \times c)$</td><td>$(a \div b) \div c \neq a \div (b \div c)$</td></tr>
<tr><td>Distributive</td><td>$a \times (b + c) = ab + ac$</td><td>$a \times (b - c) = ab - ac$</td><td>Not applicable</td><td>Not applicable</td></tr>
</table>
where a, b, c ∈ Z *b is a non-zero integer
Multiplication and division of integers: explain about multiplication and division of integers by taking some problems.
Examples:</td>
<td>Projector
Ppt.
Marker
Chart</td>
<td>Discussion & group activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaborate</td>
<td>Make group of students, give some problems for solve on properties of integers under addition and multiplication.</td>
<td>Exercise problems
In textbook</td>
<td>Activity</td>
<td>Discussion with students</td>
<td></td>
</tr>
<tr>
<td>Evaluate</td>
<td>Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.</td>
<td>Textbook</td>
<td>Evaluation</td>
<td>Try to do all problems in textbook.</td>
<td></td>
</tr>
</table>

Subject teacher **Head master or mistress/Principal**

Unit: 02 **Methodology: Demonstration & lecture method.**

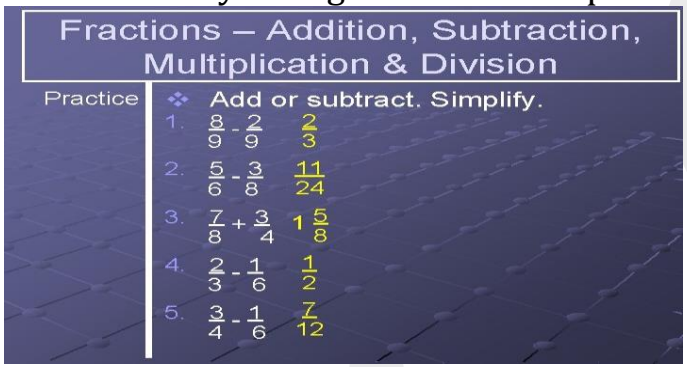
Unit name: FRACTIONS & DECIMALS.

Date: From to

Objectives:

1. Concept of fractions & decimals.
2. To learn how to add and subtract fractions and decimals.
3. Multiplication and division of fractions and decimals.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Start the session by checking the previous knowledge ask some question regarding to the numbers. Students already learnt about this.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class about numbers, fractions. After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** start the class by explaining fractions and decimals. Do some problems as we done in the previous year on this chapter. **Addition, subtraction, multiplication & division of fractions:** Explain how to add, subtract, multiply and divide the fraction by taking different examples.  **Addition, subtraction, multiplication & division of decimals:** Explain how to add, subtract, multiply and divide the decimals by taking different examples.	Projector Ppt. Marker Chart	Discussion & group activities		
Elaborate	Make group of students, give some problems for solve on fractions and decimals. Guide them to solve those problems.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 03 **Methodology: Demonstration & project method.**

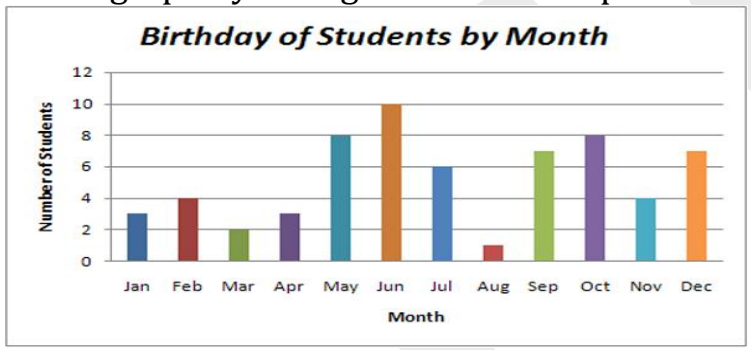
Unit name: DATA HANDLING.

Date: From to

Objectives:

1. To understand the concept of collection of data.
2. Concept of organizing data.
3. To learn about mean, medina and mode.
4. Concept of representation of data.
5. Chances and probability.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Start the session by checking the previous knowledge ask some question regarding to data. Students already learnt about this in class 6th.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class about representing numbers in table and about data. After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** start the class by explaining numbers and data. Do some problems as we done in the previous year on this chapter. **Collection of data:** Explain how we collect the data by using numbers and things. Do some different problems on this data. **Mean median and mode:** Explain about this concept by taking different examples. **Representation of data:** represent the given data as bar graph by taking different examples.  **Chances and probability**: explain about this.	Projector Ppt. Marker Chart Geometry kit Geogebra Graph sheet	Discussion & group activities		
Elaborate	Make group of students, give some problems for solve on fractions and decimals. Guide them to solve those problems.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 04 **Methodology: Demonstration & lecture method.**

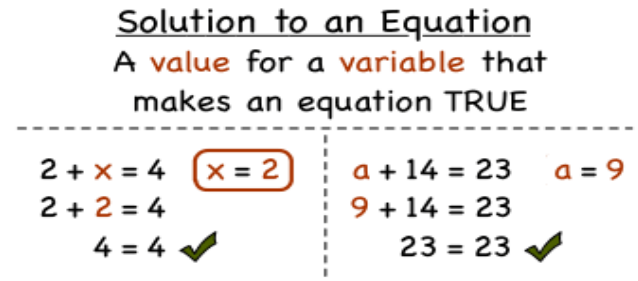
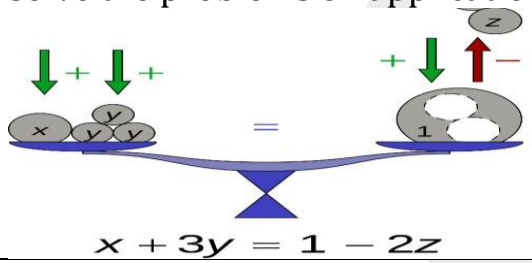
Unit name: SIMPLE EQUATIONS.

Date: From to

Objectives:

1. Concept of equation.
2. Concept solving an equation.
3. To learn about more equations.
4. Applications of simple equations to bring practical situation.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Start the session by checking the previous knowledge ask some question equations. Students already learnt about this in class 6^{th}.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class the questions like 'if we add 14 to a number, we will get 20. What is that number?'. Ask some more questions like this, After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** start the class by explaining about equations. Simplify some problems. **Solution of an equation:** Explain how to simplify an equations with different examples.  **Applications level problems:** Explain how to solve the problems on application basis. 	Projector Ppt. Marker Chart	Discussion & group activities		
Elaborate	Make group of students, give some problems for solve on simple equations. Guide them to solve those problems.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 05 **Methodology: Demonstration & lecture method.**

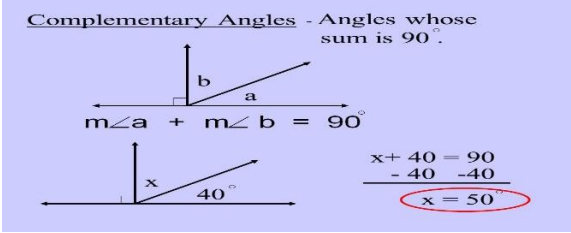
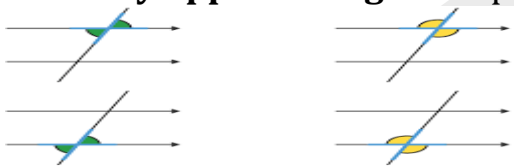
Unit name: LINES AND ANGLES.

Date: From to

Objectives:

1. Concept of complementary angles.
2. Concept of linear pair.
3. To learn about vertically opposite angles.
4. To learn about of pair of lines and parallel lines.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will test the class by asking questions they learnt in the previous year. Students already learnt about lines, points ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class the questions like 'what is point, straight line?'. Ask some more questions like this, After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** start the class by explaining about straight line. Then introduce the chapter. **Complementary angles:** Explain how the complementary angles will have with different examples.  **Vertically opposite angles:** Explain about V.O.A. 	Projector Ppt. Marker Chart Geometry kit Geogebra	Discussion & group activities		
Elaborate	Make group of students, then give some activities on above concepts.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 06 **Methodology: Demonstration & lecture method.**

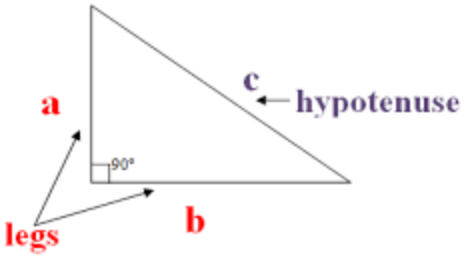
Unit name: THE TRIANGLES AND ITS PROPERTIES.

Date: From to

Objectives:

1. Concept of median of triangles.
2. Concept of altitudes of a triangles.
3. Angle sum property of a triangle.
4. Types of triangles.
5. To learn about right angled triangle and Pythagoras theorem.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will test the class by asking questions they learnt in the previous year. Students already learnt about lines, and angles in previous chapter.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class the questions like 'what is lines and angles?'. Ask some more questions like this, After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Angles:** start the class by explaining about triangles, type of triangles and its median. **Angle sum property:** There is a remarkable property connecting the three angles of a triangle. Explain about this angle sum property with examples. **Right angled triangle and pythgoras theorem:** Explain about right angled triangle and prove Pythagoras theorem.  $a^2 + b^2 = c^2$	Projector Ppt. Marker Chart Geometry kit	Discussion & group activities		
Elaborate	Make group of students, then give some activities on above concepts. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 07 **Methodology: Demonstration & lecture method.**

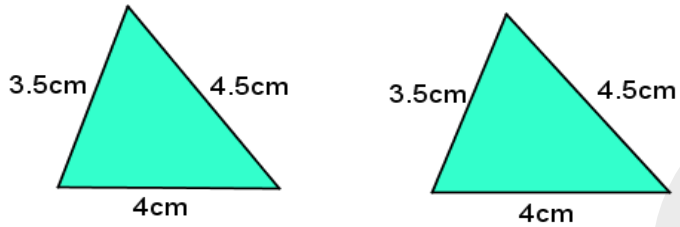
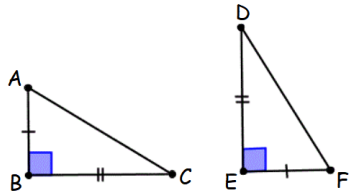
Unit name: CONGRUENCY OF TRIANGLES.

Date: From to

Objectives:

1. Concept of congruence.
2. Congruency of plane figures.
3. Congruency of triangles.
4. To learn of criteria of congruency of triangles.
5. To understand Congruency among the right angled triangle.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will test the class by asking questions they learnt in the previous chapter. Triangles, Types of triangles & Right angled triangles ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class the questions like 'what is triangles, tell about types of triangles?'. Ask some more questions like this, After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Congruency:** start the class by explaining about congruency, by taking different examples.  **Congruency of triangles:** We saw that two line segments are congruent where one of them, is just a copy of the other. Similarly, two angles are congruent if one of them is a copy of the other. We extend this idea to triangles. **Congruency among the right angled triangle:** 	Projector Ppt. Marker Chart Geometry kit Same things for showing the congruency	Discussion & group activities		
Elaborate	Make group of students, then give some activities on above concepts. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 08 **Methodology: Demonstration & lecture method.**

Unit name: COMPARING QUANTITIES.

Date: From to

Objectives:

6. Concept of ratios & equivalent ratios.
7. Percentage.
8. Comparing ratios to percentage and vice versa.
9. To learn about profit and loss.
10. Concept of simple interest.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related to ratios, fractions, & proportions.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Teacher will ask the class the questions like 'what is ratios, what is proportion?'. Ask some more questions like this, After getting different answers from class, then introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Equivalent ratios:** Therefore, the ratio 1:2 is not equivalent to the ratio 2:3. Use of such comparisons by using different examples. **Percentage**: Per cent is derived from Latin word 'per centum' meaning 'per hundred'. **Converting Fractional Numbers to Percentage:** To compare fractional numbers, we need a common denominator. **Profit or loss:** A shopkeeper bought a chair for ` 375 and sold it for ` 400. Find the gain Percentage. Do some more examples on it.  **Simple interest:** Interest Rate Formula $\text{Simple Interest} = \frac{P \times R \times T}{100}$ So some more problems on this simple interest then motivate them to solve the problems.	Projector Ppt. Marker Chart	Discussion & group activities		
Elaborate	Make group of students, then give some activities on above concepts. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 09 **Methodology: Demonstration & lecture method.**

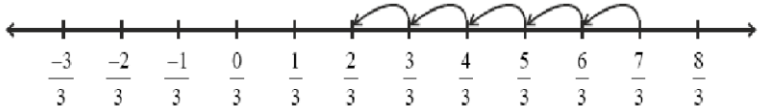
Unit name: RATIONAL NUMBERS.

Date: From to

Objectives:

1. Concept of rational numbers.
2. To represents the rational numbers on number line.
3. Rational numbers in standard form.
4. Operations on rational numbers.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related numbers fractions & fundamental operations on numbers.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on integers, number systems and so on. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Rational numbers:** A rational number is defined as a number that can be expressed in the form p q , where p and q are integers and q ≠ 0. **Rational numbers on a number line:** explain about this concept by taking different examples.  $\frac{-3}{3}$ $\frac{-2}{3}$ $\frac{-1}{3}$ $\frac{0}{3}$ $\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{3}$ $\frac{4}{3}$ $\frac{5}{3}$ $\frac{6}{3}$ $\frac{7}{3}$ $\frac{8}{3}$ **OPERATIONS ON RATIONAL NUMBERS:** Explain about addition, subtract, multiply and divide the rational numbers by taking different examples. **Rational Numbers Operation** (1). Addition [+] (2). Subtraction [−] (3). Multiplication [×] (4). Division [÷]	Projector Ppt. Marker Chart Number line	Discussion & group activities		
Elaborate	Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 10 **Methodology: Demonstration & learning with doing method.**

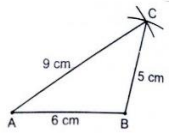
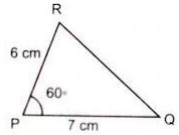
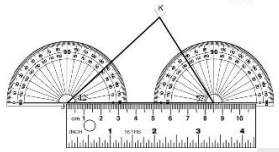
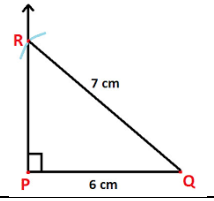
Unit name: PRACTICAL GEOMETRY.

Date: From to

Objectives:

1. Concept of constructing the plane figure.
2. To construct triangles.
3. Different methods of constructing the triangles.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related plane figures.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on line segments, plane figures and triangles. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Methods of constructing the triangles when** 1. **SSS:** construct when side, side, side given.  2. **SAS:** construct when side, angle, side given.  3. **ASA:**Construct when angle,side, angle given.  4. **RHS:** Construct when right angle given. 	Projector Ppt. Marker Chart Geometry kit Geogebra	Discussion & group activities		
Elaborate	Make group of students, then give some problems to construct themselves on above concept.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to construct the triangles. Students will construct all problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 11 **Methodology: Demonstration & problem solving method.**

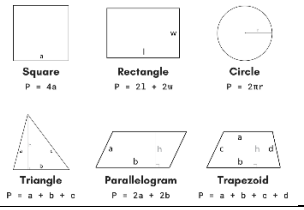
Unit name: PERIMETER & AREA.

Date: From to

Objectives:

1. Concept of perimeter and area.
2. To find perimeter and area of squares and rectangles.
3. To find perimeter and area of triangles.
4. To find the area of parallelogram.
5. To find area & perimeter of circles.
6. To solve application level problems.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related plane figures.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on squares, rectangles, circles and parallelograms to come perimeter and area. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector modals	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** explain about perimeter and area. Squares and rectangles: now teacher will introduce perimeter and area of squares and rectangles. **Squares and rectangles:** now teacher will introduce perimeter and area of squares and rectangles. **Triangles**: now teacher will introduce perimeter and area of triangles. **Parallelograms**: now teacher will introduce perimeter and area parallelograms. **Circles**: now teacher will introduce perimeter and area of circles. By taking different examples do some problems on these above concept. 	Projector Ppt. Marker Chart Modals 3D shapes	Discussion & group activities		
Elaborate	Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 12 **Methodology: Demonstration & lecture method.**

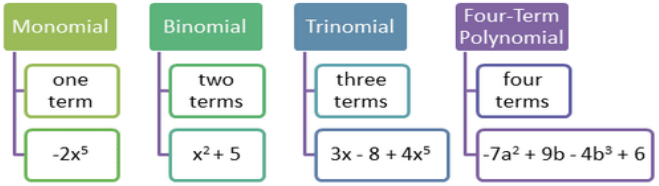
Unit name: ALGEBRAIC EXPRESSIONS.

Date: From to

Objectives:

1. Concept of algebraic expressions.
2. Concept of terms.
3. Like and unlike terms.
4. Concept of polynomials.
5. Addition and subtractions of polynomials.
6. To find the value of an expression.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related variables, constant terms ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on terms, variables and constant. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** We have already come across simple algebraic expressions like x + 3, y – 5, 4x + 5, 10y – 5 and so on. **TERMS OF AN EXPRESSION:** We shall now put in a systematic form what we have learnt above about how expressions are formed. **LIKE AND UNLIKE TERMS:** When terms have the same algebraic factors, they are like terms. When terms have different algebraic factors, they are unlike terms. **MONOMIALS, BINOMIALS, TRINOMIALS AND POLYNOMIALS:** 	Projector Ppt. Marker Chart	Discussion & group activities		
Elaborate	Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 13 **Methodology: Demonstration & lecture method.**

Unit name: EXPONENTS AND POWERS.

Date: From to

Objectives:

1. Concept of exponents.
2. To learn about of laws of exponents.
3. Concept of decimal number systems.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related numbers, operations on numbers ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on number systems, multiplications of numbers and so on. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector	Questionnaire	Answering for supplementary questions.	

<table>
<tr>
<td>Explain</td>
<td>Introduction: Distance between Sun and Saturn is 1,433,500,000,000 m and distance between Saturn and Uranus is 1,439,000,000,000 m. Can you read these numbers?. Like this questions, then do some problems on exponents.
Laws of exponents: explain about all the 5 laws of exponents with different examples.
<table>
<tr><th>Law</th><th>Example</th></tr>
<tr><td>$a^m a^n = a^{m+n}$</td><td>$2^3 2^4 = 2^{3+4} = 2^7 = 128$</td></tr>
<tr><td>$(a^m)^n = a^{mn}$</td><td>$(2^3)^4 = 2^{3.4} = 2^{12} = 4096$</td></tr>
<tr><td>$(ab)^n = a^n b^n$</td><td>$(20)^3 = (2.10)^3 = 2^3.10^3 = 8.1000 = 8000$</td></tr>
<tr><td>$(\frac{a}{b})^n = \frac{a^n}{b^n}$</td><td>$(\frac{2}{5})^3 = \frac{2^3}{5^3} = \frac{8}{125}$</td></tr>
<tr><td>$\frac{a^m}{a^n} = a^{m-n}$</td><td>$\frac{2^5}{2^3} = 2^{5-3} = 2^2 = 4$</td></tr>
</table>
Decimal number system: explain about how we write the longest numbers in decimal form, then do some problems on it.</td>
<td>Projector
Ppt.
Marker
Chart</td>
<td>Discussion & group activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaborate</td>
<td>Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.</td>
<td>Exercise problems
In textbook</td>
<td>Activity</td>
<td>Discussion with students</td>
<td></td>
</tr>
<tr>
<td>Evaluate</td>
<td>Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.</td>
<td>Textbook</td>
<td>Evaluation</td>
<td>Try to do all problems in textbook.</td>
<td></td>
</tr>
</table>

Subject teacher **Head master or mistress/Principal**

Unit: 14 **Methodology: Demonstration & project method.**

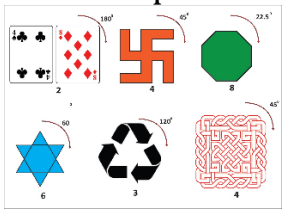
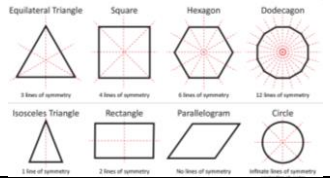
Unit name: SYMMETRY.

Date: From to

Objectives:

1. Concept of symmetry.
2. Lines of symmetry for regular polygons.
3. Concept of rotational symmetry.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related lines, points ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on plane figures, lines. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector modals	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** Symmetry is an important geometrical concept, commonly exhibited in nature and is used almost in every field of activity. **LINES OF SYMMETRY FOR REGULAR POLYGONS:** explain about polygons, symmetric figures with different pictures. **ROTATIONAL SYMMETRY:** Explain about rotational symmetry by taking different pictures.  **LINE SYMMETRY AND ROTATIONAL SYMMETRY:** 	Projector Ppt. Marker Chart	Discussion & group activities		
Elaborate	Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**

Unit: 15 **Methodology: Demonstration & project method.**

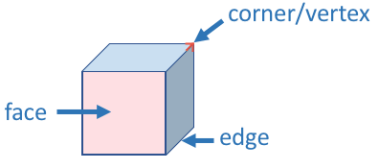
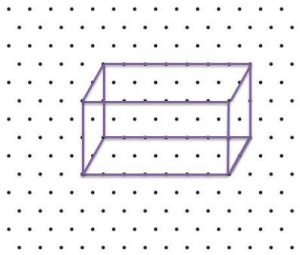
Unit name: VISUALIZING SOLID SHAPES.

Date: From to

Objectives:

1. Concept of plane figures and solid shapes.
2. Concept of faces, vertices and edges.
3. Concept of isometric sketches.
4. Different sections of a solid.

Steps	Activities To Favourable For Learning	TLM	Evaluation Tools & Techniques	Teachers Introspection	TIME
Engage	Teacher will checking pupils previous knowledge they learnt. Ask the questions related lines, points ect.	Chart, Ppt color chalks.	Discussion & group discussion.	Will try to answers	
Explore	Start the session by asking the question on plane figures, lines. After getting different answers from the class, introduce the chapter.	chalks, chart, ppt. projector modals	Questionnaire	Answering for supplementary questions.	

Explain	**Introduction:** In our day to day life, we see several objects like books, balls, ice-cream cones etc., around us which have different shapes. **FACES, EDGES AND VERTICES:** explain about faces, edges and vertices of different types of solid figures.  Isometric Sketches: 	Projector Ppt. Marker Chart 3D shaped figures	Discussion & group activities		
Elaborate	Make group of students, then give some problems to solve themselves. Guide them to solve additional problems on this chapter.	Exercise problems In textbook	Activity	Discussion with students	
Evaluate	Teacher will assign some problems to do work. Students will solve all the problems given in the textbook.	Textbook	Evaluation	Try to do all problems in textbook.	

Subject teacher **Head master or mistress/Principal**