SUBJECT- Mathematics

OBJECTIVES:

1. *To acquire knowledge and understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles and symbols and underlying processes and skills;*
2. *To develop mastery of basic algebraic skills;*
3. *To develop an interest in students to study Mathematics as a discipline*
4. *feel the flow of reason while proving a result or solving a problem;*
5. *To develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases;*
6. *To develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics;*
7. *To develop interest in the subject by participating in related competitions;*
8. *To develop ability to think, analyze and articulate logically.*

Sr.No.	Month	Learning outcomes	Name of Chapter	Activities
1	April	The learner will be able to • Pairs of linear equations their framing and representation on graph. • Conditions of equations for intersecting lines, coincident lines and parallel lines • Elimination method and substitution method for solving pairs of linear equations. • Finding ratios when one ratio is given. • Application of T- Ratios and their proof. • Trigonometric identities and applications	1. Pairs of Linear Equations. 2. Introduction To Trigonometry.	1. Representation of conditions in the form of equations and drawing graphs. 2. Quiz from mycbseguide. 3. Finding trigonometric ratios using matchsticks and ice cream sticks
2	May/June	A learner will be able to • Understand the prime factors using factor tree • Find HCF and LCM using prime factors. • Prove irrationality of a number • Find zeroes and find relations between zeroes and coefficients. • Find polynomial when zeroes are given. • Find polynomial when sum and product of zeroes are given	3. Real Numbers 4. Polynomials	1. Factor tree using small rings and woolen thread 2. Finding zeroes by using factors with the help of papercutting methods. 3. Videos from mycbseguiudes

3	July/August	Learner will be able to • Area and primeters of circle, semi-circles, quadrants. • Area and length of arc of sector of circle • Area of major an d minor segment • Finding height and distance using trigonometric ratios of $30^0, 60^0, 90^0$.	5. Area related to circles. 6. Some application To Trigonometry.	1. Find height of tree/ building in your area using clinometer
4	September	Learner will be able to • Use concept of Thales theorem in solving various problems. • Use Similarity of triangle to solve problems. • Basic concept of probability and it applications • Theoretical approach of an event such as that of coin, playing cards, dice, colored balls etc. • To understand geometric probability • Find distance between two points • Find ratio in which a point divides two lines. • Find mid- point of a line joining two given points.	7. Triangles 8. Probability. 9. Coordinate Geometry.	1. Prove similarity of given figure using card board. 2. Probability using colourd balls. 3. With the help of students of your class find mid point between two buildings of school. 4. Quiz from mycbseguide/ kahoot
5	October	Learner will be able to • Understand concept of tangent and secant to the circle. • Tangent from a point to the circle. • Calculation of mean by direct and assumed mean method. • Finding mode and median. • Application of empirical formula.	10. Circles. 11. Statistics.	1. Collect data of ages of all students of class 10th and find mean, mode and median 2. Quiz from mycbseguide/ kahhoot
6	November	Learner will be able to • Find nth term for given Arithmetic progression. • Sum of nth term of an AP. • Solve quadratic equation by splitting middle term. • Solving quadratic equation by using quadratic formula.. • Finding constant when roots are real, equal, distinct.	12. Arithmetic Progression. 13. Quadratic Equations.	1. Ask students to collect data from different source and arrange as an AP. Find 50th, 100th, 150th, 1000th term. Also find sum of 1000 term, 10000 terms. 2. Kahoot quiz
7	December		**Pre- board -1**	
8	January	Learner will be able to • Find surface area of combinations of two or more figures • Find volumes of combinations of two or more figures.	14. Surface area and volume	To prepare cube, cuboid, cone, cylinder sphere and hemisphere using hard sheet and find surface area and volumes of their combinations
9			**Pre-Board- 2**	

FORMATIVE ASSESSMENT-1

1. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES
2. POLYNOMIALS
3. INTRODUCTION TO TRIGONOMETRY
4. REAL NUMBERS

PRE-BOARD-1
1. REAL NUMBERS
2. POLYNOMIALS
3. INTRODUCTION TO TRIGONOMETRY
4. PROBABILITY
5. TRIANGLES
6. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES.
7. COORDINATE GEOMETRY
8. AREA RELATED TO CIRCLES.
9. QUADRATIC EQUATIONS
10. ARITHMETIC PROGRESSIONS
11. SOME APPLICATION TO TRIGONOMETRY
12. CIRCLES
13. STATISTIC

PRE-BOARD-2
1. REAL NUMBERS
2. POLYNOMIALS
3. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES.
4. INTRODUCTION TO TRIGONOMETRY
5. PROBABILITY
6. TRIANGLES
7. COORDINATE GEOMETRY
8. AREA RELATED TO CIRCLES.
9. QUADRATIC EQUATIONS
10. ARITHMETIC PROGRESSIONS
11. SOME APPLICATION TO TRIGONOMETRY
12. CIRCLES
13. STATISTICS
14. SURFACE AREA AND VOLUME.

ENRICHMENT ACTIVITY:

HALF YEARLY
1. To verify the conditions for consistency of a system of linear equations in two variablesby graphical representation.
2. To verify the basic proportionality theorem by using parallel lines board, triangle cut outs.

ANNUAL
1. To compare the curved surface areas and total surface areas of two right circular cylinders whichare formed from rectangular sheets of paper with same dimensions.
To set the idea of probability of an event through a double colour cards experiment.