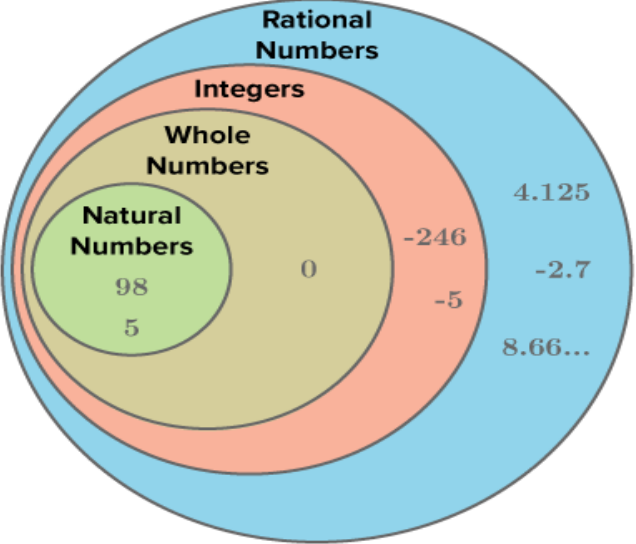
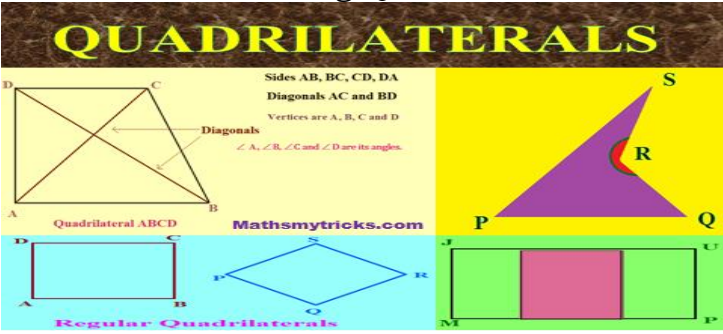
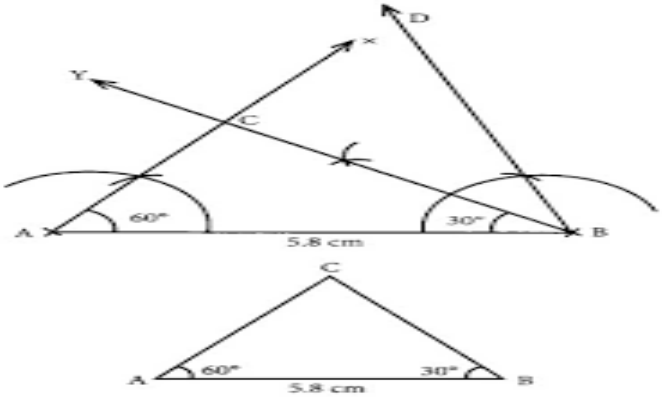
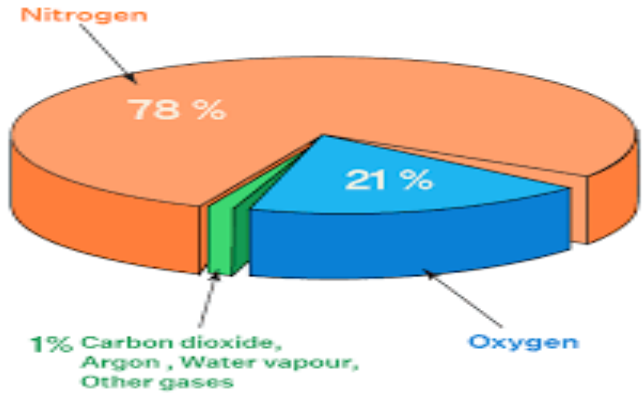
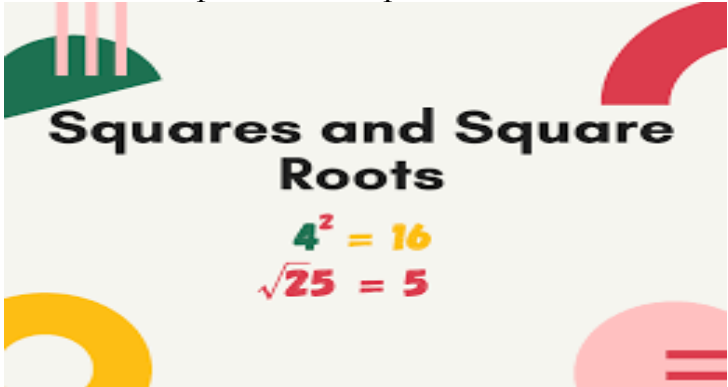
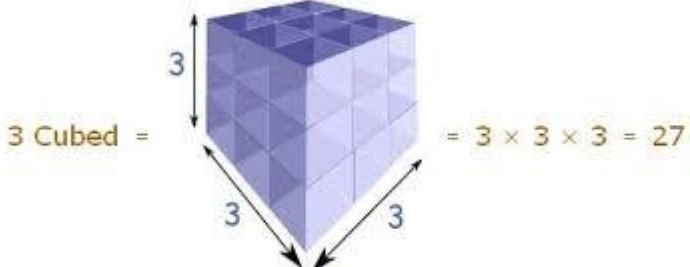


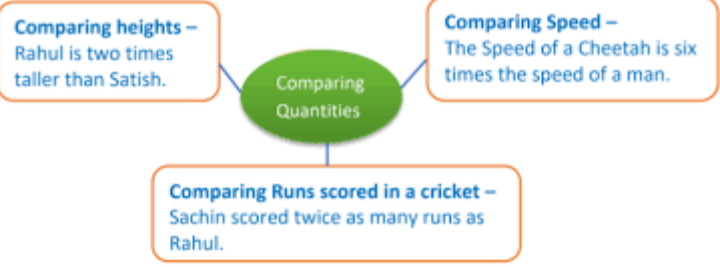
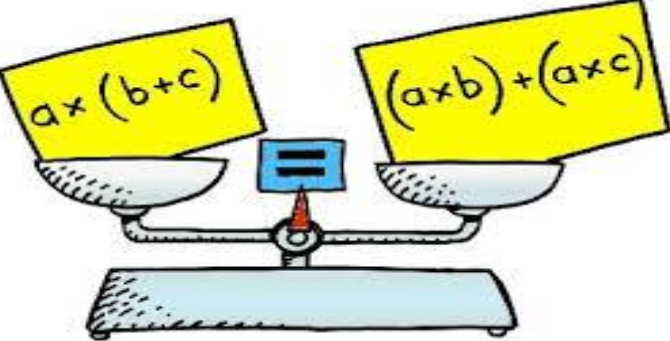
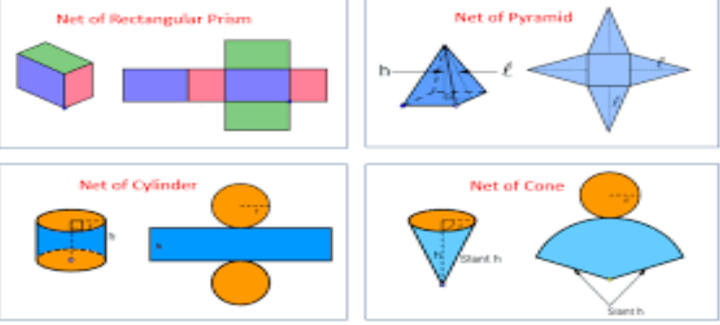
Class-VIII


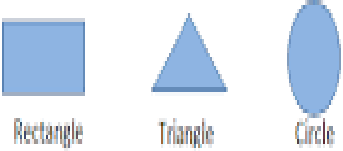
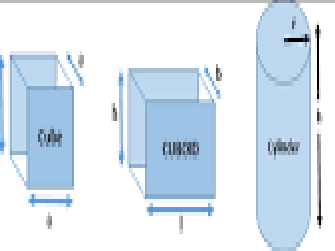
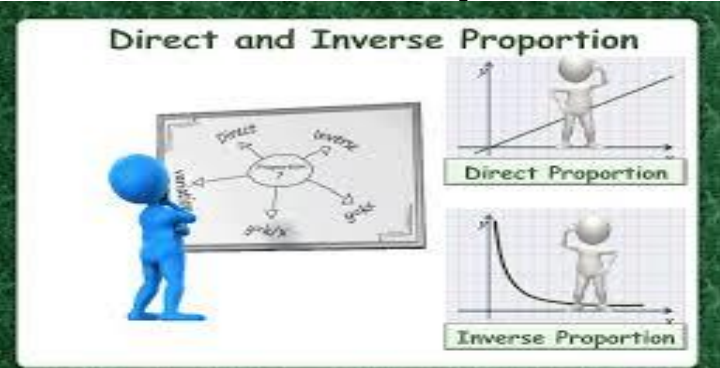
Mathematics

Sr. No.	Content/ Topic	Month & No. of Days	21st Century Skills	Learning Objectives	Expected Learning Outcomes
1	Bridge Course	April- 12 Days		To revise important concepts, identities, theorems and formulae from grade 7	Students would be able to recall concepts, identities and formulae from previous grades.
2	Rational Numbers 	April - 10 Days	Critical Thinking and Problem Solving.	<ul style="list-style-type: none"> <li>• Properties of rational numbers. Closure, Commutativity, Associativity, Distributivity, reciprocal, negative of a number.</li> <li>• Representation of rational numbers on the number line.</li> <li>• Find a rational number between two rational numbers.</li> </ul>	Students would be able to: <ul style="list-style-type: none"> <li>• Recall the number systems and define them.</li> <li>• Explore various operations on rational numbers.</li> <li>• Apply the properties of rational numbers in various problems.</li> <li>• Represent rational numbers on the number line.</li> <li>• Explore and compare rational numbers and any two given rational numbers.</li> <li>• Acquire problem-solving skills.</li> </ul>
3	Linear equations in one variable	June- 6 Days	Creativity and Innovation	<ul style="list-style-type: none"> <li>• How to solve equation. Which have linear expressions on one side &amp; numbers on the other side.</li> <li>• Solving equation having the variable on both side.</li> <li>• Reducing equations to simpler form.</li> <li>• Equations reducible to the linear form.</li> </ul>	Students would be able to: <ul style="list-style-type: none"> <li>• Develop the ability to analyze and solve problems between variables.</li> <li>• Perform numerical operations like forming equations from word problems.</li> </ul>

	<p style="text-align: center;"><b>Standard Form of a Linear equation in One Variable</b></p> <p style="text-align: center;">Variable ↑ <b><math>ax + b = 0</math></b> ↓   ↓ Constant   Constant</p> <p style="text-align: center;">x is Variable and a and b are Constants</p>				
4	<p style="text-align: center;">Understanding Quadrilaterals.</p> 	June – 11 Days	<a href="#">Problem solving</a> ,	<ul style="list-style-type: none"> <li>• Classification of polygons.</li> <li>• Angle sum property of polygon</li> <li>• Kinds of quadrilaterals (trapezium and kite, parallelogram, Elements of an angles of parallelogram.</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>• Identify different 2D shapes</li> <li>• Define different polygons with their properties</li> <li>• Identify different quadrilaterals</li> <li>• Solve problems on properties of quadrilaterals</li> </ul>
5	<p style="text-align: center;">Practical Geometry</p> 	July – 12 Days	Creative Thinking	<ul style="list-style-type: none"> <li>• How to conduct a quadrilateral with given instructions and with some special cases.</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>• Perform construction skills like construction of angles and quadrilaterals with different conditions</li> </ul>
6	<p style="text-align: center;">Data Handling</p>	<p>July – 5 Days August – 4 Days</p>	Collaboration	<ul style="list-style-type: none"> <li>• Students learn about how to organize data, grouping of data.</li> <li>• Draw circle graph or pie chart.</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>• Develop the skills to analyze the data of graphs.</li> <li>• Plot the information</li> </ul>

					graphs and critical thin
7	<p>Squares &amp; Square roots</p> 	August – 10 Days	Productivity	<ul style="list-style-type: none"> <li>Learn about properties of square nos.</li> <li>Interesting patterns regarding squares, Pythagorean triplets.</li> <li>How to find square roots through repeated subtraction, prime factorization, division method.</li> <li>Learn about square roots of decimals.</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>Develop the ability to analyze and solve problems involving perfect squares and square roots.</li> <li>Find square roots of given numbers.</li> <li>Apply the concept of factorization to find square roots.</li> </ul>
8	<p>Cubes &amp; cube roots</p> 	August – 08 Days	Productivity	<ul style="list-style-type: none"> <li>Cubes, how to find out cubes and cube roots.</li> <li>How to find cube root through given factorization method.</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>Develop the ability to analyze and solve problems involving squares and cube roots.</li> <li>Perform numerical operations and solve word problems that involve cubes or cube roots.</li> </ul>
9	<p>Comparing Quantities</p>	September – 10 Days	Media Visibility	<ul style="list-style-type: none"> <li>How to find the increase/decrease percent.</li> <li>Find discount &amp; estimate of percentages.</li> <li>Learn about to find compound interest its types &amp; applications</li> </ul>	<p>Students would be able to</p> <ul style="list-style-type: none"> <li>Recapitulate the concept of percentages.</li> <li>Find % of given quantities and evaluate a percent of a given quantity.</li> </ul>

				in day to day life.	<ul style="list-style-type: none"> <li>Word probl increase an percent.</li> </ul>
10	<p>Algebraic Expressions &amp; Identities</p> 	October – 10 Days	Accountability	<ul style="list-style-type: none"> <li>Learn about terms, factors &amp; coefficient.</li> <li>Monomials, Binomials &amp; Polynomials.</li> <li>Application of algebraic expressions (addition, subtraction, multiply &amp; divide)</li> <li>Multiplying a monomial by a monomial, binomial &amp; polynomial.</li> <li>What is an Identity.</li> </ul>	<p>Students would b</p> <ul style="list-style-type: none"> <li>Recapitulat Expression efficient, lik unlike term etc.</li> <li>Recapitulat subtraction Expression</li> </ul>
11	<p>Visualising solid shapes</p> <p><b>Nets of 3-D Shapes</b></p> 	October – 6 Days	Flexibility and Adaptability	<ul style="list-style-type: none"> <li>Recognizing 2D &amp; 3D shapes. Learn about different views of 3D shapes positions.</li> <li>How to mapping space around us.</li> </ul>	<p>Students would b</p> <ul style="list-style-type: none"> <li>Draw the p</li> <li>Construct of figures</li> </ul>
12	<p>Mensuration</p>	November – 15 Days	Flexibility and Adaptability	<ul style="list-style-type: none"> <li>To find out area of a trapezium and a rhombus with using formula.</li> <li>Surface area of cuboid, cube &amp; cylinder</li> <li>Find the volume of cuboid, cube &amp; cylinder</li> </ul>	<p>Students would b</p> <ul style="list-style-type: none"> <li>Surface are square ,rec rhombus, t</li> <li>Surface are cuboid</li> <li>Surface are</li> </ul>

	<p>One Dimensional (1D): Length</p>  <p>Two dimensional (2D): Length, Breadth, Perimeter and Area</p>  <p>Three dimensional (3D): Length, Breadth, Area and Volume</p> 			<ul style="list-style-type: none"> <li>• Plane figures and solid shapes.</li> <li>• Faces, edges and vertices</li> <li>• Nets for building 3-D shapes.</li> <li>• Drawing solids on a flat surface (oblique)</li> <li>• Viewing different sections of a solid vertical cut, horizontal cut &amp; shadow playing.</li> </ul>	<ul style="list-style-type: none"> <li>• circular cyl</li> <li>• Volume of c</li> <li>• Volume of c</li> </ul>
13	<p style="text-align: center;"><b>Exponents &amp; Powers</b></p> <p style="text-align: center;">Exponent (index or power)</p> <p style="text-align: center;">Base <math>6^3 = 6 \times 6 \times 6</math></p> <p style="text-align: center;">Shorthand way of representation      Normal representation (Base multiplied exponent number of times)</p>	November – 4 Days December – 3 Days	Learning Skills	<ul style="list-style-type: none"> <li>• Powers with negative exponents</li> <li>• Laws of exponents</li> <li>• Use of exponents to express small numbers in standard form</li> <li>• Comparing very large and very small numbers</li> </ul>	Students would be able to <ul style="list-style-type: none"> <li>• Compare very large numbers</li> <li>• Use exponents to express small numbers in standard form</li> <li>• Apply the laws of exponents in positive and negative component</li> </ul>
14	<p style="text-align: center;"><b>Direct &amp; Inverse Proportions</b></p> 	December – 10 Days	Productivity	<ul style="list-style-type: none"> <li>• Direct proportion</li> <li>• Inverse proportion</li> </ul>	Students would be able to <ul style="list-style-type: none"> <li>• Develop the ability to analyze and compare between direct and inverse proportions</li> <li>• Perform numerical operations to evaluate the value.</li> </ul>

15	<p style="text-align: center;">Factorisation <b>Factorization</b></p> <div style="text-align: center;"> </div> <p style="text-align: center;"><b>Expanding</b></p>	December – 5 Days January – 10 Days	Accountability	<ul style="list-style-type: none"> <li>• Factors of natural numbers</li> <li>• Factors of algebraic expressions</li> <li>• What is factorization?</li> <li>• Method of common factors</li> <li>• Factorisation by regrouping terms</li> <li>• Factorisation using identities</li> <li>• Factors of the form <math>(x+a)(x+b)</math></li> <li>• Division of algebraic expressions</li> <li>• Can you find the error?</li> </ul>	Students would be able to <ul style="list-style-type: none"> <li>• Develop the skill to analyze the factors and decide which method to be used for factorization</li> <li>• Perform skills in the algebraic expressions</li> </ul>
16	<p style="text-align: center;">Introduction To Graphs</p> <div style="text-align: center;"> </div>	January – 8 Days	Information Literacy	<ul style="list-style-type: none"> <li>• A bar graph</li> <li>• A pie graph</li> <li>• A histogram</li> <li>• A line graph</li> <li>• Linear graphs</li> <li>• Some applications</li> </ul>	Students would be able to <ul style="list-style-type: none"> <li>• Develop the skill to analyze the data presented in graphs</li> <li>• Perform skills in calculating and plot a graph</li> </ul>
17	<p style="text-align: center;">Playing With Numbers</p> <div style="text-align: center;"> </div>	February – 8 Days	Critical Thinking	<ul style="list-style-type: none"> <li>• Numbers in general form</li> <li>• Games with numbers</li> <li>• Letters and digits</li> <li>• Test of divisibility</li> </ul>	Students would be able to <ul style="list-style-type: none"> <li>• Recall expansion</li> <li>• Apply division to find out the digits in numbers and also play with numbers</li> <li>• Perform the calculation and plot a graph</li> </ul>

