LOTUS PETAL SENIOR SECONDARY SCHOOL
GRADE - VIII
SUBJECT - MATHS

Month	Chapter	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
APRIL 18	Chapter 1. Rational Numbers Chapter 2. Linear Equation in one Variable	# Rational Numbers 1. Define and explain rational numbers 2. Identify and classify rational numbers 3. Perform operations on rational numbers 4. Simplify rational numbers 5. Compare and order rational numbers # Linear Equations in One Variable 1. Define and explain linear equations 2. Solve linear equations 3. Represent linear equations graphically 4. Apply linear equations to real-life situations 5. Check solutions to linear equations	# Rational Numbers 1. Visual aids: Use number lines, graphs, and diagrams to explain rational numbers. 2. Real-life examples: Use everyday examples, such as cooking recipes, to demonstrate rational numbers. 3. Group activities: Have students work in groups to simplify rational numbers. # Linear Equations in One Variable 1. Algebraic manipulation: Use algebraic methods to solve linear equations. 2. Graphical representation: Use graphs to represent linear equations. 3. Word problems: Use real-life word problems to apply linear equations.	# Rational Numbers 1. Define and explain rational numbers. 2. Identify and classify rational numbers. 3. Perform operations on rational numbers. 4. Simplify rational numbers. # Linear Equations in One Variable 1. Define and explain linear equations. 2. Solve linear equations. 3. Represent linear equations graphically. 4. Apply linear equations to real-life situations.	. Rational Number Bingo: Create bingo cards with rational numbers and have students play.	Art integrated activity / Lab activity - Making number wheel Art integrated activity / Lab activity - Playing cards activity # Rational Numbers 1. Critical Thinking: Analyze and simplify rational numbers. 2. Problem-Solving: Apply rational numbers to real-life problems, such as cooking and measurement. 3. Communication: Express rational numbers in different forms (e.g., fractions, decimals, percentages).

						# Linear Equations in One Variable 1. Analytical Thinking: Solve linear equations using algebraic methods. 2. Logical Reasoning: Apply linear equations to real-life situations, such as finance and science. 3. Technical Writing: Write and interpret linear equations in different forms.
MAY 11	Chapter-3 Understanding Quadrilaterals Chapter 4, Data Handling	# Quadrilaterals 1. Define and identify different types of quadrilaterals (e.g., rectangle, square, rhombus, trapezium). 2. Understand properties of quadrilaterals (e.g., number of sides, angles, diagonals). # Data Handling 1. Collect, organize, and represent data in various forms (e.g., tables, graphs, charts). 2. Understand and interpret different types of graphs (e.g., bar graphs, pie charts, line graphs).	# Quadrilaterals 1. Geometric shapes: Use physical shapes or diagrams to explain quadrilaterals. 2. Properties exploration: Have students explore and identify properties of quadrilaterals. 3. Real-life applications: Use real-life examples, such as architecture, to demonstrate quadrilaterals. # Data Handling 1. Data collection: Have students collect and organize data. 2. Graphical representation: Use graphs and charts to represent data. 3. Data analysis: Have students analyze and interpret data.	# Quadrilaterals 1. Define and identify different types of quadrilaterals. 2. Understand properties of quadrilaterals. 3. Apply formulas for perimeter and area of quadrilaterals. # Data Handling 1. Collect, organize, and represent data. 2. Interpret and analyze data. 3. Draw pie chart 4. Calculate probability.	Quadrilateral Scavenger Hunt: Hide pictures of quadrilaterals around the classroom and have students identify them. Art integrated activity / Lab activity - Paper folding to make different types of parallelograms	Art integrated activity / Lab activity - Making pie chart using lab instruments/geometry tools Making pie chart on daily routine / favourite food items # Quadrilaterals 1. Spatial Reasoning: Identify and classify different types of quadrilaterals. 2. Pattern Recognition: Identify patterns and relationships between quadrilaterals. 3. Design Thinking: Apply knowledge of quadrilaterals to design and architecture. # Data Handling

						1. Data Analysis: Collect, organize, and analyze data. 2. Critical Thinking: Interpret and draw conclusions from data. 3. Communication: Present data in different forms (e.g., graphs, charts, tables). **DATA HANDLING** **Regional Music Statistics:** Collect and analyze data about regional music preferences (e.g., popular songs in different regions) and compare with statistical tools such as pie charts.
JULY 16	Chapter 5. Squares & Square roots Chapter 6 Cubes & Cube Roots	# Squares and Square Roots 1. Define and calculate squares of numbers. 2. Understand the concept of perfect squares. 3. Find square roots of numbers. 4. Simplify expressions involving square roots. # Cubes and Cube Roots 1. Define and calculate cubes of numbers. 2. Understand the concept of	1. Number patterns: Use number patterns to explain squares, square roots, cubes, and cube roots. 2. Algebraic expressions: Use algebraic expressions to simplify calculations. 3. Real-life applications: Use real-life examples, such as architecture, to demonstrate squares, square roots, cubes, and cube roots.	1. Define and explain squares, square roots, cubes, and cube roots. 2. Simplify expressions involving squares, square roots, cubes, and cube roots. 3. Apply concepts to real-life situations.		# Squares, Square Roots, Cubes, and Cube Roots 1. Numerical Reasoning: Calculate squares, square roots, cubes, and cube roots. 2. Problem-Solving: Apply these concepts to real-life problems, such as architecture and engineering. 3. Estimation: Estimate values using

		perfect cubes. 3. Find cube roots of numbers. 4. Simplify expressions involving cube roots.				mental math.
AUGUST 14	Chapter 7 Comparing Quantities	1. Understand the concept of ratios and proportions. 2. Compare quantities using ratios, proportions, and percentages. 3. Calculate percentage increase, decrease, and percentage error. 4. Apply the concept of profit, loss, and discount. 5. Solve problems involving comparison of quantities.	1. Ratio and proportion: Use real-life examples to explain ratio and proportion. 2. Percentage calculations: Use percentage calculations to compare quantities. 3. Word problems: Use real-life word problems to apply comparing quantities.	1. Understand ratio and proportion. 2. Calculate percentage. 3. Compare quantities using ratio, proportion, and percentage.	Art integrated activity / Lab activity - Role play activity on discount Solving crossword on simple interest	1. Ratio and Proportion: Apply ratio and proportion to compare quantities. 2. Percentage Calculation: Calculate percentages to compare quantities. 3. Financial Literacy: Apply these concepts to real-life financial situations.
SEPTEMBER 8	Revision					
OCTOBER 10	Chapter 9 Mensuration Chapter-10 Exponents & Powers	# Menstruation 1. Understand the concept of mensuration and its importance in real-life situations. 2. Calculate the perimeter and area of various shapes, such as triangles, quadrilaterals, and polygons. 3. Apply the concept of mensuration to solve problems involving volume and surface area of 3D shapes. 4. Develop problem-solving skills and critical thinking through mensuration. # Exponential Powers	1. Direct Instruction: Use lectures and demonstrations to explain mensuration concepts. 2. Guided Practice: Provide students with worksheets and exercises to practice mensuration problems. 3. Independent Practice: Encourage students to work on mensuration projects and presentations. # Exponential Powers 1. Pattern recognition: Use pattern recognition to explain exponential powers. 2. Algebraic expressions: Use algebraic expressions to simplify calculations.	1. Calculate the perimeter and area of various shapes. 2. Apply mensuration concepts to solve real-world problems. 3. Develop problem-solving skills and critical thinking. 4. Communicate mensuration concepts and solutions effectively. 1. Define and explain exponential powers. 2. Simplify expressions involving exponential powers. 3. Apply concepts to real-life situations.	Art integrated activity / Lab activity - exponents and powers activity by paper folding activity Dice game to solve powers by dividing class in 2 groups	Art integrated activity / Lab activity - Using geoboard to find area of a polygon Paper cutting activity to derive volume of a cylinder Use appropriate formulae to find surface area and volume of cuboidal and cylindrical object # Exponential Powers 1. Numerical Reasoning: Calculate exponential powers. 2. Pattern Recognition: Identify

		1. Define and understand exponential expressions and powers. 2. Simplify expressions involving exponential powers. 3. Apply the laws of exponents (e.g., product rule, quotient rule). 4. Solve problems involving exponential growth and decay.	3. Real-life applications: Use real-life examples, such as population growth, to demonstrate exponential powers. .			patterns and relationships between exponential powers. 3. Scientific Literacy: Apply exponential powers to scientific concepts, such as population growth. 1. Problem-Solving: Apply mensuration concepts to solve real-world problems. 2. Critical Thinking: Develop critical thinking skills through mensuration problems and projects. 3. Communication: Communicate mensuration concepts and solutions effectively through presentations and projects. 4. Collaboration: Work with others to design and create mensuration projects and presentations. 5. Creativity: Apply creativity to mensuration projects and presentations, using various shapes and materials. **Mensuration- craft** Students create 3D models using various materials (clay, cardboard, etc.) and calculate the surface

						area and volume.
NOVEMBER 12	Chapter 8 Algebraic Expressions Chapter 12 Factorisation	# Algebraic Expressions 1. Define and simplify algebraic expressions. 2. Add, subtract, multiply, and divide algebraic expressions. 3. Identify and combine like terms. 4. Apply algebraic expressions to solve problems. # Factorization 1. Understand the concept of factors and factorization. 2. Factorize algebraic expressions using different methods (e.g., greatest common factor, difference of squares). 3. Factorize quadratic expressions. 4. Apply factorization to solve algebraic equations.	1. Algebraic manipulation: Use algebraic methods to simplify expressions. 2. Factorization techniques: Teach various factorization techniques, such as greatest common factor. 3. Word problems: Use real-life word problems to apply algebraic expressions and factorization.	1. Simplify algebraic expressions. 2. Factorize algebraic expressions. 3. Apply concepts to solve equations.	Art integrated activity / Lab activity - Prove identities using models Conducting quiz by dividing class into groups Art integrated activity / Lab activity - Prove identity using model Finding common factors using button activity	1. Algebraic Reasoning: Simplify and factorize algebraic expressions. 2. Problem-Solving: Apply algebraic expressions to real-life problems. 3. Critical Thinking: Analyze and interpret algebraic expressions.
DECEMBER 13	Chapter 11 Direct & Inverse Proportion Chapter 13 Introduction to Graphs	# Direct and Inverse Proportion 1. Understand the concept of direct and inverse proportion. 2. Identify and establish relationships between variables that are directly or inversely proportional. 3. Use the concept of proportionality to solve problems. 4. Apply the formula for direct and inverse proportion (e.g., y = kx, y = k/x). # Introduction to Graph 1. Understand the basic concepts of graphs and	# Direct and Inverse Proportion 1. Real-life examples: Use real-life examples, such as cost and quantity, to explain direct and inverse proportion. 2. Graphical representation: Use graphs to represent direct and inverse proportion. 3. Algebraic expressions: Use algebraic expressions to simplify calculations. # Introduction to Graphs 1. Coordinate geometry: Introduce coordinate geometry to explain graphs. 2. Graphical representation:	# Direct and Inverse Proportion 1. Understand direct and inverse proportion. 2. Identify and establish relationships between variables. 3. Apply concepts to real-life situations. # Introduction to Graphs 1. Understand coordinate geometry. 2. Plot points on a coordinate plane. 3. Interpret and analyze graphs.	Applying graph concept to solve real life situations Art integrated activity / Lab activity - Coordinate board game Plotting line graph and locating points on graph Art integrated activity / Lab activity - Presentation on inverse and direct method AI Activity Description For this activity ask the students to go to	# Direct and Inverse Proportion 1. Ratio and Proportion: Apply ratio and proportion to direct and inverse proportion. 2. Graphical Representation: Represent direct and inverse proportion graphically. 3. Scientific Literacy: Apply direct and inverse proportion to scientific concepts.

		coordinates. 2. Identify and plot points on a coordinate plane. 3. Understand the concept of x-axis, y-axis, and origin. 4. Interpret and analyze simple graphs to identify relationships between variables.	Use graphs to represent relationships between variables. 3. Real-life applications: Use real-life examples, such as science and economics, to demonstrate graphs.		https://maps.google.com and enter a specific source and destination. Once they have fed the input, they will get an estimated time of arrival at the destination on the basis of real-time traffic conditions. Ask the students to note down the distance shown between these 2 points and the estimated time taken for the same. Now, ask the students to check the time taken for the same distance by another means of transport. Students can change the means of transport by clicking on various icons. Ask the students to note down time taken to reach the destination by car, bike and on foot (walking). Once they have got the information, ask them to calculate the speed of the vehicle for all the three datasets. Now, ask the students to identify the proportionality between time, speed and distance.	# Introduction to Graphs 1. Graphical Representation: Represent data graphically. 2. Data Analysis: Analyze and interpret graphs. 3. Communication: Present data in graphical form.
JANUARY 6	Revision					
FEBRUARY	Revision					

MARCH	Exams & New Session					