# LOTUS PETAL SENIOR SECONDARY SCHOOL
## GRADE - VII
## SUBJECT - MATHEMATICS

| Month | Chapter | Learning objectives | Teaching Methods | Learning Outcomes | Subject Enrichment Activity | Art Integration /Multi-Disciplinary |
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| April 18 | **Integers** | Understand integers and their operations. | Number line method, Interactive exercises, Group activities. | Students will be able to add, subtract, multiply, and divide integers. | Create a temperature scale (positive and negative) and demonstrate integer operations using it. | Link to Geography: Understanding temperature variations in different parts of the world. |
| **May 11** | **Fractions and Decimals** | Understand fractions, decimals, and their operations. | Visual aids, Real-life examples, Group work. | Students will be able to convert fractions to decimals and perform operations with both. | Use number cards to convert fractions to decimals and vice versa. | Art integration: Create visual representations of fractions using colored paper. |
| **July 21** | **Rational Numbers & Data Handling** | Learn about rational numbers and their operations.<br><br>Understand how to collect, organize, and interpret data.<br>Objective<br>To understand concept of Data Handling.<br>● To understand process of Data Handing:<br>a) Sources of Data<br>b) Collection of Data – Data Acquisition<br>c) Organization & Representation of Data – Data | Use of number lines, Visual aids, Practice problems.<br><br>Use of charts and graphs, Group discussion, Data collection exercises. | Students will be able to perform operations with rational numbers.<br><br>Students will be able to represent data in bar graphs, and double bar graph | Represent rational numbers on a number line,<br><br>Survey classmates on a specific topic and present the data in a bar graph or Double bar egraph | Art integration: Rational numbers on number line<br><br>Link to Social Studies: Use data handling to study population demographics.<br><br>Understanding the concept of Data Handling using AI Tools of Data Acquisition and |

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| | | Exploration.<br>● To understand process of Data Handing in real-life situations using AI | | | | Data Exploration.<br><br>Tools of Data Acquisition and Data Exploration.<br><br>• Sources of Data<br>• Data Acquisition<br>• Data exploration |
| **August 14** | **Simple equation & lines and Angles** | Understand simple equations and their solutions.<br><br>Understand the different types of angles, and lines, and their properties. | Step-by-step explanation, Practice problems, Interactive approach.<br><br>Visual aids, Drawing and measuring, Group activities. | Students will be able to solve simple algebraic equations.<br><br>Students will be able to identify and draw various angles and understand their properties. | Solve simple equations using real-life examples, like shopping costs or shared items.<br><br>Draw and label different types of angles using a protractor. | Art integration: Create a geometric design using various angles and lines.<br><br>Study of lines, strokes, colours, shades, tones, textures, etc. while organizing two-dimensional space with two dimensional and three-dimensional shapes and forms<br><br>Use of contrast as an expressive element of art |
| **September 7** | **Triangle & its Properties** | Learn about the types of triangles, and their properties, and apply the Pythagoras Theorem. | Use of models, Drawing exercises, Practical activities. | Students will be able to classify triangles and apply their properties. | Create different types of triangles using paper or cardboard and study their properties. | Using Graph paper proof Pythagoras property |
| **October** | **Comparing** | Understand ratios, percentages, | Interactive exercises, Real-life | Students will be able to solve | Calculate the price of | Link to Science: |

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| **15** | **Quantities** | and their applications. | problem-solving, Group discussions. | problems involving percentage, profit/loss, and discounts. | items before and after discounts in a mock shopping scenario. | Understand percentages in ingredients of packed food. |
| **November 17** | **Perimeter and Area** | Understand how to calculate the perimeter and area of various 2D shapes. Parallelogram area, triangle area, circle | Visual demonstrations, Problem-solving exercises, Real-life examples. | Students will be able to calculate the perimeter and area of different shapes. | Measure the perimeter and area of classroom objects and calculate accordingly. | Art Integration: Draw 2D shapes and find its perimeter & Area |
| **December 14** | **Exponents and powers & Algebraic Expressions** | Understand the concept of exponents and apply the laws of exponents.<br><br>Learn to simplify and evaluate algebraic expressions | Visual aids, Step-by-step explanation, Practice problems.<br><br>Step-by-step explanations, Practice exercises, Group discussions. | Students will be able to perform operations using exponents and powers.<br><br>Students will be able to simplify and evaluate algebraic expressions. | Create a chart to represent powers of numbers and their application. | Art Integration: Using Identities<br><br>Link to Physics: Use algebraic expressions to solve problems related to speed, distance, and time. |
| **January 8** | **Symmetry & visualising Solid Shapes** | Understand symmetry in 2D shapes and their properties.<br>Understanding the concept of Symmetry using AI Experiential Applications Symmetry<br><br>To understand concept of Symmetry.<br>● To understand difference between symmetrical and unsymmetrical articles/ Objects using AI game.<br>● To identify the number of lines of symmetry in any object. (one line, two lines and more than two lines)<br>Autodraw.com<br><br>Understand 3D shapes and their properties, including volume and surface area. | Drawing, Paper folding techniques, Real-life examples.<br><br>3D models, Visual aids, Drawing exercises. | Students will be able to identify and draw lines of symmetry in various shapes.<br><br>Students will be able to identify and visualize 3D shapes and understand their properties. | Create symmetrical designs using folding or mirror techniques.<br><br>Create 3D shapes using clay or cardboard and check their Shadow and order of symmetry | Art integration: Use symmetry to design artistic patterns or mandalas.<br><br>Study of various materials such as clay, plaster of paris, soft-stone, wood (blocks, twigs and branches, roots, etc.), metal scraps, plastic sheets, bamboo, wire thread, papers and cardboards, vegetables and other throw-away available materials |
| February | Revision | | | | | |

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| March | Examination | | | | | |
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