THE ADVENT SCHOOL (2026-27)

CLASS –VIII | SUBJECT –MATHEMATICS

TERM WISE SYLLABUS

NAMES OF TEXTBOOKS–

1. **NCERT**
2. **REFERENCE BOOK: NEW LEARNING COMPOSITE MATHEMATICS**

TERM	CHAPTERS	TOPICS/SYLLABUS
PRE MID-TERM	**Chapter-1, (Part I) A Square and A Cub**	• Square of a number • Perfect Square • Pythagorean triplet • Square root • Square root of decimal numbers • Properties of cube numbers • Cube roots • Hardy-Ramanujan Number • **Activity:** Give students a set number of small square tiles (e.g., 12, 16, 20, 25). Ask them to try and form a perfect large square.
	Chapter-2, (Part I) Power play	• Exponential Notation and Operations • The other side of power • Laws of Exponents • Scientific notation • Linear growth vs. Exponential growth • **Activity:** Virus Spread Modeling: Calculate the total infected people if one person is infected on Day 0 and the number triples daily instead of doubling, expressing the result as an exponent.
MID TERM	**Chapter-3, (Part I) A Story of Numbers**	• Egyptian number system • Greek and Roman Numbers, • Mesopotamian (Sexagesimal) number system • Babylonian numbers system • Chinese numbers system • Mayan numbers system • Hindu number system • Roman number system • **Activity:** Ancient Systems Investigation: Comparing Mesopotamian (base-60), Mayan, and Egyptian methods, whi often used repetitive symbols for large numbers, to understar the necessity of a base.
	Chapter-4, (Part I)	• Convex and concave Quadrilaterals • Sides, Angles and Diagonals of a quadrilateral

MID TERM	**Quadrilaterals**	• Angle sum property of a quadrilateral • Exterior Angle sum property • Special Quadrilaterals (Parallelograms) • Properties of Square, Rectangle and Rhombus • Properties of kite and trapezium • **Activity:** Geoboard Activity
	Chapter-5, (Part I) **Number Play**	• Pattern with four consecutive numbers • Writing a number in generalized form • Divisibility test by 2,3,4,5,6,8,9,10,11. • A statement : (Always true or sometimes true or Never True) • **Activity:** Navakankari (A strategy game for two players Where the goal is to form of three pawns to eliminate the opponent's pawns or block their movement.
	Chapter-6, (Part I) **We Distribute, Yet Things Multiply**	• Properties of multiplication : distributive Property • Algebraic Expressions • Algebraic Identities • Multiplication and division of polynomials • **Project:** verifying: $(a+b)^2 = a^2 + 2ab + b^2$
	Chapter-7,(Part I) **Proportional Reasoning-1**	• Ratios • Ratios in their simplest form • Problem solving with Proportional Reasoning • Increase and decrease in a ratio • Proportion • Four numbers in proportion • Three numbers in proportion • Unitary method • **Activity:** Binairo, Also known as Takuzu
		• Fractions as Percentages • Percentage of some quantities • To compare proportions using percentages

	Chapter-1, (Part II) Fractions in Disguise	• Profit and loss • Taxes • Interests (simple and compound) • Depreciation • **Activity:** Market Activity: Set up a "class shop" with items (textbooks, pens) tagged with a Marked Price (M.P.). Offer a 10-20% discount. Students act as shoppers and calculate the Sale Price (M.P. – discount), effectively applying percentage concepts.
POST MID-TERM	**Chapter-2 (Part II) The Baudhayana-Pythagoras Theorem**	• Doubling a Square • Halving a square • Hypotenuse in a Right Angled Triangle • Baudhayan Theorem on Right Angled Triangle • Baudhayan-Pythagoras triples • Primitive Bodhayan triple • Fermat's last theorem • Application of Baudhayan-Pythagoras Theorem • A problem from Bhaskaracharya's Lilavati • **Project:** proof of Pythagoras Theorem using cardboard
	Chapter-3, (Part II) Proportional reason 2	• Ratios in maps • Ratio with more than 2 terms • Dividing a whole in a given ratio • Pie chart • Inverse proportion • **Activity:** Map making Activity: guide students to make a sketch of t classroom with an accurate scale (ratio of 1:50). They Should mark the location of various objects in classroomLike the teacher's, desk, board, fans and lights, according to Scale. Student can use appropriate syr to represent different objects like fans, lights, tables, chairs, and so on.
FINAL TERM	**Chapter-4, (Part II) Exploring Some Geometric Themes**	• Fractal • Sierpinski Carpet • Sierpinski Triangle/Gasket • Koch Snowflake • Visualising Solids (Prism, Pyramid and Polyhedron) • Representation of solids on a plane surface • Isometric projection • Drawing on isometric Grid • **Activity:** Isometric Projections: Using isometric grid paper to draw 3D objects helps in understanding how solid shapes (cubes, prisms) are represented in 2D space.

	Chapter-5 (Part II) Tales of Dots and Li	• The balancing act • Mean, Mode and Median • Visualization and interpretation of data • Line graphs • **Project:** Make a group of 3–4 members. Do at least one of the following: Track daily sleep time of all your family members for a week. Daily sleep time includes night sleep, naps, and any sleep during the day. (a) Represent this on strips. (b) Put together the data of all your group members. Calculate the average and median sleep time of children, adults, elde (c) Share your findings and observations.
	Chapter-6 (Part II) Algebra Play	• Number Pyramids • The largest Product • Decoding divisibility tricks • **Activity:** Expanding algebraic equations
	Chapter-7 (Part II) Area	• Area of rectangle, Square, triangle, Rhombus, trapezium • Area of any polygon • Area of parallelogram • **Activity:** find the area of thye tabletop that you use at school or at home. Determine how many A4 sheets can fit on your table.