Y7 MATHS: KEY PERFORMANCE INDICATORS

Age Related Expectations (ARE)	Working at Greater Depth (GD)
A student is achieving the standards expected for their age. This includes: • **Understanding the key concepts** for their year group. • **Using standard methods** to solve problems. • **Applying knowledge to familiar contexts**. • **Explaining their thinking** in straightforward situations. • **Following taught procedures** with some confidence.	A student shows deeper understanding and more advanced reasoning. This includes: • **Demonstrating deep conceptual understanding of the key concepts**. • **Choosing efficient strategies** and explains *why* they work. • **Applying knowledge flexibly** to unfamiliar or complex problems. • **Making connections** between different areas of maths. • **Justifying reasoning** and explores alternative methods.

	Unit of Work	KPIs	
AUT1	**NUMBER: PLACE VALUE, ADDITION & SUBTRACTION**	• compare and order decimals, using inequality symbols • round numbers to a specified number of decimal places or significant figures • add and subtract decimals with a different number of decimal places	• compare and order negative numbers, using inequality symbols • add and subtract negative numbers
AUT2	**NUMBER: MULTIPLICATION & DIVISION**	• use the concepts and vocabulary of highest common factor and lowest common multiple • multiply/divide four-digit numbers by a two-digit number using long multiplication/ division • multiply and divide decimals: by 10, 100 and 1000; by single digit integers; decimals	• use approximation and estimation to check calculations • multiply and divide negative numbers • use conventional notation for priority of operations, inc. brackets, powers, roots • use powers and roots (square, cube and higher); recognise powers of 2, 3, 4, 5
	ALGEBRA	• use and interpret algebraic notation, including: ab in place of a×b, 3y in place of y+y+y and 3×y, a^2 in place of a×a, a^3 in place of a×a×a, a/b in place of a÷b • understand and use the concepts and vocabulary of expressions, terms and identities	• interpret simple expressions as functions with inputs and outputs; substitute numerical values into expressions and formulae • collect like terms
SPR1	**FRACTIONS**	• convert between fractions and decimals, using place value or short division • compare and order fractions and mixed numbers, using inequality symbols	• express one quantity as a fraction of another • add, subtract, multiply and divide fractions (proper and improper), and mixed numbers
	PROBABILITY	• know and use the vocabulary of probability and the 0 – 1 probability scale • apply systematic listing strategies • calculate theoretical probabilities for events with equally likely outcomes	• apply the property that the probabilities of an exhaustive set of outcomes sum to 1 • construct and use frequency trees
SPR2	**PERCENTAGES**	• convert between fractions, decimals and percentages • express one quantity as a percentage of another	• compare two quantities using percentages • calculate percentages of amounts
	RATIO & PROPORTION	• use ratio notation, inc. identifying equivalent ratios and simplifying ratios • identify and work with fractions in ratio problems	• solve problems involving direct proportion
SUM1	**GEOMETRY**	• use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries • apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles and other plane figures • use the standard conventions for labelling and referring to the sides and angles of triangles	• estimate and compare acute, obtuse and reflex angles • draw diagrams from written description • apply the properties of angles at a point on a straight line, angles at a point and vertically opposite angles • identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres • recognise, describe and build simple 3-D shapes, including making nets
SUM2	**PERIMETER AREA & VOLUME**	• calculate perimeters of 2D shapes • know and apply formulae to calculate area of triangles, parallelograms, trapezia; surface area of cuboids; volume of cuboids	