The Purbeck School
Achieving Excellence Together

Y6 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	
NUMBER AND PLACE VALUE	• read, write, order and compare numbers up to 10 000 000 and identify the value of each digit • round any whole number to a required degree of accuracy	• use negative numbers in context, and calculate intervals across zero
CALCULATION	• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using a formal written method of short or long division, interpreting remainders according to the context • use their knowledge of the order of operations to carry out calculations involving the four operations	• identify common factors, common multiples and prime numbers • solve problems involving addition, subtraction, multiplication and division, Inc. performing mental calculations and multi-step problems in contexts • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
FRACTIONS	• use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form • divide proper fractions by whole numbers	• associate a fraction with division and calculate decimal fraction equivalents • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10/100/1000, giving answers up to 3d.p. • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
RATIO & PROPORTION	• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages and the use of percentages for comparison	• solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping, using knowledge of fractions and multiples
ALGEBRA	• use simple formulae • generate and describe linear number sequences	• express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns
MEASUREMENT	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time • convert between miles and kilometres	• recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes, Inc. area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids
SHAPE	• draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
POSITION & DIRECTION	• describe positions on the full coordinate grid (all four quadrants)	• draw and translate simple shapes on the coordinate plane, and reflect them in the axes
STATISTICS	• interpret and construct pie charts and line graphs and use these to solve problems	• calculate and interpret the mean as an average