Student Knowledge and Skills Tracker for Year 8

Term 1	Check		
Unit 1 – Factors and Multiples			
• I can understand and use factors and multiples (recap)			
• I can recognise prime numbers			
• I can express a number as a product of its prime factors			
• I can represent the prime factorisation of a number in index notation (using powers)			
• I can find HCF (highest common factor) and LCM (lowest common multiple) of a group of numbers by using prime factorisation			
• I can understand the use of prime factorisation to find the square root and cube root of a number			
Unit 2 – Ratio, Rate and Speed			
• I can understand and use the meaning and representation of ratio			
• I can understand and use ratio notation			
• I can describe the relationship between a ratio and a fraction			
• I can divide a quantity into a given ratio			
• I can solve problems involving ratio			
• I can understand and use the scale of a map or plan			
• I can solve problems involving rate in daily life			
• I can recognise the relationships between distance, speed and time			
• I can write speed in different units and convert it from one unit to another			
• I can recognise the concepts of constant speed and average speed			
• I can solve problems involving speed			
Unit 3 – Approximation and Estimation			
• I can round numbers to a required number of decimal places			
• I can round numbers to a required number of significant figures			
• I can estimate the results of a computation			
• I can estimate quantities (numbers and measures) to an appropriate degree of accuracy			
• I am aware of rounding errors in the intermediate steps of calculations			

Term 2	Check		
Unit 4 – Algebraic Expressions, Formulae and Proofs			
• I can use letters to represent numbers or variables			
• I can interpret algebraic notations (symbols)			
• I can evaluate algebraic expressions and formulae			
• I can express real-world situations in algebraic terms			
• I can simplify linear expressions			
• I can prove a statement algebraically			
Unit 5 – Equations and Inequalities in One Variable (and into Term 3)			
• I can understand the concepts of equations and the solution of an equation			
• I can solve linear equations in one variable			
• I can use a bar model to represent equations			
• I can formulate linear equations in one variable to solve problems			
• I understand the concept and properties of linear inequalities			

Term 3	Check		
Unit 6 – Angles in Quadrilaterals and Polygons			
• I can classify special quadrilaterals based on their properties			
• I can recognise the properties of special quadrilaterals			
• I can recognise the properties of polygons, including symmetry properties			
• I can calculate the sum of the interior and exterior angles of polygons			
Unit 7 – Perimeter and Area of Parallelograms and Trapezia			
• I can calculate the area of a parallelogram			
• I can calculate the area of a trapezium			
• I can solve problems involving perimeters and areas of composite plane figures			
Unit 8 – Coordinates and Linear Functions (and into Term 4)			
• I can construct the Cartesian coordinate system in two dimensions and state the coordinates of points on it			
• I can plot a graph of a set of ordered pairs as a representation of a relationship between to variables			
• I can recognise the idea of functions			
• I can recognise linear functions in the form of y=mx + c and draw their graphs			
• I can find the gradient of a linear graph			

Term 4	Check		
Unit 9 – Number Patterns and Sequences			
• I can recognise number patterns and sequences			
• I can find terms of a sequence using a term-to-term or position-to-term rule			
• I can recognise arithmetic and geometric sequences			
• I can find the formula for the general (nth) term of an arithmetic sequence			
• I can solve problems involving number patterns and sequences			

Term 5	Check		
Unit 10 – Percentages			
• I can express a percentage as a fraction or a decimal			
• I can express one quantity as a percentage of another			
• I can compare two quantities by percentage			
• I can recognise percentages greater than 100%			
• I can calculate simple interest			
• I can solve problems involving reverse percentage			
• I can calculate percentage increase and decrease in quantities			

Term 6	Check		
Unit 11 – Volume and Surface Area of Prisms and Cylinders			
• I can visualise and draw sketches of three-dimensional shapes from different views			
• I can visualise and draw nets of prisms and cylinders			
• I can calculate the volume and surface area of prisms			
• I can calculate the volume and surface area of cylinders			
• I can convert between cm^2 and m^2, and between cm^3 and m^3			
• I can solve problems involving volume and surface area of composite (2+) shapes			
Unit 12 – Statistical Graphs			
• I can construct, analyse and interpret line graphs, pie charts and scatter graphs			
• I can describe the purposes and appropriateness of use of the different forms of statistical representation, including pictograms and bar charts			
• I can explain why a given statistical diagram can lead to misinterpretation of data			
• I can describe types of correlation for a scatter graph			
• I can draw a line of best fit on a scatter graph and use it to estimate data values			
• I can find the equation of a given line of best fit			
• I can identify and explain outliers			