Long-term planning

Maths - Year 8

Year 8 Themes	Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
Further develop confidence and enjoyment of maths Build on year 7 skills and prior knowledge and understanding	**Students will know that**	**Students will know that**	**Students will know that**	**Students will know that**	**Students will know that**	**Students will know that**
	Percentage of amounts and percentage change can be found using multipliers. Value for money is found by comparing "unit" costs. There are rules for indices when multiplying and dividing. To solve equations, we use inverse operations.	You can find terms of a sequence by finding a term to term or position to term rule. Ratios can be simplified using common factors. Ratios are used to share amounts that are not equal. Ratios are used in drawing scale diagrams.	Rounding to significant figures uses place vales. Estimation is calculated using rounding to significant figures. Midpoints of a line are found by finding the average of their coordinates. To find the formula of a shape you substitute the correct dimensions into a formula. Units of area use squared scale factors. Standard form is used for very large and small numbers.	Venn diagrams are used to visually represent the differences and similarities of 2 or more concepts. 3D shapes can be described using their properties (faces, edges and vertices). 3D shapes have a net, with some having multiple nets. To find the volume of a shape you substitute the correct dimensions into a formula.	Horizontal and vertical lines are described as x= or y=. To find the equation of a line you find the gradient and the y intercept. To translate shapes, you use column vectors. To reflect shapes, you need a line of symmetry. To find missing angles you need to know angle facts. Draw pie charts you need to use proportion to find missing angles or frequencies. To draw a steam and leaf diagrams the data must be ordered and have a key.	Inequalities can be represented on a number line. Inequalities can be solved. To expand double brackets, you have to multiply each of the terms together. To simplify an expression, you collect "like terms". To add and subtract fractions they must have the same denominator. To multiply or divide fractions they can have different denominators. To divide by a fraction, we multiply by its reciprocal. The rules for fractions apply to algebraic fractions.

					Recurring decimals repeat infinitely. To convert a fraction to a decimal we use division.
Students will know how	**Students will know how**	**Students will know how**	**Students will know how**	**Students will know how**	**Students will know how**
Use multipliers. Solve proportion problems in context. Apply index laws. Solve equations.	Generate terms of a sequence. Substitute into a sequence to find a term. Simplify ratios. Share in a ratio. Converts ratios into percentages and fractions. Draw and interpret scale diagrams.	Round integers and decimals using significant figures. Estimate calculations. Calculate midpoints from coordinates. Find the area shapes. Identify parts of circles. Write and calculate in standard form.	Draw and complete Venn diagrams. Interpret and find HCF, LCM or probabilities from a Venn diagram. Describe 3D shapes by their properties. Find the surface are and volume of cubes, cuboids and prisms. Convert units of area.	Draw lines described as y= or x=. Draw straight line graphs. Find the equation of a straight-line graph. Translate and reflect shapes. Find missing angles. Draw and interpret Pie charts. Draw and interpret Stem and Lead diagrams.	Read and draw inequalities on a number line. Solve single inequalities. Expand double brackets. Calculate with fractions. Calculate with mixed numbers. Simplify algebraic fractions. Add and subtract algebraic fractions. Convert fractions to recurring decimals.
Vocabulary and the concepts they link to	**Vocabulary and the concepts they link to**	**Vocabulary and the concepts they link to**	**Vocabulary and the concepts they link to**	**Vocabulary and the concepts they link to**	**Vocabulary and the concepts they link to**
Multiplier Percentage Unitary Index / Indices Inverse	**Arithmetic Term Simplify Equivalent Scale**	**Integer Rounding Estimate Area Circumference**	**Diagram Nets Surface area Volume**	**Horizontal Vertical Translation Reflection**	**Inequality Solve Expand Algebraic Recurring**
Summative Assessment	**Summative Assessment**	**Summative Assessment**	**Summative Assessment**	**Summative Assessment**	**Summative Assessment**
	End of term 1		End of term 2	End of year	End of term 3

Diversity & development of cultural capital	Diversity & development of cultural capital	Diversity & development of cultural capital	Diversity & development of cultural capital	Diversity & development of cultural capital	Diversity & development of cultural capital
Life Skills Workshops: Organise workshops on financial literacy.	"Create a scale drawing of the Parthenon in Athens."	Writing and comparing distances to key planets or stars in the solar system.	Find and make examples of prisms in everyday life, from their nets.	Islamic geometric patterns. Traditional African kente cloth.	
Cross-curricular opportunities and enrichment	**Cross-curricular opportunities and enrichment**	**Cross-curricular opportunities and enrichment**	**Cross-curricular opportunities and enrichment**	**Cross-curricular opportunities and enrichment**	**Cross-curricular opportunities and enrichment**
	Maths Week England Fibonacci Day	Euler's Number Day NSPCC Number Day	Pi Day	Junior UKMT Square Root Day Women in Maths Day National Numeracy Day	My Money Week Pythagoras' Theorem Day