Maths KS3 Curriculum Plan 2023-24

HALF TERM	TOPIC	INTENT	IMPLEMENTATION	IMPACT
Autumn 1 The Big Theme: Exploration Students will take part I a Bridge Building exercise as part of Big Theme 1 Visit to Jodrell Bank	Number	Recognise that numbers that are very large or very small become intangible. Standard form is used in science and there are lots of cross curricular opportunities such as for example looking at distance between planets, speed of light etc.	• Calculate and estimate combinations of powers, roots, fractions and brackets. • Use index laws to simplify expressions. • Write large and small numbers using standard form. • Write and solve equations. • Substitute values into expressions and formulae. • Expand single and double brackets.	All students will be able to identify powers of 10. All students will be able to estimate the square root of any number up to 150.
Autumn 2 The Big Picture: Visit to Eccles town centre to conduct surveys with members of the general public	Statistics	Understand when to apply the mean, median and mode and how statistics can be used to inform (or deceive!) Select suitable statistical diagrams to best display data. Link enlargement to graphic design and scale drawings.	• Plan and design a survey using data collection sheets, tables and questionnaires. • Calculate averages. • Display, analyse and compare data. • Enlarge 2D shapes using positive, negative and fractional scale factors.	All students will be able to draw and interpret statistical diagrams such as a pie chart and bargraph.

			• Calculate percentage change. • Solve problems involving inverse proportion	
Spring 1 The Big Picture:	Construction and number patterns	Understand why the construction methods for perpendicular and angle bisectors work by considering properties of intersecting circles, and that a circle is the locus of all points equidistant from a fixed point (without using the term locus). Link sequences with 'real life' number patterns such as triangle numbers.	• Use scales and accurate scale diagrams. • Construct accurate triangles, nets and bisectors. • Find and use the nth term of an arithmetic sequence. • Recognise and continue non linear sequences. • Represent inequalities on a number line and find integer values that satisfy an inequality	All students will recognise that a sequence may contain more than one sequence. For example in a fractions sequence the numerators may follow one sequence and the denominators another.
Spring 2 The Big Picture:	Geometry	Use geometric properties in calculations with 2-D and 3-D shapes and understand the relationships between them. In addition to abstract problems, students should be encouraged to apply Pythagoras' Theorem to real-life scenarios.	• Area and circumference of a circle. • Calculate volume and surface area of prisms and cylinders. • Use Pythagoras' Theorem to find unknown sides in a right angled triangle. • Find the lower and upper bounds for a measurement. • Calculate percentage error intervals.	All students will be able to label the parts of a circle and recognise that each shape has a formula for area and perimeter.
Summer 1	Graphs		• Straight line graphs.	

The Big Picture		Link knowledge of arithmetic sequences with linear graphs. Link enlargement to congruence and similarity.	• Non linear graphs. • Congruent and similar shapes. • Simultaneous equations. • Ratios in triangles	All students will be able to plot a linear graph. All students will be able to identify similar shapes using a scale factor applied to all sides.
Summer 2	Probability	Students should be able to recognise that raffles and lotteries provide a real life link to probability. Students are expected to work out the probabilities of winning on different lotteries. Students should be able to justify the probability of events happening or not happening.	• Identify and work out the probabilities of mutually exclusive outcomes and events. • Calculate estimates of probability from experiments. • Complete and calculate probabilities from two way tables, sample space diagrams and Venn diagrams. • Identify the tangent, sine and cosine ratio of any angle. • Use trigonometric ratios to work out an unknown angle in a right-angled triangle.	All students will be able to write probabilities as words, as well as express outcomes on a probability scale as well as fractions or decimals.