Curriculum Plans: Year 8 Mathematics

	Topic	Knowledge: By the end of the unit students will know:	Skills: What skills will students have developed by the end of this unit?	Key terms: What new key terms and vocabulary will be learnt in this unit?	Summative Assessment: How will pupils be assessed in this unit?
Michaelmas 1	Indices Standard Form Percentages	All laws of indices (except fractional indices) How to write large/small numbers in standard form. How to perform calculations with numbers in standard form. How to convert between standard and ordinary form. Calculate percentages of an amount, increase/decrease an amount by a given percentage and reverse percentages.	• Arithmetic • Multiplication • Division • Addition • Decimals and fractions • Problem solving • Data analysis • Numerical operations • Numeracy • Counting skills • Time management • Percentages	Indices – repeated multiplication written as an index, when the index is negative it means the reciprocal of the positive index Standard Form – a number can be written in standard form. This means it is rewritten to be a number between 1 and 10 and has a multiplier of a power of 10 Fraction – numbers that include part of a whole number, they are written as a numerator divided by a denominator	Weekly homework set via Sparx Maths which is connected to each scheme of work and creates questions that are a combination of retrieval and current content. Half term test in the final week of the half term to formally assess students in all areas covered.
Michaelmas 2	Data Handling	Understand the data handling cycle. Be able to calculate all the averages on a given set of data; mean, median, mode and range	• Problem solving • Data analysis • Numerical operations • Numeracy • Counting skills	Discrete – Values that cannot be divided	Weekly homework set via Sparx Maths which is connected to each scheme of work and creates questions that are a combination of retrieval and current content.

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	Algebraic Expressions	To be able to expand single and double brackets and factorise into a single and double bracket using the grid method.	• Time management • Algebra	Continuous – Values that can continually be divided Primary – Values that you collect personally Secondary – Values that someone else collects Range – the gap between the smallest and largest number Mean – the average found by adding all the data pieces together and dividing by the number of pieces of data Mode – the average identified as the most common Median – the average identified as the middle number when the data pieces are aligned in order Lower Quartile – the bottom 25% of the data is below this point Upper Quartile – the top 25% of the data is above this point	Test given in the final week of Michaelmas term to formally assess students in all areas covered.

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				Inter Quartile Range – the gap between the lower and upper quartile	
Lent	3D Shapes Equations and Inequalities Linear Graphs	Volume and surface area of all prisms including cylinders. Represent inequalities on a number line, solve inequalities and derive/re-arrange simple formulae. Plot straight line graphs and begin to understand gradient and y=mx+c. Construct and interpret graphs from real life situations.	• Shapes • Geometry • Measurement • Problem solving • Time management • Spatial ability • Algebra	Discrete – Values that cannot be divided Continuous – Values that can continually be divided Primary – Values that you collect personally Secondary – Values that someone else collects	Weekly homework set via Sparx Maths which is connected to each scheme of work and creates questions that are a combination of retrieval and current content. Test in the final week of the Lent term to formally assess students in all areas covered.
Trinity	Simultaneous Equations Quadratic Graphs Constructions Transformations	Solve simultaneous equations graphically and algebraically using either the elimination or substitution method. Construct and explore quadratic graphs and perform basic transformations of graphs. Construct shapes and bisectors using a compass and protractor. To perform reflections, rotations, translations and enlargements.	• Arithmetic • Multiplication • Division • Addition • Problem solving • Numerical operations • Numeracy • Counting skills • Time management • Shape • Geometry • Spatial awareness • Algebra	Simultaneous Equations – sometimes a pair of equations are said to be simultaneous, this means they both can be written on graph together. Quadratic – curves are formed of expressions that have an index form of the variable x^2.	Weekly homework set via Sparx Maths which is connected to each scheme of work and creates questions that are a combination of retrieval and current content. End of Year Exam in June to formally assess students in all areas taught in Year 8..

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