Curriculum Plans: Year 7 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	Four Operations Indices Averages	How to use the four operations with decimals, positive and negative numbers. Understand the use of powers and their inverse operation of roots. To be able to define and calculate the four averages which are mean, median, mode and range.	• Arithmetic • Multiplication • Division • Addition • Decimals and fractions • Problem solving • Data analysis • Numerical operations • Numeracy • Counting skills • Time management	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	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	Ratio Factors, Multiples & Primes	How to simplify a ratio, express as a fraction of a percentage and share into a given ratio. To be able to recognise the lowest common multiple and highest	• Measurement • Problem solving • Numeracy • Counting skills • Algebra • Time management	Factor – a number that divides another leaving no remainder Multiple – a number that is in the times table of another	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 the term to formally assess students in all areas covered.

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	Algebraic Expressions	common factor and define a prime number confidently. To be able to use and interpret algebraic notation. Form and solve simple expressions. Substitute into algebraic expressions and expand single brackets.		Prime – a number with only two factors Square – a number made from multiplying a number by itself Cube – a number that is made from multiplying a number by itself once and once again Proportion – a description of a situation using the total number e.g. in a class of 20 there are 13 boys Ratio – a description of a situation using the composite numbers e.g. in a class there are 13 boys and 7 girls so the ratio of boys to girls is 13:7	
Lent 1 & 2	Shape Angles Fractions	Properties of 2D shapes and how to calculate their areas and perimeters. Draw, measure and name angles. Solve problems involving angles in parallel lines. Equivalent fractions, convert between improper fractions and mixed	• Shapes • Geometry • Measurement • Problem solving • Time management • Spatial ability • Decimals and fractions	Vertex – where three or more faces join Edge – where two faces join Face – the 'side' or a solid	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 Lent term to formally assess students in all areas covered.

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	Representing Data	numbers. Perform the four operations with fractions. Construct and interpret statistical diagrams including pictograms, bar charts, line graphs, pie charts and frequency polygons.			
Trinity 1 & 2	Shape Sequences Probability	To be able to find the area and circumference of a circle. Recognise arithmetic and geometric progressions. Recognise famous sequences such as Fibonacci. Understand Set notation, sample space diagrams, Venn diagrams and tree diagrams.	• Geometry • Shape • Patterns • Spatial ability • Problem solving • Time management • Counting skills • Quantitative reasoning	Uncertainty – where there is an unknown outcome, sometimes called chance. Event – some defined occasion e.g. selecting a card randomly Outcome – what happened when an event occurred.	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 7.