Maths Year 7 Curriculum overview

The below is intended to provide parents and pupils with a simple overview of Year 7 Maths. Should you have any additional questions please do not hesitate to contact Miss Price. We strongly encourage parents to look through their child's books and talk with them about their studies. In addition to the knowledge quizzes at the end of each unit the pupils will complete 3 larger assessments which will cover the units over a term.

Learning Focus	Assessments
Number: Understanding	
Key Skills/ Knowledge: • Understand the term prime and identify prime numbers • Order positive and negative decimal values • Rounding to a given number of decimal places • Rounding to one significant figure • Truncating numbers • Writing simple error intervals for numbers rounded to one significant figure or one decimal place • Develop skills inputting roots and powers into a calculator	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Number: 4 Operations	
Key Skills/ Knowledge: • Add and subtract negative numbers including questions in context • Add and subtract integers and decimals using formal written methods • Multiply and divide negative numbers • Division by factors when dividing by numbers with 2 or more digits • Multiply and divide integers using formal written methods • Apply all 4 operations to 'real-life' problems • Understand and recognise square numbers and square roots • Understand the order of operations, including squares and roots	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Algebra	
Key Skills/ Knowledge: • Understand the vocabulary term, expression, formula, and equation • Substitute positive and negative values into expressions/ formulae and complete a table of values • Simplify expressions by collecting like terms • Form and solve one and two step equations • Expand a single bracket • Factorise a linear expression • Understand the term inequality and represent inequalities on a number line • Describe and generate sequences described in words and diagrams	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Number: Fractions and Percentages	
Key Skills/ Knowledge: • Convert between mixed numbers and improper fractions and vice versa. • Find equivalent fractions, including improper fractions and mixed numbers • Simplify fractions, including improper fractions and mixed numbers • Add and subtract proper fractions where both denominators need to change and/or working with integers • Multiply and divide proper fractions, including working with integers • Express one quantity as a fraction of another; including working with 'real-life' context questions • Calculate a fraction of an amount • Express one quantity as a percentage of another	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.

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• Find a percentage of an amount (up to multiples of 5%) • Convert between equivalent fractions, decimals, and percentages (including fifths and hundredths)	
Ratio and Proportion	
Key Skills/ Knowledge: • Simplify a ratio; including 3 part ratios e.g. 1:3:2 • Relate ratio to fractions • Write a ratio in the form 1:n • Use and interpret scales on maps • Use and interpret scales on scale diagrams and draw a scale diagram • Divide an amount into a given ratio • Solve problems involving direct proportion; including recipes and other 'real-life' context questions that involve the unitary method	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Geometry: Similarity and Shape	
Key Skills/ Knowledge: • Rotate a shape given the angle and direction • Describe a rotation using the angle and direction • Reflect any shape through a horizontal, vertical, or diagonal line. • Describe a reflection where the mirror line is the x- or y-axis • Introduce and use vectors to translate a shape in the first quadrant only. • Describe a translation using vectors • Introduce the term scale factor and enlarge a basic shape by a positive integer scale factor. • Describe an enlargement using the term scale factor. • Plot coordinates in all 4 quadrants	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Geometry: Angles	
Key Skills/ Knowledge: • Classify 2D and 3D shapes; know the language of points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, symmetry, polygon, and regular/irregular polygon. • Estimate, measure and draw angles using a protractor. Name the types of angles • Know and use angle facts such as the sum of angles on a line and around a point, as well as vertically opposite angles • Know and use the angle properties in all triangles and solve missing angle problems • Know and use the sum of angles in a quadrilateral • Recognise and name regular polygons	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.
Geometry: Area, Perimeter and Volume	
Key Skills/ Knowledge: • Find the area and perimeter of rectilinear shapes (including compound shapes) • Derive and use the formula to calculate the area of triangles and parallelograms • Convert between metric units and apply to perimeter and area problems • Recognise and accurately draw the net of a cube/cuboid to scale	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.

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• Calculate the volume and surface area of cubes and cuboids given all required dimensions • Construct and interpret plans of 3D shapes, including drawing diagrams from written instructions • Understand and use isometric drawings • Label parts of circles - radius, diameter, and circumference	
Data	
Key Skills/ Knowledge: • Calculate the mean, median, mode and range of a small set of data in different formats • Understand grouped data • Interpret and construct frequency polygons • Interpret and draw pie charts • Record a probability on a 0-1 probability scale • Describe probabilities using associated terminology • Find simple probabilities using fractions/decimals and percentages • Understand that the probabilities of all possible outcomes sum to 1 • Solve time problems including time intervals	End of unit assessment – this will be marked, and the pupils will receive feedback in their books.