The Brades Lodge

# Long Term Planning for: Maths

| Year 7 | AUTUMN TERM 1 | AUTUMN TERM 2 | SPRING TERM 1 | SPRING TERM 2 | SUMMER TERM 1 | SUMMER TERM 2 |
|---|---|---|---|---|---|---|
| | **Topic:**<br>Sequences<br><br>Understand & Use Algebraic Notation<br><br>Equality & Equivalence | **Topic:**<br>Place Value, Ordering Integers & Decimals<br><br>Fraction, Decimal & Percentage Equivalence | **Topic:**<br>Solving Problems with Addition, Subtraction, Multiplication & Division<br><br>Fractions & Percentages of Amounts | **Topic:**<br>Operations & Equations with Direct Numbers<br><br>Addition & Subtraction of Fractions | **Topic:**<br>Constructing, Measuring & Using Geometric Notation<br><br>Developing Geometric Reasoning<br><br>Developing Number Sense | **Topic:**<br>Sets & Probability<br><br>Prime Numbers & Proof |
| | **Intent:**<br>The intent of these topics is to develop a deep understanding of the basic algebraic forms. | **Intent:**<br>One of the key focuses is for pupils to gain a deep understanding of the links between fractions, decimals and percentages so that they can convert fluently between those most commonly seen in real-life. | **Intent:**<br>The intent is to focus on the formal methods of addition and subtraction, multiplication and division. To also look at the key concepts of fractions and percentages and the links between the two. | **Intent:**<br>To deepen understanding of directed numbers. To also look at equivalent fractions and the addition and subtraction of fractions. | **Intent:**<br>To build on KS2 skills using rulers, protractors and other measuring equipment**.**<br>To cover basic geometric language, names and properties of triangles and quadrilaterals and the names of other polygons.<br>To work on mental strategies with a focus on using known facts to find other facts. | **Intent:**<br>Pupils to learn about sets, sets notation and systemic listing strategies. Factors and multiples are to be revisited to introduce the concept of prime numbers. |
| | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led **.** | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led **.** | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led**.** A practical visit to shops to see real life example of maths. | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led**.** | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led**.** Videos to be shown to consolidate learning. | **Implementation:**<br>In lessons using computers, calculators and written work**,** White boards and short tasks mainly teacher led**.** |

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| | **Impact:**<br>To enable pupils to understand and explore sequences. For those who are weaker, calculators are to be used so that number skills are not a barrier. Also the development of skills to ensure pupils understanding of how to solve equations. | **Impact:**<br>To enable pupils to use maths in the world outside of school being able to calculate real life situations with fraction, percentages and decimals. | **Impact:**<br>To enable pupils to calculate using the four mathematical operations with confidence. | **Impact:**<br>To enable pupils to understand how negative and positive numbers can be used in maths problems. The aim is to build mathematical confidence with pupils. | **Impact:**<br>To build confidence in pupils using measuring equipment which historically pupils are uncomfortable using. | **Impact:**<br>To give pupils a deeper understanding of prime numbers and the ability to learn some strategies to identify prime numbers. |

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| Year 8 | AUTUMN TERM 1 | AUTUMN TERM 2 | SPRING TERM 1 | SPRING TERM 2 | SUMMER TERM 1 | SUMMER TERM 2 |
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| | **Topic:**<br>Ratio & scale<br><br>Multiplicative change<br><br>Multiplying and dividing fractions | **Topic:**<br>Working in the Cartesian plane<br><br>Representing data<br><br>Representations<br>Tables & Probability | **Topic:**<br>Brackets, equations & inequalities<br><br>Sequences<br><br>Indices | **Topic:**<br>Fractions & percentages<br><br>Standard index form<br><br>Number sense | **Topic:**<br>Angles in parallel lines & polygons<br><br>Area of trapezia & circles<br><br>Line symmetry & reflection | **Topic:**<br>The data handling cycle<br><br>Measures of location |
| | **Intent:**<br>The intent of the beginning of this unit is to focus on the meaning of ratio and different ways of representing ratio. Pupils to also investigate the link between ratio and scaling. We will also look at deepening understanding of representing fractions with multiplying and dividing. | **Intent:**<br>Pupils to look at coordinates and to look at algebraic rules for straight lines. To introduce pupils to bivariate data and linear correlation. To remind pupils of the ideas of probability. | **Intent:**<br>Pupils to explore expanding over a single bracket and factorising by taking out common factors. To also look at sequences with more complex algebraic rules. To also look at consolidating knowledge with expressions with powers. | **Intent:**<br>To focus on the relationship between fractions, percentages and decimal equivalents. To look at notation and build on work from indices. To revisit basic number operations. | **Intent:**<br>To push pupils understanding of angle notation & relationships. We will also look at using the area for trapezium and circles. To also look at line symmetry & reflection. | **Intent:**<br>To look at when graphs may be misleading and real life graphs. To also look at mean, median and mode. |
| | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. Also the use of fraction diagrams. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. Graph paper to be used. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. Pupil may need one to one intervention for a deeper understanding. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. Pupils may need one to one intervention to fill gaps in knowledge. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. The use of rulers, protractors and compasses. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. The use of a field trip will also be helpful. |
| | **Impact:** | **Impact:** | **Impact:** | **Impact:** | **Impact:** | **Impact:** |

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| | The impact of this unit is to encourage a wider understanding of the topic of ratio which historically pupils find difficult. | The aim of this unit is to encourage an understanding of coordinates. Also to help pupils understanding of probability. | Historically pupils struggle with the concept of brackets so the aim is build confidence in this area. | The aim of this unit is to fill in gaps with pupils knowledge and to identify gaps. | The aim of this unit is to deepen pupils understanding of formulas in preparation for GCSE. | This unit is to address misconceptions in regards to data. This will be a short unit so to leave space for knowledge gaps. |

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| **Year 9** | **Topic:**<br>Reasoning with Algebra<br>Straight line graphs<br>Forming & solving equations<br>Testing conjectures | **Topic:**<br>Constructing in 2 & 3 dimensions<br>Three dimensional shapes<br>Constructions & congruency | **Topic:**<br>Reasoning with number<br>Numbers<br>Using percentages<br>Maths & money | **Topic:**<br>Reasoning with geometry<br>Deduction<br>Rotation & translation<br>Pythagoras' theorem | **Topic:**<br>Reasoning with proportion<br>Enlargement & similarity<br>Solving ratio & proportion problems<br>Rates | **Topic:**<br>Representations & revision<br>Probability<br>Algebraic Representation<br>Revision |
| | **Intent:**<br>For pupils to expand on their knowledge in year 8 with straight line graphs and also revisit forming and solving linear equations and inequalities. There is a focus on reasoning this half term. | **Intent:**<br>Study 3d shapes at a formally. To also look at the idea of a locus and standard construction using a straight edge and a pair of compasses. Congruency is also explored. | **Intent:**<br>To develop knowledge of number systems, revisiting HCF, LCM and standard form. Building on previous knowledge of fractions and decimals, reverse percentages will be looked at. To look at real life maths in various financial contexts. | **Intent:**<br>This half term pupil will extend their knowledge of angle rules and properties of shapes. Pupils will also look at rotational symmetry and rotation. Pupils will revise squares and square roots before moving on to investigating the relationships between the sides of a right angled triangle. | **Intent:**<br>Pupils to develop knowledge of transformations. Building on previous knowledge looking at ratio problems and direct proportion and graphs. Students develop their knowledge of inverse relationships to explore speed, distance and time in detail. | **Intent:**<br>A key focus of this unit is the introduction of the idea of independent events and the use of the multiplication rule. for these. Pupils to extend their knowledge of graphs to look at the interpretation and creation of different types of graphs. The remainder of the term is to revise and fill gaps of knowledge. |
| | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. The use of geometrical drawing equipment will be required. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led. A field trip to see how maths work outside of school.<br>. | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led | **Implementation:**<br>In lessons using computers, calculators and written work, white boards and short tasks mainly teacher led |

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| | **Impact:**<br>The aim of this unit is to prepare pupils for understanding GCSE topics and the language associated. | **Impact:**<br>Pupils historically struggle with the use of compasses so the idea is to use them on regular basis so that pupils will not be daunted by the use of such equipment. | **Impact:**<br>**T**his is to extended pupil's knowledge of maths in a financial sense. With use of the local community. | **Impact:**<br>**P**upils will build on knowledge from year 8 when using Pythagoras. | **Impact:**<br>To build pupil confidence when working with various diagrams and formulas and the language associated. | **Impact:**<br>To fill any gaps that have acquired over the academic year. |