

Purpose of the Curriculum

Our curriculum is shaped by four underlying principles:

- **One curriculum for all**
- **Deep understanding**
- **Number sense underpinning all**
- **Problem solving central to all learning**

We believe mathematical intelligence is expandable, and that every child can learn mathematics, given the appropriate learning experiences within and beyond the classroom. Our curriculum map reflects our **high expectations for every child**. Every student is entitled to master the key mathematical content for their age, by receiving the support and challenge they specifically need.

We also believe in the importance of deep understanding. Equating progress with knowing new procedures and rules means many students will miss out on a **depth of understanding**. **Problem solving is at the heart of mathematics**. By structuring our curriculum so that all students in a year group are learning the same content at the same time, have longer to focus on each topic. Our aim is to create the optimal conditions for students to learn through problem solving and to learn to solve problems to develop lifelong transferable skills

Throughout our curriculum we also aim to ensure our pupils gain a love and appreciation for all the mathematics around them and will fully enjoy mathematics.

KEY LEARNING OBJECTIVES

Our key learning objectives fall under the 6 categories below:

- Number
- Algebra
- Ratio, proportion, rates of change
- Geometry and measures
- Probability
- Statistics

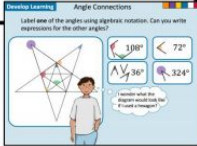
CURRICULUM OVERVIEW *Maths*

KEY CONCEPTS

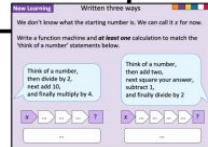
A closer look at year 7

Mastery half terms group together topics from the same area of mathematics. This helps students make connections between mathematical topics and avoids reteaching when developing concepts in isolation.

The spring term of year 7 focusses on geometry, an important area of mathematics for students to engage with. The cumulative nature of the curriculum means that students apply algebraic reasoning in new contexts.



The first term of year 7 focusses on developing understanding of the axioms and structures of number that are fundamental to mathematics. This underpins understanding of the algebraic notation developed in this term and in subsequent years.



		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
		Making generalisations about the number system 1						Making generalisations about the number system 2					
Autumn	Numbers and numerals	Axioms and arrays	Factors and multiples	Order of operations	Positive and negative numbers	Expressions, equations and sequences							
Spring	2D geometry						The Cartesian plane						
	Angles	Classifying 2-D shapes	Constructing triangles and quadrilaterals	Coordinates	Area of 2-D shapes	Transforming 2-D figures							
Summer	Fractions						Ratio and proportion						
	Prime factor decomposition	Equivalent fractions	All operations with fractions	Ratio									

Students' understanding of fractions, decimals and percentages from KS2 is built upon throughout the year. This is developed more formally in the summer term where time is spent linking different interpretations of fractions and introducing ratio.

SEQUENCE OF LEARNING

Our curriculum map is sequenced with fewer topics each week, term or year, putting **depth before breadth**. We find that spending longer on each topic enables pupils to really think and talk about the mathematics they are learning. We sequence concepts and methods so that previously learnt ideas can be connected to new learning, supporting students in understanding the coherent and connected nature of the subject, and ensuring they consolidate learning by continually using and applying it in a variety of contexts. We believe that all of mathematics can be appreciated more fully once a student has a deep appreciation of the number system, therefore we put **number sense and place value first** to ensure that all understanding builds upon this to give pupils a complete understanding of the main strands of mathematics:

- Number
- Algebra
- Ratio, proportion, rates of change
- Geometry and measures
- Probability
- Statistics

An example below shows how each of these are developed throughout the year

A closer look at year 7

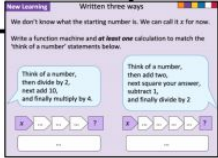
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Year 7

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Develop Learning: Angle Connections. Label one of the angles using algebraic notation. Can you write expressions for the other angles?
