



# Curriculum Overview

Curriculum Area: Mathematics

Year: 7

## Year 7 Curriculum:

### **Autumn Term:**

#### **Unit 1 – Calculations and Types of Number**

All pupils will explore and develop an in-depth understanding of place value for integers and decimals numbers. They will learn to identify the properties of numbers; such as factors, multiples and primes and learn to work confidently with powers and roots. All pupils will learn how to use a calculator efficiently to aid more complex calculations and also how to round numbers to a stated degree of accuracy.

#### **Unit 2 – Number Relationships and an Introduction to Algebra**

All pupils will continue to develop their understanding of the number system; learning how to deal with more complex calculations involving BIDMAS, brackets, powers, roots and reciprocals. Pupils will learn to appreciate and use inverse operations.

All pupils will learn how to write and interpret algebraic notation. They will also begin to learn how algebra can be used to model real-life situations.

### **Spring Term:**

#### **Unit 3 – Developing Algebra Skills**

All pupils will continue to develop their understanding of algebra, learning to manipulate algebraic expressions by collecting like terms and expanding a single bracket. They will explicitly use the correct associated vocabulary; such as term, expression and equation. All pupils will become confident in substituting values into expressions and formulae. All pupils will learn how to solve one-step equations involving all four operations.

#### **Unit 4 – Ratio, Proportion and Measures**

All pupils will learn about the inter-connected relationship between ratio and proportion. Pupils will learn to write and simplify ratios and understand other ways in which this could be expressed. This will be extended to working with different standard units of measure such as mass, length, time and money. All pupils will learn to draw and measure lines and angles which will lead on to interpreting scale drawings.

All pupils will also learn to solve basic problems involving direct and inverse proportion.

### **Summer Term:**

#### **Unit 5 – Fractions, Decimals, Percentages and Ratio**

All pupils will use the four operations in calculations involving fractions and mixed numbers. All pupils will develop the fluency to confidently write values as equivalent fractions, decimals and percentages. They will be able to find fractions of, and percentages of amounts and apply this to solving problems in various contexts. They will explore how to work with percentages of all sizes and divide a quantity into a given ratio.

## Links to National Curriculum

Our Year 7 curriculum builds on prior knowledge from KS2. It allows pupils to demonstrate their understanding and then confidently build up their core knowledge and skills. This sequence of learning that has been specifically designed by the Maths' department at Longridge High School and ensures that every pupil has full access to the KS3 National Curriculum.

Core knowledge covered in Year 7 relates directly to KS3 National Curriculum statements in the following strands:

Number, Algebra, Ratio, proportion and rates of change and Geometry and measures.

The key aims of developing fluency, reasoning mathematically and being able to solve problems are also embedded throughout the units of work.

## Knowledge and understanding of this curriculum will be assessed by:

At the beginning of each unit of work, all pupils will complete a pre-skills audit. This will be used to enable class teachers to plan a bespoke sequence of learning for their pupils, ensuring that all pupils cover the required core knowledge.

High quality assessment will be a feature throughout each lesson, mini white boards will be used to provide instant feedback and identify and address gaps and misconceptions to both pupils and teachers.

At the end of each unit of work all pupils will complete a full learning review.

This will clearly demonstrate the progress made by each individual pupil on each specific element of core knowledge.

## Powerful Knowledge/Cultural Capital Opportunities

Mathematics is a creative and highly inter-connected discipline. It is essential to everyday life and has provided the solutions to some of history's most intriguing problems. Throughout Year 7, all pupils will begin to develop problem solving skills that can be transferred to other areas of the school curriculum and life outside of school.

In lessons, all pupils will learn how and why key concepts in number and algebra came to be. They will use subject specific language and terminology as standard – they will learn to think and speak like mathematician.

Links will be made to other subjects and we will show all pupils how the core knowledge that they are learning has applications in real-life.