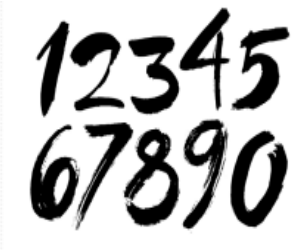
SUMMARY OF MATHEMATICS AT THE COPPICE



VISION:

Mathematics is important in everyday life and here at The Coppice Primary School, we want our children to have the ability to solve problems, to reason, to think logically and to work systematically and accurately.

DESIGN:

Our children are challenged and encouraged to excel in maths. New mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach, enabling all children to experience hands-on learning when discovering new mathematical topics, and allowing them to have clear models and images to aid their understanding. Arithmetic and basic math skills are practised daily to ensure key mathematical concepts are embedded and children can recall this information to see the links between topics in Maths. We have a consistent approach to how maths is taught across the school, with a key focus on Mathematics Mastery. Children are taught in mixed ability groups, which gives all children exposure to the whole of the maths curriculum and does not put a ceiling on their learning. Support is given through carefully structured lessons, scaffolding, adaptations, adult support and use of manipulatives.

CONTENT:

The National Curriculum for Mathematics underpins all of our mathematics teaching.

We start the children's mathematical journey in the **Early Years** by ensuring they experience rich mathematical vocabulary and by following the six key areas of early mathematics learning. Cardinality and Counting - Understanding that the cardinal value of a number refers to the quantity, or 'how many' of things it represents. Comparison -Understanding that comparing numbers involves knowing which numbers are worth more or less than each other. Composition - Understanding that one number can be made up from (composed from) two or more smaller numbers. Pattern - Looking for and finding patterns helps children notice and understand mathematical relationships. Shape and Space - Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking. Measures - Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

In Key Stage 1, the principal focus of mathematics teaching is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This involves working with numerals, words and the four operations. We teach the children to recognise, describe, draw, compare and sort different shapes and use the related vocabulary and to also use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, our pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage helps aid fluency. Our pupils are taught to read and spell mathematical vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

The principal focus of mathematics teaching in **lower key stage 2** is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that our pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. Our pupils are taught to solve a range of problems, including ones with simple fractions and decimal place value. Our teaching ensures that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. They are taught to use measuring instruments with accuracy and make connections between measures and numbers. By the end of year 4, pupils have been taught to memorise their multiplication tables up to and including the x12 multiplication table and show precision and fluency in their work. Pupils are taught to use, read and spell mathematical vocabulary correctly and confidently, using their growing word-reading and spelling knowledge.

The principal focus of our mathematics teaching in **upper key stage 2** is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This develops the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratios. Our pupils are taught to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. Pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching geometry and measures consolidates and extends knowledge developed in number. Pupils are taught to classify shapes with increasingly complex geometric properties and to use the vocabulary they need to describe them. By the end of year 6, our pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils are taught to use, read, and spell mathematical vocabulary.