Maths at Collingwood Primary School. *Our Maths curriculum aims to develop independent and passionate mathematicians. Children will build a positive, resilient mathematical mindset with fluency of calculations, problem solving and reasoning at the core.*

Progress

Units of work are carefully sequenced, so prior knowledge and concepts are built upon.

Regular formative assessment and immediate feedback ensures gaps are filled.

Effective questioning and higher order thinking are embedded within all learning experiences.

Progress and attainment within units is recorded and shared with all teaching staff.

Opportunities for revisiting content or applying learning in greater depth.

Content and Sequencing

Foundation Stage We teach our children to count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing. Our children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Key Stage One The principal focus is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

Lower Key Stage Two The principal focus 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 pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure 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. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12-multiplication table and show precision and fluency in their work.

Upper Key Stage Two The principal focus is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratios. At this stage, pupils should develop their ability 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. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

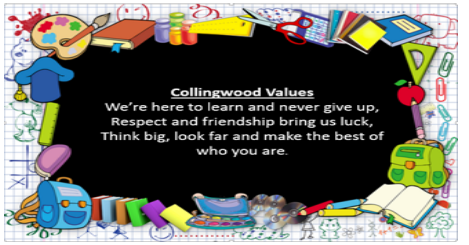
Essentials

Fluency: the ability to perform mathematical operations and processes accurately and quickly. Mathematical fluency has 4 parts: accuracy, automaticity, speed, flexibility

Reasoning: to become increasingly able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Problem Solving: able to think systematically in order to make appropriate decisions to apply known skills in a variety of contexts.

Curriculum Drivers



Retrieval Practice

- Varied teaching and learning activities
- Carefully sequenced lessons building on small steps
- Specific teaching of vocabulary using stem sentences
- Flashback 4 – revisiting previous learning
- Daily times table practice and weekly times table quizzing to commit learning to long term memory