



## Maths

*Enjoy, Believe, Achieve*



## Intent

The Ferncumbe C of E Primary School aims for all children to develop a love for learning mathematics. Whilst embarking on this journey, they will build upon their previous learning, consolidate new skills and apply their understanding. We aim for all children to acquire a secure mathematical knowledge, allowing them to practise the skills they are taught. By guiding learners to apply their knowledge and skills, we will help them to develop a deeper understanding, gain an insight into the power of mathematics and how it applies to other curriculum areas and everyday life. We aim to ignite their curiosity, guide them to become deeper thinkers and masters of the mathematics curriculum giving them the foundations for secondary school and the skills to understand the world around them.

We aim for all our learners to:

- Use a range of visual representations, and concrete resources, to support them to understand number and solve calculations.
- Have a solid understanding of the number line and number operations, which enable them to have rapid recall of facts (and derive facts from these), use mental calculations and written methods efficiently and accurately to become efficient mathematicians.
- Become fluent in the fundamentals of mathematics through varied and frequent practise, having rapid and accurate recall of knowledge and apply it across a range of mathematical areas, making links between topics as they learn.
- Reason mathematically by systematically investigating questions or statements, presenting a justification, an argument or proof using mathematical knowledge, skills and mathematical language to further embed learning.
- Be able to solve problems by applying their learning to a variety of problems with increasing complexity, including real life scenarios.
- Show resilience by:

Working systematically,

Applying their knowledge of mathematical concepts

Making connections between topics

Seeking solutions to a range of problems with a varying degree of complexity.

# Implementation

When planning our mathematics curriculum, we use the White Rose Maths Scheme of Learning as our main resource for planning and teaching. This ensures continuity and progression with knowledge and skills and means that the Mathematics Curriculum 2014 is implemented consistently across the school.

We put a strong emphasis on concrete equipment (e.g. number lines, Numicon, ten frames, a variety of counters, place value coins, dienes equipment, arrow cards...etc.) and visual aids to support the children's understanding and to securely embed learning. Concrete resources are available in all classrooms, and visual representations are used in all lessons to deepen learning and support children to make the transition to abstract concepts. This supports them to reason confidently and embed learning so they can solve a variety of complex problems confidently and accurately.

We ensure the children engage in lots of practical experiences in EYFS and during Key Stage One to ensure maths has a real life starting point and this continues throughout Key Stage Two. Every maths lesson contains problems that relate to real life. During maths lessons, children are encouraged to engage in discussions with their peers and work collaboratively by challenging ideas, comparing methods, explaining reasoning and solving problems together.

## Rapid Recall/Counting

These are an integral part of our learning in daily mathematics lessons and support children to deepen their understanding of the number line and to have accurate rapid recall of facts to support their speed and competency when reasoning and solving problems.

## All of our daily maths lessons follow a similar structure:

<b>Starter/Warm up:</b>		
Counting/Rapid Recall of facts - delivered with pace and where ALL children are active in their learning.		
<b>Interactive Teaching:</b>		
Introduction of new learning, using previous learning to scaffold understanding of knowledge and skills. We develop their learning by assessing through questioning, identifying misconceptions and then building upon the foundations. Children play an active part in this learning.		
<b>Independent Learning:</b>		
Allowing the children to develop new knowledge, understanding and skills and apply this.		
<b>Fluency</b>	<b>Reasoning</b>	<b>Problem Solving</b>
Called "Do It" This can be preceded by a "Try It" to scaffold learning and allow children to practise a "pre-skill" to build into the learning.	Called "Twist It" This enables the children to develop their reasoning skills. They will apply their mathematical knowledge and skills by following a line of enquiry, making generalisations, arguing, justifying or proving, using mathematical vocabulary.	Called "Bop It". This enables the children to develop their problem solving skills, applying the mathematical knowledge and skills they have learnt to a mathematical problem. These will be routine and non-routine problems.
<b>Plenary/Revisiting Previous knowledge and skills:</b>		
This could take different forms depending upon the teacher's assessment of the learning in the lesson.		
Embedding any key teaching points. Correcting any obvious misconceptions	Revisiting Previous Learning (Key Year Group Objectives) using Flashback 4 or "Re-visit It" tasks.	Recapping Learning Short, sharp focussed questions to recap to ensure skills and knowledge are retained.

The different activities given to the children during the **Interactive Teaching** and the **Independent Learning** parts of the lesson, demonstrate the high/ambitious expectations we have for all learners whilst ensuring they secure their understanding of the concepts taught. This enables all children to achieve their potential. It also ensures breadth and depth of the mathematical curriculum thus providing a variety of mathematical opportunities (fluency, reasoning and problem solving) and being rich in mathematical language.

Feedback is given daily, during a maths lesson and/or written at the end of the lesson in children's books. This involves positive feedback to build confidence, identification of errors and questioning to develop thinking and to challenge misconceptions. Children respond to feedback regularly, both verbally and by written responses in their maths books.

An M Factor programme is used to develop personalised progression of recall of facts, particularly in lower key stage two. This is differentiated to suit all abilities and provides motivation for the children to earn badges.