CARE

Care, Aspire, Respect, Excel

Maths

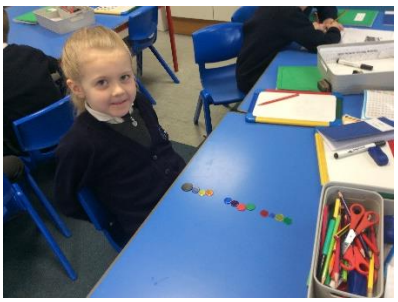
at

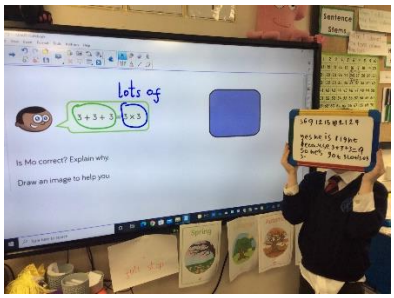
Winscombe Primary School

Maths at Winscombe

Getting the basics right matters a lot at Winscombe. We believe that it is essential to encourage children to think positively about Maths. We aim to ensure they are engaging in Maths across a range of topics and subjects. Furthermore, ensuring all children are given the best opportunities to make progress and achieve their full potential in Maths, allows each and every child in our school to make the most of all the opportunities that our curriculum has on offer, and allows them to begin creating a solid foundation for them to take Maths with them into their older years and beyond. This information explains how we approach teaching children the basics. We hope it helps you understand the key ways in which we work as a school, and how you as parent can best support your child's learning within mathematics. We also hope that by reading this information you will understand how ambitious we are for your child, how we want to see them achieve in all areas during their time at Winscombe, and how we want them to fully enjoy their learning.

What Maths looks like at Winscombe



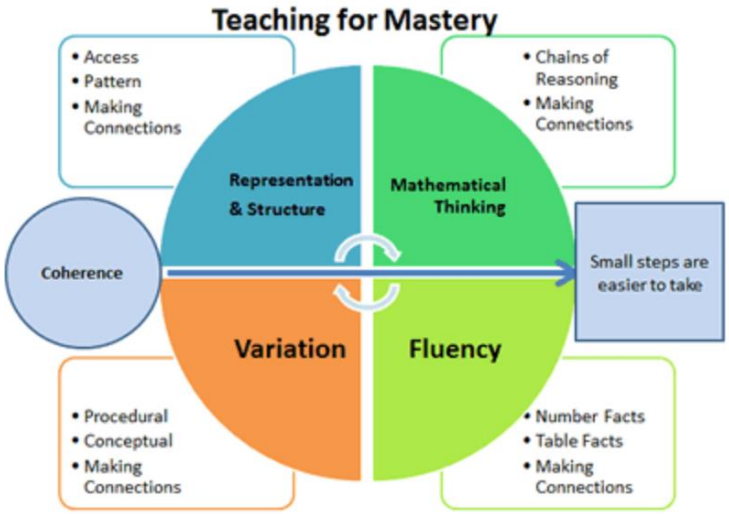


How we teach Maths

Throughout, the school intention has been to develop a love for mathematics. We strive to ensure every child feels valued, confident and able to participate, with no limitations within each lesson. We put a great emphasis on how we teach Mathematics at Winscombe. When it comes to being successful Mathematicians we have clear expectations for staff and children, and we continue to develop methods to help parents support their child. We follow the White Rose overviews and small steps and the 'The Wessex Learning Trust Calculation Policy'.

Maths teaching at Winscombe follows a 'Maths Mastery' approach, which follows 5 key ideas to embed a positive and deep understanding of maths. Mastering maths means pupils of all ages acquire a deep, long-term, secure and adaptable understanding of the subject. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material.

In order to achieve this, our classroom practise takes these 5 big ideas (which underpin the mastery approach) into account:



Coherence
Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Representation and Structure
Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation

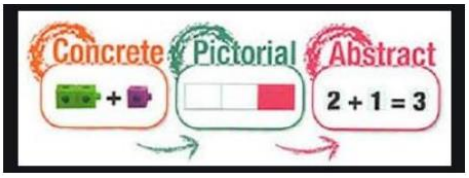
Mathematical Thinking
If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others

Fluency
Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

Variation
Variation is twofold. The teacher represents the concept being taught in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. The sequencing of activities and exercises used within a lesson and follow up practice are also carefully considered, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

We use three methods to ensure accessibility for all children and to develop the attributes of diving deeper.

The methods below support our Maths Mastery approach and underpin how we teach each maths skill, supporting both the initial learning stages and the more secure and embedded stages of understanding.



Concrete is the 'doing' stage, involving the use of using concrete objects to solve problems. It brings concepts to life by allowing children to handle physical objects themselves.

Pictorial is the 'seeing' stage, using representations of the objects involved in maths problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding, by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem. Building or drawing a model makes it easier for children to grasp concepts they traditionally find more difficult, such as fractions, as it helps them visualise the problem and make it more accessible.

Abstract is the 'symbolic' stage, where children are able to use abstract symbols to model and solve maths problems. Once a child has demonstrated that they have a solid understanding of the 'concrete' and 'pictorial' representations we introduce the more 'abstract' concept, such as mathematical symbols. Children are introduced to the concept at a symbolic level, using only numbers, notation, and mathematical symbols, for example +, –, x, / to indicate addition, multiplication, or division.

These methods are embedded in all children no matter what their ability. It ensures all children develop an understanding of mathematics, expands their mathematical language, mental maths and ensures the opportunity to dive deeper.

Alongside these three methods we embed the Mathematical skills of Fluency, Reasoning and Problem Solving to develop confident mathematicians. Each lesson will include activities which address these three skills:

Fluency enables children to develop the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems. This enables pupils to develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Fluency is about our pupils understanding why they are doing what they are doing and know when it is appropriate to use different methods.

Reasoning involves thinking through mathematical problems logically in order to arrive at solutions. It involves being able to identify what is important and unimportant in solving a problem and to explain or justify a solution using mathematical vocabulary and choosing efficient methods.

Problem Solving encourages pupils to identifying what mathematics is needed and how it should be used. It allows pupils to make connections between different strands of mathematical knowledge and understanding to solve a problem.

Maths in Early Years

At EYFS level we focus on developing a strong grounding in number. This enables children to develop the necessary building blocks to excel mathematically. Following the Early Learning Goals, children learn to count confidently and develop a deep understanding of the numbers to 10 (recognising the relationships between them and the patterns within those numbers). A rich variety of manipulatives are used frequently throughout all learning so that learning is active and engaging. This active learning allows children to build, deepen and apply their understanding. This sets the children off on our learning for Mastery approach which continues as they progress through the school. There is also a focus on securing children's knowledge of maths vocabulary to enable them to discuss and explain their understanding. This leads into opportunities for reasoning and problem solving. We aim to encourage all children to develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Alongside the White Rose Scheme of learning to support the teaching of the Early Learning Goals, we use the 'Mastering Number' programme to deepen and secure children's understanding of the basics and composition of number.

Maths in Key Stage One and Two

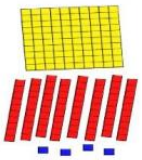
Overviews: We have created termly overviews based on the White Rose expectations. It is used as a guide and the amount of time on each strand is flexible depending on the needs of the children.

Resources to support planning: As a school we use White Rose, Twinkl and NCTEM resources to support our teaching strategies. Daily Mathematics lessons are taught which incorporate skills-based activities then fluency followed by a reasoning or problem solving activity to embed and dive deeper into the children's understanding.

Tailoring the curriculum: Class teachers tailor the content of each lesson to suit the needs of the children in their class. They ensure that all children are exposed to these key elements whatever their ability. Mathematical language and questioning is used effectively to dive deeper into the children's knowledge within mathematics. Stem sentences support the children's discussions and all children discuss their understanding using sentence starters such as 'I noticed that…' and 'I know this because…'

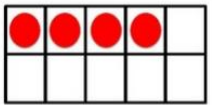
Practical resources: A range of concrete and pictorial resources are used to embed confidence within Mathematics.

Place value counters

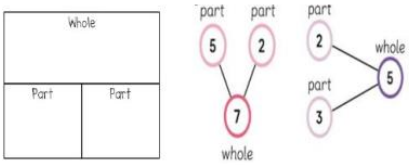


Diennes

Multi-link cubes

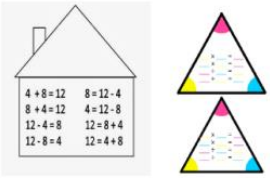


Ten frames

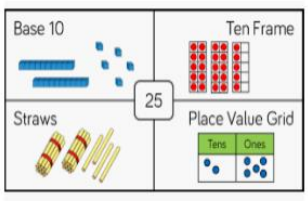


Part whole models

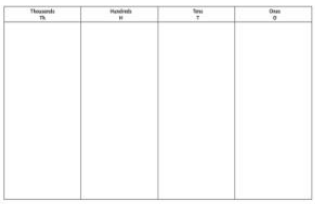
Numicon



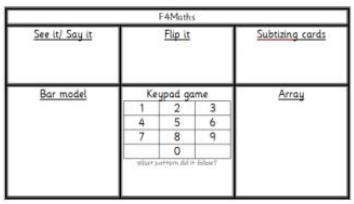
Family of facts



Power of four



Place value grids



Facts for Maths sheets

Mastering Number and Number Sense

Supporting all learners: Children in EYFS and KS1 are currently following the Mastering Number programme, in addition to their daily maths lessons. This is a 20 minute session multiple times a week which focuses on improving children's sense of number and the composition of numbers to 20. The aim is to embed early number skills with a focus on mental skills, to ensure children can then apply this to their learning as they move up to KS2. In KS2, children who need further support follow the Number Sense intervention programme, in a small group. This continues the building blocks which are established during the Mastering Number programme, and aim to ensure all children are fully secure in the building blocks of early number.

Numbots and Timestable Rockstars

Children in KS1 and KS2 take part in Numbots and Timestable Rockstars. This encourages mental recall of timestable facts, with children able to compete against themselves and also their peers in their class. All children are set at a level appropriate for their ability and can automatically move up the levels as their speed and fluency improves.

How we make Maths exciting and motivating for our children

The range of strategies, resources and staff enthusiasm has ensured the profile of Mathematics within our school is a positive and fun experience. Every child's needs are at the forefront of what we do and tailoring the curriculum to suit all needs has ensured every child's learning journey in mathematics is a positive one.

How we assess Maths

Quality First Teaching: We use this to inform our planning and adapt teaching strategies and resources to support all the children's needs. In KS1 and KS2 elements of self-assessment are used to give children a voice and to take ownership of their learning.

Times-table quizzes: KS2 have weekly times-table quizzes which they self- mark so they are aware of which facts they are unsure of.

Verbal feedback: During sessions teaching actively give verbal feedback and guidance to support the children's learning and confidence within their own abilities

End of block quizzes: As a school we use the White Rose end of block assessment quizzes. These are to assess the specific skills taught in the block through fluency, reasoning and problem solving questions.

Educater/Insight Tracking: We input data at the end of each block of teaching. There are objectives for each area of mathematics to assess the children against. We grade them at working towards, mainly achieved, achieved and greater depth ( ). Some objectives will not be fully met until the end of the year as the objectives in each area continue to be taught throughout the year and are consolidated

How we help children who find Maths difficult

Phase 1: We use quality first teaching to support children who find maths difficult. We adapt our planning to suit individual needs and use a range of concrete and pictorial resources to support the children's learning. We also ensure support and consolidation is planned into maths sessions. Information is recorded on individual progression maps to inform the SENDCO.

Phase 2: Intervention groups run by class HLTA's. These sessions focus on the pre-teaching standards to bridge the children's gaps in knowledge. Practical activities, concrete apparatus and pictorial recording are used to ensure consolidation and recall of information. Children are given the opportunity to take part in the Number Sense Intervention programme at KS2. Observations and notes are made on the children's progress. Information is added to children's individual progression maps by the class teacher to inform the SENDCO.

Phase 3: Dyscalculia portfolio- children are assessed and areas of weakness are identified. The SENDCO then creates an Individual Maths Intervention programme for the children to follow for 3 sessions a week on a 1:1

How parents and carers can help children with Maths

At school we teach the children the skills they need to develop fluency and understanding in Maths. We set learning conversation maths tasks, and ask that multiplication facts and number bonds are practised at home. We are also sending out a questionnaire for parents to indicate which areas of maths they are not confident with so we can tailor some maths workshops to support them. We also provide a digital platform through Times-table Rockstars and 'Hit the button' on Topmarks, which provides additional opportunities to explore and recall their multiplication facts.

How we celebrate Maths

Throughout the school we celebrate maths in many ways. We have Mathematical displays in every classroom to indicate children's learning journey, staff confidence which generates a positive attitude towards maths. Celebration assemblies where the work chosen is maths, blink visits where other schools in the academy visit the school to see how we teach maths and Maths books which indicate the passion and ability of the pupils in our school for maths. We take part in the national 'Number Day' each year and have a TT Rockstars Day to continue to develop a love and recognition of maths in the world around us.