



Wincheap Foundation Primary School



Maths

At Wincheap we use the White Rose Maths scheme to teach maths throughout school. White Rose Maths is a scheme that has been developed by a team of passionate maths teaching experts who are influenced, inspired and informed by the work of leading maths researchers and practitioners across the world. The scheme's fundamental belief is that 'everyone can do maths', and it is designed to teach to the 'mastery' of concepts so pupils become confident and resilient mathematicians.

Concrete, Pictorial, Abstract (CPA) Approach



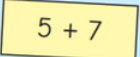
The 'CPA' approach is a key element of how maths is taught at Wincheap, and it is integral how children develop mastery of concepts in mathematics.

Concrete – Pupils have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – Pupils build on this concrete approach by using pictorial representations. These representations can then be used to reason and problem solve.

Abstract – With the foundations firmly laid, pupils are able to move to an abstract approach using numbers and key concepts with confidence.

With the 'CPA' approach, pupils physically represent mathematically concepts first. They then use pictures to demonstrate and visualise abstract ideas before finally using numbers and symbols to explain these concepts.

		
<p>Concrete</p> <p>Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.</p>	<p>Pictorial</p> <p>Alongside concrete resources, children should work with pictorial representations, making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems.</p>	<p>Abstract</p> <p>With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods.</p>

Fluency, Reasoning and Problem Solving

Fluency, reasoning and problem solving are key elements found in every maths lesson. The teaching of these supports and challenges pupils in their mastering of concepts and becoming efficient mathematicians.

Fluency – Pupils should be able to recall and apply mathematical knowledge rapidly and accurately. Pupils should be able to move confidently between contexts and representations, recognise relationships and make connections in mathematics. This will help pupils develop a deep conceptual understanding.

Reasoning – Reasoning is pupils being able to explain their mathematical learning, how they calculated an answer and how they know it is right. The teaching, understanding and reinforcement of key mathematical vocabulary is necessary for this.

Problem Solving – Problem solving is when pupils identify, understand and apply relevant mathematical principles and make connections between different ideas. Pupils require opportunities to demonstrate their understanding of concepts through different contexts to provide them with a richer and deeper learning experience. Pupils will combine different concepts to solve more complex problems and apply knowledge to real life situations.

Calculation Policy

Our Calculation Policy (available on this website) details how the main four operations - addition, subtraction, multiplication, division - are taught throughout the school

How can I best support my child's maths at home?

To support parents with maths at home, White Rose have produced many resources, which you can find on their website (www.whiterosemaths.com) under "Parents & Pupils" – see link below. This section includes support on several areas of maths including videos under the 'Maths with Michael' section. We have included their PDF guides to these areas, which have activities you can try with your child(ren) at home - please click on the PDFs links.

<https://whiteroseeducation.com/parent-pupil-resources/maths>

We understand that teaching methods for maths have evolved over time; therefore, we would encourage you to watch the highly-rated 'Maths with Michael' mini-series produced by White Rose as it explores and explains six key areas that parents often seek support with (place value, addition, subtraction, multiplication, division, fractions and algebra). Don't forget that when completing maths tasks at home, talking about how and why you found an answer is just as important as getting the answer right!

[Maths with Michael | Michael Underwood | White Rose Maths \(whiteroseeducation.com\)](https://www.whiteroseeducation.com)



Learning Times Tables

Are you a Times Tables Rock Star?



Times Tables Rock Stars is a fun and challenging game designed to help pupils master their times tables. When it comes to times tables, speed and accuracy are important, and this is the main focus of this fun and engaging game!

Pupils in Years 2-6 have accounts, and you can download it free on any app store and play at home. If you need a log in for your child, please speak to your child's class teacher.

[Time Tables Rock Stars Website](#)