



Maths Curriculum Intent statement

"Pure mathematics is, in its own way, the poetry of logical ideas."
Albert Einstein

What is the intention of our Maths curriculum?

What are our aims?

It is our intent at, Whybridge Junior School, to base learning on a broad and balanced curriculum, which is available to all pupils.

In maths, we ensure that all children have access to a high quality maths curriculum that incorporates sustained levels of challenge through varied and high quality activities. Our curriculum focuses on fluency, reasoning and problem solving, which children need in life beyond school.

We aim to provide our children with a variety of mathematical opportunities, which will enable them to make the connections in learning needed to develop their skills to a greater depth level. Furthermore, we aim to develop children's enjoyment of maths and provide opportunities for children to build a conceptual understanding of maths before applying their knowledge to everyday problems and challenges. We want our children to realise that mathematics has been developed over centuries, providing the solution to some of history's most intriguing problems.

Our curriculum encourages the children to reason mathematically by explaining, justifying and proving their thoughts and calculations. Additionally, it allows the children to make rich connections across mathematical ideas which is needed to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

At Whybridge Junior School, we encourage resilience and also promote a learning environment whereby it is accepted that challenge is a necessary step in learning. As our pupils progress, we intend for them to be able to understand the world, have the ability to reason mathematically, have an appreciation of the beauty and power of mathematics and create a sense of enjoyment and curiosity about the subject.

What is our rationale?

Our rationale for teaching Maths at Whybridge Junior School is that maths is a body of knowledge built upon throughout each year. We believe that a broad and balanced maths education is the entitlement of all children, regardless of ethnic origin, gender, class or ability. The sequence of mathematical strands are taught in the order of how they appear on the National Curriculum. This allows for children to have a sound knowledge of Place Value before moving onto other areas of mathematics. This also allows for clear progression and sequence of learning from class to class, year group to year group.

What are the attitudes we want to foster?

- To develop positive attitudes to mathematics that will start from the time they join the school and will follow into secondary education and beyond.

- To have an appreciation of the beauty and power of mathematics and create a sense of enjoyment and curiosity about the subject.
- To reinforce a belief that all children are capable of achieving high standards in Mathematics.
- For children to develop the mathematical skills needed for everyday life.

How will we implement our maths curriculum?

At Whybridge Junior School, maths is taught daily across each year group. We follow the National Curriculum and sequence all lessons to enable the children to build upon their previous skills. This allows pupils to build upon their prior knowledge and increases their enthusiasm for all areas of mathematics covered, whilst embedding the procedural knowledge into the long-term memory. We ensure that all children are taught a range of methods for the four operations, in line with our calculation policy. These methods are then developed further as they move throughout the school.

At Whybridge Junior School, our calculation policy has been developed and agreed after using the National Curriculum objectives and methods. As a school, we recognise that mathematics can only be used effectively when the user understands the tool, and has ownership of it. With our calculation policy, we can be confident throughout school, that the hard work we all put into teaching the children each year to calculate, will be consolidated and extended the following year.

By agreeing on the use of strategies and mathematical language the children will be taught in a consistent way in all classes, developing their understanding as they progress through school. This will hopefully cause less confusion for the children and ensure they have the necessary strategies and scaffolding to enable them to solve mathematical problems.

Year 3	<ul style="list-style-type: none"> • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
Year 4	<ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate-solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. • multiply two-digit and three-digit numbers by a one-digit number using formal written layout
Year 5	<ul style="list-style-type: none"> • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
Year 6	<ul style="list-style-type: none"> • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • solve addition and subtraction multi-step problems in contexts, deciding which operations

Throughout the school, all children are given the opportunity to learn maths through a variety of ways, when needed. Within lessons, objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols. If children need to, concrete, pictorial or abstract methods are used when exploring mathematical areas.

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

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

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

Working alongside other members of staff, clear progression charts have been mapped out in order to show what is covered in each year group and how this would look moving from one-year group to another. This is then used when completing Long term planning and Medium term planning to ensure challenge and coverage of the national curriculum.

Maths Progression Map – Whybridge Junior School				
	Year 3	Year 4	Year 5	Year 6
Counting	<ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. 	<ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers 	<ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context; count forwards and backwards with positive and negative whole numbers, including through zero 	<ul style="list-style-type: none"> use negative numbers in context, and calculate intervals across zero
Place Value	<ul style="list-style-type: none"> recognise the place value of each digit in a three-digit number compare and order numbers up to 1000 	<ul style="list-style-type: none"> recognise the place value of each digit in a four-digit number order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000 	<ul style="list-style-type: none"> read, write, order and compare numbers up to 1 000 000 and determine the value of each digit round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 	<ul style="list-style-type: none"> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy
Representing a number	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words 	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value 	<ul style="list-style-type: none"> read Roman numerals to 1000 (M) and recognise years written in Roman numerals recognise and use square numbers and cube numbers, and the notations for squared (2) and cubed (3) 	
Mental \pm	<ul style="list-style-type: none"> add and subtract numbers mentally, including: $HTU+U$, $HTU+T$ and $HTU+H$ 		<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers 	<ul style="list-style-type: none"> perform mental calculations, including with mixed operations and large numbers
Written \pm	<ul style="list-style-type: none"> add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 	<ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate 	<ul style="list-style-type: none"> add and subtract whole numbers with more than 4 digits, including using formal written methods 	
Problems \pm	<ul style="list-style-type: none"> estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction 	<ul style="list-style-type: none"> estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 	<ul style="list-style-type: none"> use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 	

How will we judge the impact of our Science curriculum?

The impact of our mathematics curriculum is that all children at Whybridge Junior School understand the relevance of what they are learning in relation to real world concepts. When it comes to maths, children are happy learners and are able to experience a wide-ranging number of learning challenges in the subject and know appropriate responses to them. We have fostered an environment where Maths is fun and challenging to all pupils. Our children have a growth mind-set and they make measurable progression against their own targets.

At Whybridge Junior School, our maths books reflect a range of activities showing evidence of fluency, reasoning and problem solving. All children are given the opportunity to pick their own challenge and they strive to do well. Children are able to develop skills in being articulate in their reasoning and are able to verbally, pictorially and in written forms, reason well. Our school outcomes are consistently high and classrooms, books and children reflect these outcomes.