

Hazelwood Schools



Maths

Curriculum Overview

Maths at Hazelwood

Intent

At Hazelwood schools, we believe that maths is an essential part of everyday life. Learning is, therefore, focused on children securing a strong conceptual understanding of maths and developing the skills and self-confidence required to apply their mathematical knowledge to creatively solve problems.

The aims of our Mathematics curriculum are:

- To promote enjoyment of learning through practical activity, exploration and discussion
- To promote confidence, enthusiasm and a sense of achievement
- To promote a high standard in Maths and a range of mathematical skills
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts as well as within routine and non-routine problems
- To develop a practical understanding of the ways in which information is gathered and presented
- To explore features of shape and space and develop measuring skills in a range of contexts
- To calculate accurately, both mentally and with pencil and paper, drawing on a range of calculation strategies
- To understand the importance of mathematics in everyday life
- To encourage pupil voice to justify and reason in mathematics



Our Vision and Values



At Hazelwood, we believe in nurturing responsible citizens to achieve educational excellence by inspiring awe and wonder through a real, relevant, immersive and purposeful curriculum.


Respect


Kindness


Resilience


Responsibility


Courage


Appreciation & Understanding


Ambition


Creativity


Teamwork


Trust


Honesty


Fairness

Our shared values are at the heart of all we do.

Believe and Achieve





Implementation

At Hazelwood, we use the White Rose Maths Curriculum in every class from EYFS to Year 6 to guide our planning due to its focus in providing children with the opportunity to access varied fluency, reasoning and problem-solving questions about each concept taught. The curriculum is **ambitious in its scope** (meeting and exceeding the demands of the National Curriculum), **meticulous in rigour** (making mathematical links within and between content) and **carefully sequenced** (where each small step builds carefully from the previous step - therefore building on pupils' prior knowledge to develop new skills).

Our Mathematics curriculum is structured around the National Curriculum and its yearly teaching programmes. This yearly teaching programme is taught through daily Mathematics lessons of approximately 45 minutes at the start of Key Stage One (KS1) extending to an hour in Key Stage Two (KS2). Teachers are encouraged to deliver Maths teaching in an agile teaching approach, where children enter the lessons with challenges to tackle straight away.

Our school uses a variety of teaching and learning styles in Mathematics lessons in accordance with the school's Teaching and Learning Policy. Our principal aim is that children will:

- Experience a high proportion of whole class, group-direct teaching, and exploration of ideas with mini-plenaries to extend learning.
- Be encouraged to ask as well as answer Mathematical questions.
- Have the opportunity to use a wide range of resources and manipulatives, such as number lines, number squares, digit cards, Numicon, Dienes, Place Value Counters and Cuisenaire Rods.
- In year 6, computing and technology in Mathematics lessons to enhance and/or support their learning.
- Wherever possible be encouraged to apply their learning to everyday situations.

It is important that children are allowed to explore Maths and present their findings not only in written form but also visually; to that end, the school will adopt the 'CPA approach': Concrete, Pictorial and Abstract. This will allow children to experience the physical aspects of Maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers. The manipulatives mentioned above are available in each classroom to help facilitate this process.

The expectation is that the majority of children will move through the Maths programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of children's understanding and their readiness to progress to the next stage. Children who grasp concepts rapidly should be challenged through rich and sophisticated problems before any acceleration through new content. Those children who are not sufficiently fluent with earlier material should consolidate their understanding, through additional practice, before moving on. (National Curriculum, 2014)

We use a variety of curriculum resources to support this mastery approach, including White Rose Maths Hub schemes of work, Nrich and NCETM (National Centre for Excellence in the Teaching of Mathematics) resources which ensure continuity and progression in the teaching of Mathematics.



Hazelwood's Approach to Teaching and Learning

At Hazelwood you will see a range of real, relevant, immersive and purposeful learning opportunities within a nurturing, enabling environment, including the following approaches to teaching and learning:

- Children hearing and using key vocabulary in a range of contexts
- Children speaking in full sentences using the key vocabulary taught
- Cold calling - supporting all children in engaging in their learning and believing they can achieve
- Adaptive teaching - responding to the needs of all children
- Retrieval practice – allowing children to know more, remember more and do more
- Positive relationships and quality interactions that nurture our responsible citizens
- Spaced and sequential learning over time to help children learn more quickly and remember learning better

In a typical Maths lesson, you will see:

- Carefully sequenced maths lessons that focus on small steps that build towards a strong coherence in the subject.
- Focus on developing key arithmetic skills in each year group (Monday arithmetic lesson)
- Visual representations and concrete manipulatives to support learning in all year groups across the school.
- Flashback learning to develop long-term understanding of prior topics to help children remember more and revise previous mathematical learning.
- 'Mastery for All' approach by offering reasoning opportunities for all pupils that build a clear understanding on mathematical topics by demonstrating both structural and procedural variation within pupil questioning.
- Retrieval practice that is designed to promote rapid recall of information from earlier in the lesson or from previous lessons and units.
- Explicit vocabulary instruction to ensure all children understand key concepts in maths combined with pacy rehearsal that allows children to hear the words first before trying to say them.
- Children being asked questions multiple times (sometimes in different ways) to allow children to rehearse their answers, hear other children answer those questions and use those responses to improve their own understanding before independent tasks.

Real, relevant, immersive and purposeful learning experiences are important when linking mathematical fluency with reasoning and problem-solving skills. To further enhance our Maths curriculum, we provide opportunities for children to take part in Higher Level Maths Competitions in KS2 such as Primary Maths Challenge and A.I.M High Maths days. Furthermore, across the school children have the opportunity to engage with financial education workshops with RedStart. These experiences enable our children to develop a real interest in the subject as well as make connections to the real world.



Impact

How do we assess?

We assess our children using a range of methods:

- Formative assessment is used to guide the progress of individual children in Mathematics. It involves identifying each child's progress against the key objectives determining any gaps individuals or groups of children have in their knowledge; what they have learnt securely; and what should be the next stage in their learning.
- Staff assess children's work throughout three aspects: long-term, medium-term and short-term.
- Staff carry out short-term assessments (formative assessment) which are used to inform daily plans. These short-term assessments are closely matched to the teaching objectives.
- Medium-term assessments are used to measure progress against the key White Rose end of block objectives and to help staff plan the next sequence of work. Teachers use assessments appropriate to the level of the children which help them identify the specific level the children are at and use White Rose termly tests (past SATs papers for Year 6) to assess children's understanding.
- Long-term assessments (NFER) are used towards the end of the year using formal end of year tests as well as teacher assessments. In Year 6, staff use the official National Tests known as SATs and the optional SATs papers are used by Year 2. Children at the end of Year 1, 3, 4 and 5 are given NFER Assessments. Year 4 take part in the National Multiplication Tables Check.
- Teachers use the information from the medium-term and long-term assessments to assess the progress made by each child throughout the year.
- In the EYFS teachers use a range of non-statutory documents to support teacher judgments of children's attainment throughout the year; including Development Matters 2021.
- At the end of the EYFS, in Reception, practitioners complete the Statutory EYFS Profile for each child. In Maths, children are assessed against the Early Learning Goals in Number and Numerical pattern as either:
 - Meeting expected levels of development (Expected)
 - Not yet reaching expected levels (Emerging)
- Summative assessment is recorded termly on Scholar Pack, identifying those working at ARE, as well as those below and above ARE.
- Arithmetic papers are used to assess the children's understanding of the four operations (addition, subtraction, multiplication and division) in years 1-6 at the beginning of each term. These assessments are used to inform teachers of any gaps individuals or groups of children have and subsequent Arithmetic lessons are planned to help children secure their understanding in these areas. Different Arithmetic papers are used to assess the children's understanding of what has been taught at the end of the half term.

How do we know children are at age-related expectations?



- Children are able reach the required expected scaled score for the end of key stage assessments in Key Stage 1 and Key Stage 2.
- Children are able to use appropriate taught methods to calculate and solve problems in their curriculum programme of study.
- Children are able to use taught key vocabulary and substantive knowledge to demonstrate both mathematical fluency and reasoning when answering problems.
- Children are able to talk confidently about what they have learnt.
- Children achieve the White Rose end of block outcomes.

Children working at greater depth are able to apply their knowledge to a variety of different contexts using different approaches.

How do our children feel about maths?

“I always enjoy being able to solve a really tricky problem and get an answer.”

“I feel that I’m challenged well in maths and never find the work too easy.”

“I really enjoy being able to solve problems on my own and with my partner sometimes too.”

“Although I find my times tables tricky, there are lots of good things at school that make it easier.”

“It’s really helpful to find out whether we were right when we self-mark at the end of our lessons

Nursery

<p>Comparison 1</p> <p>More than, fewer than, same</p> <p>VIEW</p>	<p>Shape, space and measure 1</p> <p>Explore and build with shapes and objects</p> <p>VIEW</p>	<p>Pattern 1</p> <p>Explore repeats</p> <p>VIEW</p>	<p>Counting 1</p> <p>Hear and say number names</p> <p>VIEW</p>	<p>Counting 2</p> <p>Begin to order number names</p> <p>VIEW</p>	<p>Subitising 1</p> <p>I see 1, 2, 3</p> <p>VIEW</p>
<p>Pattern 2</p> <p>Join in with repeats</p> <p>VIEW</p>	<p>Shape, space and measure 2</p> <p>Explore position and space</p> <p>VIEW</p>	<p>Subitising 2</p> <p>Show me 1, 2, 3</p> <p>VIEW</p>	<p>Counting 3</p> <p>Move and label 1, 2, 3</p> <p>VIEW</p>	<p>Shape, space and measure 3</p> <p>Explore position and routes</p> <p>VIEW</p>	<p>Pattern 3</p> <p>Explore own first patterns</p> <p>VIEW</p>
<p>Counting 4</p> <p>Take and give 1, 2, 3</p> <p>VIEW</p>	<p>Shape, space and measure 4</p> <p>Match, talk, push and pull</p> <p>VIEW</p>	<p>Subitising 3</p> <p>Talk about dots</p> <p>VIEW</p>	<p>Comparison 2</p> <p>Compare and sort collections</p> <p>VIEW</p>	<p>Pattern 4</p> <p>Lead on own repeats</p> <p>VIEW</p>	<p>Shape, space and measure 5</p> <p>Start to puzzle</p> <p>VIEW</p>
<p>Pattern 5</p> <p>Making patterns together</p> <p>VIEW</p>	<p>Subitising 4</p> <p>Make games and actions</p> <p>VIEW</p>	<p>Counting 5</p> <p>Show me 5</p> <p>VIEW</p>	<p>Pattern 6</p> <p>My own pattern</p> <p>VIEW</p>	<p>Counting 6</p> <p>Stop at 1, 2, 3, 4, 5</p> <p>VIEW</p>	<p>Comparison 3</p> <p>Match, sort, compare</p> <p>VIEW</p>

Reception

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Getting to know you		Match, sort and compare FREE TRIAL VIEW	Talk about measure and patterns VIEW	It's me 1, 2, 3 VIEW		Circles and triangles VIEW		1, 2, 3, 4, 5 VIEW		Shapes with 4 sides VIEW	
Spring term	Alive in 5 VIEW	Mass and capacity VIEW	Growing 6, 7, 8 VIEW	Length, height and time VIEW	Building 9 and 10 VIEW		Explore 3-D shapes VIEW					
Summer term	To 20 and beyond VIEW	How many now? VIEW	Manipulate, compose and decompose VIEW	Sharing and grouping VIEW	Visualise, build and map VIEW		Make connections VIEW	Consolidation				

Year 1

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value (within 10) VIEW					Number Addition and subtraction (within 10) VIEW					Geometry Shape VIEW	Consolidation
Spring term	Number Place value (within 20) VIEW	Number Addition and subtraction (within 20) VIEW			Number Place value (within 50) VIEW		Measurement Length and height VIEW		Measurement Mass and volume VIEW			
Summer term	Number Multiplication and division VIEW			Number Fractions VIEW		Geometry Position and direction VIEW	Number Place value (within 100) VIEW		Measurement Money VIEW	Measurement Time VIEW		Consolidation

Year 2

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	
Autumn term	Number Place value FREE TRIAL VIEW				Number Addition and subtraction VIEW				Geometry Shape VIEW				
Spring term	Measurement Money VIEW		Number Multiplication and division VIEW				Measurement Length and height VIEW		Measurement Mass, capacity and temperature VIEW				
Summer term	Number Fractions VIEW				Measurement Time VIEW			Statistics VIEW		Geometry Position and direction VIEW		Consolidation	

Year 3

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW			Number Addition and subtraction VIEW				Number Multiplication and division A VIEW				
Spring term	Number Multiplication and division B VIEW			Measurement Length and perimeter VIEW		Number Fractions A VIEW		Measurement Mass and capacity VIEW				
Summer term	Number Fractions B VIEW		Measurement Money VIEW	Measurement Time VIEW			Geometry Shape VIEW		Statistics VIEW		Consolidation	

Year 4

Autumn term	Number Place value FREE TRIAL VIEW	Number Addition and subtraction VIEW	Measurement Area VIEW	Number Multiplication and division A VIEW	Consolidation				
	Spring term	Number Multiplication and division B VIEW	Measurement Length and perimeter VIEW	Number Fractions VIEW	Number Decimals A VIEW				
		Summer term	Number Decimals B VIEW	Measurement Money VIEW	Measurement Time VIEW	Consolidation	Geometry Shape VIEW	Statistics VIEW	Geometry Position and direction VIEW

Year 5

Autumn term	Number Place value FREE TRIAL VIEW	Number Addition and subtraction VIEW	Number Multiplication and division A VIEW	Number Fractions A VIEW		
Spring term	Number Multiplication and division B VIEW	Number Fractions B VIEW	Number Decimals and percentages VIEW	Measurement Perimeter and area VIEW	Statistics VIEW	
Summer term	Geometry Shape VIEW	Geometry Position and direction VIEW	Number Decimals VIEW	Number Negative numbers VIEW	Measurement Converting units VIEW	Measurement Volume VIEW

Year 6

Autumn term	Number Place value FREE TRIAL VIEW	Number Addition, subtraction, multiplication and division VIEW	Number Fractions A VIEW	Number Fractions B VIEW	Measurement Converting units VIEW	
Spring term	Number Ratio VIEW	Number Algebra VIEW	Number Decimals VIEW	Number Fractions, decimals and percentages VIEW	Measurement Area, perimeter and volume VIEW	Statistics VIEW
Summer term	Geometry Shape VIEW	Geometry Position and direction VIEW	Themed projects, consolidation and problem solving VIEW			