



Maths Curriculum Statement

Intent

The National Curriculum for mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At Beechwood Primary School, the intent of our mathematics curriculum is that all children will become resilient, independent, confident and fluent mathematicians. We have adopted a mastery approach in order to deliver the three aims of the National Curriculum; fluency, reasoning and problem solving. Underpinning this pedagogy is a belief that all children can achieve in maths. We believe in promoting sustained and deepening understanding by employing a variety of mastery strategies, with teaching for conceptual understanding at the heart of everything we do. All our lessons work towards supporting our children in reasoning mathematically by conjecturing, identifying relationships, generalising and using mathematical language. We aim for our children to be able to give clear and coherent mathematical reasons for their answers and to prove mathematical justifications, arguments or proof using mathematical language.

We believe that all children can succeed in mathematics and we encourage a growth mind set through the promotion of the culture that 'everyone can do maths'. We want all children to enjoy mathematics and to experience success in the subject. We recognise all children learn differently and our implementation of maths supports each learner to achieve. Our approach aims to provide all children with full access to the curriculum, enabling them to develop independence, confidence and competence – 'mastery' in mathematics in order to be independent mathematicians who are well equipped to apply their learning to the wider world.

SEND is at the fore-front of our minds when developing Mathematics with the subject leaders actively seeking out CPD to ensure they can support all teachers in providing a rich and inclusive curriculum for their SEND children. Research around maths anxiety is constantly improving and we are now in a better position than ever before to understand why parents and children suffer from maths anxiety and how we can support them in overcoming this.

Implementation

At Beechwood Primary School, we follow the White Rose Scheme of learning to structure our long term plan and daily objectives. We teach Mathematics through small steps so that gaps are not created, and any misconceptions are remediated at the early stages. Through this approach, children make rich connections within their mathematical understanding and can talk about these. We use manipulatives (concrete resources) and pictorial representations to model mathematical concepts. This results in children's cognitive

demand being lowered as they encounter familiar representatives and aids them in making rich connections between their learning.

Teaching for Mastery aims to provide all children with full access to the curriculum, enabling them to achieve confidence and competence – ‘mastery’ – in mathematics. The key features of our Maths Mastery curriculum are: high expectations for every child; fewer topics, greater depth; number sense and place value come first; concrete resources and pictures always before abstract (numbers and letters); problem solving is central; calculating with confidence– understand why it works.

Mathematics Mastery places emphasis on the cumulative mastery of essential knowledge and skills in mathematics. It embeds a deeper understanding of maths by utilising a concrete, pictorial, abstract approach so that pupils understand what they are doing rather than just learning to repeat routines without grasping what is happening.



All our lessons include three key elements

- Fluency: we want our children to be confident and fluent in the fundamental skills
- Problem solving: once fluent, our children start to apply their skills to more challenging problems which can range from missing number questions to real life problems
- Reasoning: Once the children are able to apply their learning to a range of problems we move them on to reasoning they mathematical thinking and deepening their understanding.

In each of the three stages of the lessons the children can choose which method -concrete, pictorial or abstract – is best for them as we know that even the most able mathematician needs to use resources to support their learning when faced with a difficult challenge. We also know some children are more capable than they realise when they have concrete resources to free up their cognitive thinking.

The encouragement of discussion, debate and the sharing of ideas and strategies adds to both the quality of assessment information gained and the richness of the teaching and learning. Teachers marking and feedback is all discussion based as we use a ‘forward thinking’ approach. Teachers are constantly monitoring all children’s progress with in a lesson and providing on the spot support, feedback and challenge. This is an incredibly powerful way to feedback to the children as their learning is fresh and therefore the discussion has more relevance than leaving it until the following day.

School Vision

Explore, Discover, Achieve

Explore – We encourage all children to explore maths using concrete and pictorial approaches. This allows them to discover their own learning when accompanied with careful questions. Questions like; What would happen if we changed this number? What do you notice about all these numbers?

Encourage children to look deeper and explore further to make their own connections in their learning which is far more powerful than being told e.g. ‘The prime numbers are 1,3,5,7.....’

Discover - At Beechwood we believe that maths talk is incredibly important to children’s learning and therefore partner talk, questioning and modelling mathematical vocabulary are all integral parts of every lessons. We encourage children to talk through their mathematical thinking (with the aid of concrete

resources) when they struggle with a question as we know when they spot their own mistake or unpick / disprove their own misconception this is the most powerful form of learning. We want children to make embedded connections in maths and not learn by rote and we achieve this by allowing children to discover their own learning in carefully crafted lessons.

Achieve –We believe, in line with the Mastery Approach, that all children can achieve in Mathematics. We are an inclusive school and therefore all children work towards the same objective in the classroom. Some children may need concrete resources to achieve the varied fluency section of the lesson while other children may use an abstract approach and be able to apply their skills to reasoning questions but they have all achieved the lessons focused e.g. adding 6 digit numbers.

Curriculum coverage

Year	Autumn	Spring	Summer
FS	<p>Phase 1 (Just Like Me) Matching and sorting Comparing amounts Compare Size, Mass and Capacity Explore Pattern</p> <p>Phase 2 (Its Me, 123) Representing, comparing and composition of 1,2 and 3. Circles and triangles Positional Language</p> <p>Phase 3 (Light and Dark) Representing numbers to 5 One more and one less. Shapes with 4 sides Time</p>	<p>Phase 1 (Alive in 5) Introducing zero. Comparing numbers to 5. Composition of 4 and 5. Compare mass and capacity.</p> <p>Phase 2 (Growing, 678) 6, 7 and 8. Making pairs and combining 2 groups. Length and Height Time</p> <p>Phase 3 (Building 9 and 10) 9 and 10. Comparing numbers to 10 Number Bonds to 10. 3D shape Pattern</p>	<p>Phase 1 (To 20 and beyond) Building numbers beyond 10. Counting patterns beyond 10. Spatial reasoning Match, rotate and manipulate.</p> <p>Phase 2 (First, then now) Adding more and taking away Spatial reasoning Compose and decompose</p> <p>Phase 3 (Find my pattern) Doubling Sharing and grouping Even and odd Spatial reasoning Visualise and build.</p> <p>Phase 4 (On the move) Deepening understanding Patterns and relationships Spatial reasoning Mapping</p>
1	Place Value (To 10 and 20) Addition and Subtraction (Within 10) Shape	Addition and Subtraction (Within 20) Place Value (To 50) Length and Height Weight and Volume	Multiplication and Division Fractions Position and Direction Place Value (to 100) Money Time
2	Place Value Addition and Subtraction Money Multiplication and Division	Multiplication and Division Statistics Properties of Shape Fractions	Length and Height Position and Direction Time Mass, Capacity and Temperature
3	Place Value Addition and Subtraction Multiplication and Division	Multiplication and Division Money Statistics Length and Perimeter Fractions	Fractions Time Properties of Shape Mass and Capacity
4	Place Value Addition and Subtraction Length and Perimeter Multiplication and Division	Multiplication and Division Area Fractions Decimals	Decimals Money Time Statistics Properties of Shape Position and Direction
5	Place Value Addition and Subtraction Statistics Multiplication and Division Perimeter and Area	Multiplication and Division Fractions Decimals and Percentages.	Decimals Properties of Shape Position and Direction Converting Units Volume
6	Place Value Addition, Subtraction, Multiplication and Division	Decimals Percentages Algebra	Statistics Properties of Shape

	Fractions Position and Direction	Converting Units Perimeter, area and volume Ratio	
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Impact

By the end of KS2 we aim, most importantly, for our children to feel they can achieve in maths and have a growing positive attitude towards this subject. We also aim for them to be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. They should have skills to solve problems by applying their mathematics to a variety of situations, including in unfamiliar contexts and to model real-life scenarios. Children will be able to reason mathematically by following a line of enquiry, develop and present a justification or proof using mathematical language. Our children will leave with deep embedded learning as a result of exploring and discovering their own learning and they will start their journey in secondary school with solid foundations to build upon.

As a school, we formally assess our children three times a year to monitor their progress, which is used alongside teacher assessment. We regularly moderate teacher assessment to ensure accuracy across the school, as we believe teacher assessment is an invaluable tool when inputting our children's data. At Beechwood Primary School, we expect our children to make six points of progress across an academic year and we believe our approach to teaching successfully supports our children in achieving this.

Other relevant documents

- Calculation policy
- Teaching and Learning Policy
- Marking and Feedback Policy