



## Barnfields Primary School: Mathematics

Subject Leader Curriculum Intent, Implementation and Impact Overview					
Subject Quest: Discover the properties of different relationships and to explain universal truths from a very basic set of commonly accepted belief system of numbers and symbols.					
The Six Core Concepts at Barnfields					
Varied Fluency	Reasoning	Problem Solving	Mastery	Modelling	Retrieval
Intent	Supporting Research	Implementation		Impact	
<p><i>At Barnfields Primary School, we believe that children deserve an ambitious mathematics curriculum that prepares them for everyday life and future employment. Our mathematics curriculum adopts the mastery approach, enabling the children to acquire a deep, long term, secure and adaptable understanding of the subject. The curriculum focuses on the fundamentals of number, geometry, measurement and statistics.</i></p>	<p><b>NCETM</b> Underpinning the actual approach of teaching for Mastery is the strong belief that mathematicians are made, not born. NCETM (National Centre of Excellence for the Teaching of Mathematics) research states, ‘Mastery is characterised by a belief that, by working hard, <u>all children are capable of succeeding at mathematics.</u>’ This strongly supports our school motto of ‘Believe and Achieve’ to ensure all Barnfields pupils believe they are capable of succeeding in mathematics.</p> <p><b>Education Endowment Foundation</b> A guidance report from the Education Endowment Foundation <u>Improving Mathematics in Key Stages 2 &amp; 3</u> was published in November 2017. It endorses many of the</p>	<p>At Barnfields Primary School, we follow the National Curriculum for Mathematics to ensure all children have access to appropriate age-related knowledge and skills. This is supplemented by the White Rose Scheme of Learning to future guide and support teaching practice and pedagogy from Reception to Year 6.</p> <p>White Rose is based on the mastery approach which is used successfully in many countries (such as Singapore) and carefully sequences concepts and procedures to build mathematical knowledge and skills systematically over time. There is a distinct focus on number work. Children who have an excellent grasp of number make better mathematicians. Spending longer on mastering key topics will build a child’s confidence and help secure understanding.</p> <p>The scheme breaks the curriculum down into small, manageable steps that all children work on in a daily lesson together. Those that need a bit more support are provided with extra scaffolding through the use of modelling, resources and adult support. Those that require more challenge are given rich tasks and deeper problems to build a more profound understanding. The schemes interleave prior content with new concepts. This helps children make links between topics and understand them more deeply.</p> <p>Our whole-school Barnfields Calculation Policy works in tandem with the White Rose Scheme of learning which heavily advocates the use CPA (Concrete, Pictorial, Abstract) method to support and</p>		<p><b>To achieve age related expectations in mathematics at the end of their cohort year.</b></p> <p><b>Mastery approach – all children move through content and broadly the same pace. All learners are appropriately challenged.</b></p> <p><b>A consistency of approach is provided ensuring progression for</b></p>	

### Subject Quests/Core Concepts:

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	<p>components of teaching for mastery.</p> <p>The Department for Education, the National Centre for Excellence in Teaching Mathematics (NCETM), the National Curriculum Review Committee and OFSTED have all emphasised the pedagogy and heuristics developed in Singapore which underpins the Mastery Curriculum in Mathematics. All the research evidence shows that children who are taught through the Singaporean 'maths mastery' approach learn faster than children who are not taught this way.</p>	<p>enhance the mathematical opportunities we provide at Barnfields. This ensures learners are initially introduced to a concept through the use of concrete resources e.g. place value counters, they then begin to represent these pictorially themselves and finally once the concept is understood use the abstract (e.g. numerals) to effectively communicate the maths involved. This ensures a real depth of understanding for all learners.</p> <p>Our aim in the EYFS is to build strong foundations rooted in a secure understanding of core mathematical concepts. Our children are exposed to the key skills of number, calculation and shape so that pupils develop a deep understanding and a sound acquisition of mathematical language. Pupils learn through carefully considered teacher and child-led activities using concrete manipulatives which are then rehearsed and applied to their own learning during exploration. These early mathematical experiences are carefully designed to help pupils remember the content they have been taught and to support them with integrating their new knowledge across the breadth of their experiences and into larger concepts.</p> <p>At Barnfields, the progress and attainment of all learners is paramount. A key way in which this is monitored is through the use of assessment. Children are assessed both formatively and summatively throughout the academic year. Much of this assessment takes place in class through the use of oral questioning, written examples and activities carefully designed for our pupils. This allows our teachers to make informed judgements about each child's attainment and progress within Mathematics and inform their future teaching accordingly.</p>	<p><b>all learners as they move between year groups.</b></p> <p><b>Children will achieve well in their GLDs for Mathematics by the end of their time in EYFS and be ready to apply and develop this knowledge as they embark upon Key Stage 1.</b></p> <p><b>All children achieve strong levels of progress and attainment within Mathematics.</b></p>
<p><b><i>Our mathematics curriculum will give children the opportunity to become fluent in the fundamentals of mathematics. They are taught to reason mathematically by following a line of enquiry, finding connections and establishing relationships whilst</i></b></p>		<p>At Barnfields Primary School, we reinforce number fluency throughout the year and build on this year-on-year. This is delivered as mental and oral starters where children retrieve and apply skills previously taught in addition to developing those more newly acquired. Children are also given opportunities to reinforce this fluency through the use of TT Rockstars (times tables practice)</p>	<p><b>Children will have a confident attitude towards mathematics. They will use arithmetic and timetables fluently.</b></p>

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<p><i>using mathematical language. Children are taught to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.</i></p>		<p>and Numbots (counting and number bond development) both at school and home.</p> <p>New fluency content is taught through the use of ‘small steps’ of age-appropriate knowledge where we focus on ensuring accuracy, efficiency and flexibility for all learners. We also ensure children are exposed to both conceptual and procedural variation to ensure they are able to develop a deep understanding of the concept being taught. Through this, children should be able to discern between what a concept is, but also what it is not. Any new learning in mathematics will require purposeful practice in order to develop fluency.</p> <p>Reasoning and problem solving are integral to the schemes and to our approach. We expect each lesson to have an element of applying knowledge and skills. We also expect all learners to access this with appropriate scaffolding or challenge provided. It is through such activities that children see the real purpose of maths, and gain the most enjoyment and satisfaction.</p>	<p><b>Children will be able to use, make connections and apply the fluency they have acquired in a range of reasoning and problem solving situations.</b></p> <p><b>To be able to recognise standard and non-standard approaches within the concepts they study.</b></p> <p><b>Children will be resilient learners calling on their secure mathematical knowledge to solve more challenging aspects of the mathematics curriculum</b></p>
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