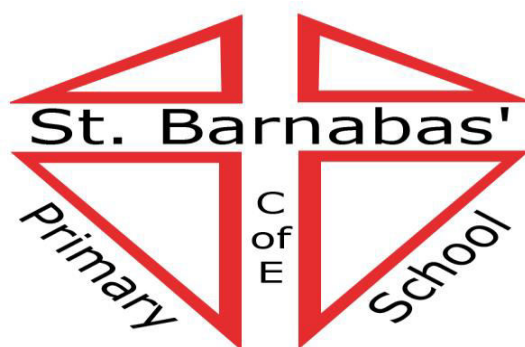


Heaton St Barnabas Maths Policy



Intent

At the heart of Heaton St Barnabas (HSTB), we believe that all children can succeed in mathematics and in doing so, they are equipped with the tools needed to understand the world around them. We want all children to enjoy the experience of mathematics and develop a sense of curiosity for the subject. Our curriculum is centered on the Early Years Framework and the National Curriculum, where pupils develop a mathematical knowledge that equips them with the skills needed to build resilience and make choices in the real world. We promote positive attitudes and encourage all children to believe 'they can do maths'. Children are taught mathematics in manageable steps to enable them to secure and deepen their understanding of mathematical concepts before tackling more varied and challenging problems. Mistakes and misconceptions are equally an integral part of learning and children are encouraged to see this not as a failure but as a way to show resilience and to develop and deepen their understanding.

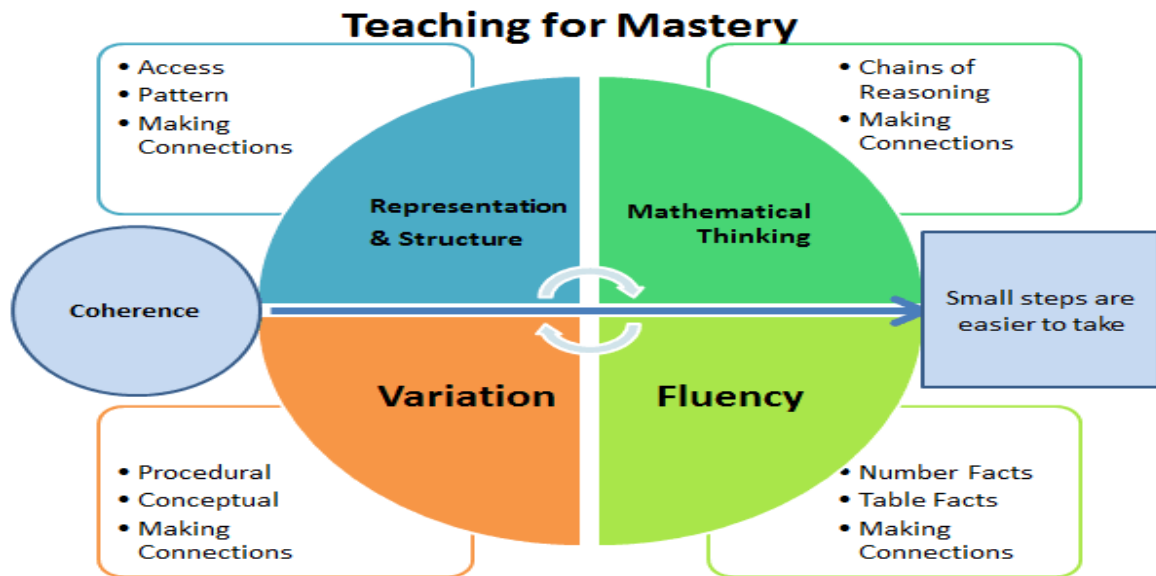
"A failure is not always a mistake. It may simply be the best one can do under the circumstances. The real mistake is to stop trying." – B.F. Skinner.

At Heaton St Barnabas, we aim for all pupils to do the following:

- To develop **fluency** in the fundamentals of mathematics through varied and frequent practice so children can recall maths facts rapidly and accurately. The children will then be able to tackle more complex problems with greater confidence and resilience.
- To develop **reasoning** skills so children can apply logical thinking to a given situation to derive the correct problem solving strategy to a given question. Such skills will support deep and sustainable learning where children can make connections in mathematics.
- To become **problem solvers** who are able to apply their skills beyond the classroom and be analytical thinkers in all areas of their lives.

Implementation

At Heaton St Barnabas, we adopt a mastery approach to learning by encompassing the NCTEMs Five Big Ideas to mastery. We follow the White Rose Maths Scheme, which is produced by an organisation that has been helping schools in the UK to improve maths education and instil a love of learning in children. They provide resources to help children to progress through the National Curriculum in small steps and develop confidence and competence in mathematics. The scheme follows a CPA (Concrete, Pictorial and Abstract) approach to learning, which helps children to understand the mathematics and make connections between different representations. Whilst we do follow the WRM scheme of learning, teachers are expected to adapt it to ensure the needs of the children within our school community are met.



Mathematical Thinking	Fluency	Variation	Representation & Structure	Coherence
Children use 'maths talk' in all lessons. This ranges from teacher to pupil or pupil to pupil. Children are encouraged to use the correct mathematical language and explain their procedures.	Children work on quick recall and facts in each year group.	Questions are represented in different ways. Children are encouraged to make notice changes and make links.	Children use a wide range of representations to support mathematical understanding.	Lessons are broken down using the White Rose small steps criteria making it more manageable for children to work on different concepts in a range of contexts.

Reception

- ✚ In Reception, we follow the revised maths Early Learning Goals, which focus on number patterns and numbers. We develop confident talk around number and children's ability to use visual models to support their own learning. Practical resources are used to enhance the provision daily. Children take part in 'mini maths' sessions that explore the 'fiveness of 5' etc. Subitising and representing numbers in different ways are a huge part of our maths teaching and learning at HSTB. This enables children to relate patterns and visuals to actual amounts and numbers.

KS1 & KS2

- ✚ In KS1 and KS2, all children work on their year group's objectives unless they are significantly working below age related expectations. Through 'maths talk' and carefully selected questions, all children are encouraged to explain the meanings behind the calculations they are doing. Children are encouraged to manipulate objects, draw images or use concrete representation before moving to abstract concepts. As the children move through these stages, they are encouraged to make links, notice patterns and recognise similarities and differences. When these skills are embedded within a child's learning, they are much more likely to retain a deeper understanding of the concept.

Vocabulary

- ✚ Throughout Heaton St Barnabas, maths vocabulary is strongly developed in every lesson. Working walls have the current theme's vocabulary displayed, teachers model how to use the correct vocabulary and children are encouraged to use it when answering questions both orally and in written work.

Challenge

- ✚ Children are provided with tasks that allow them to be both supported and challenged within a lesson and allow all children to work at a mastery level. Children who have grasped the objective have opportunities to deepen their understanding through investigative tasks that encourage them to use a range of skills across different contexts. Where children are working significantly below ARE, a personal curriculum is devised to enable them to access learning at their starting point.

Revisiting learning

- ✚ Daily recaps take place with Flashback 4, which are a series of quick questions covering content from the previous lesson, content from last week, content from earlier in the year and content from previous years. These are a fantastic and fun way to recap learning and ensure essential skills are regularly revisited and retrieved to strengthen retention.
- ✚ Teachers continually encourage maths through daily routines, 'drip-feed' and cross-curricular opportunities where possible, which helps to promote the learning of maths knowledge and skills over time.

Working Walls

- ✚ Maths working walls are found in every classroom and their main purpose is to support children in their current learning and enable independence. All working walls have key vocabulary, modelled strategies and prior learning objectives to help support learning.

Fluency

- ✚ Fluency is at the centre of the National Curriculum for maths. At Heaton St Barnabas, we want children to have the confidence to tackle maths problems with increasing complexity. In order to do this, children need to be able to count fluently and retrieve maths facts quickly, which reduces cognitive overload and enables them to work on problems that are more challenging. Maths lessons at HSTB begin with quick fire mental maths, which may include rote learning and chanting of facts. It is widely acknowledged that practice, drill and memorisation are essential if children are to become mathematically fluent.
- ✚ Times Tables Rock Stars is used from Y2 upwards and is a carefully sequenced programme that helps children to quickly recall their multiplication and division facts. It comes in two formats: paper and online and is a fun way to learn. Incorrect answers are immediately corrected in front of the pupil so that they start to associate the correct answer to every question. The clever code behind the scenes works out which times tables facts each pupil is consistently taking longer to answer and then it gradually starts to present these facts more frequently until pupils have mastered them. It will also ask related division questions 20% of the time in order to reinforce division facts. Once pupils are logged in, they can begin a game in one click. Times Tables Rock Stars takes place at least once a week in school. Battles and competitions take place every half term and children are encouraged to take part in the homework sessions.
- ✚ Sumdog is used from Y2 upwards and is a maths programme that identifies gaps and helps to build fluency using Sumdog's engaging adaptive learning games. It is fully aligned to the National Curriculum. Sumdog is mainly used for competitions in school, where we sign up to local and national events.

Wider Maths

- ✚ Whole school maths days take place throughout the year. These encourage cross-curricular activities, a chance to broaden and deepen their knowledge. It gives children the opportunity to share their enthusiasm for maths across year groups and allows for learning to take place outside the classroom.

Staff CPD

- ✚ Staff meetings are held regularly to ensure that teachers are supported and updated with the most recent maths requirements. Teachers also use the White Rose Premium videos as guidance for teaching new concepts.

Assessment

- ✚ Through our teaching, questioning and use of post-unit assessments, we continuously monitor pupils' progress against expected attainment for their age, making formative assessment notes where appropriate and using these to inform our teaching. Summative assessments are completed at the end of each half term using appropriate assessments for the cohort. These enable us to track children's progress across the year and put appropriate support in place. In Reception, we also continuously observe and assess progress against the ELG's. We use Development Matters and 'in-house' moderation opportunities to support our formative assessment. The EYFS team collate evidence using Tapestry observations and professional judgement across maths books, continuous provision and the use of floor books. Progress is monitored half termly and shared with parents at parents evening and through termly reports.

Impact

As a result of our maths teaching at Heaton St Barnabas, you will see the following:

- Children who can confidently talk about maths, their learning and the links between maths topics.
- Children who work both collaboratively and independently when solving problems, which require them to persevere and develop resilience.
- Children who have a positive view of maths due to learning in an environment where maths is promoted as being an exciting and enjoyable subject in which they can investigate and ask questions; they know that it is reasonable to make mistakes because this can strengthen their learning through the journey to finding an answer.
- Children who are fluent in their recall of key number facts and procedures.
- Children who work with increasing accuracy in the formal calculation methods for all four operations.
- Children who have the flexibility and fluidity to move between different contexts and representations of mathematics.

