Subject Vision Statement

Purpose

At Bradshaw Hall we strive to develop confident, flexible mathematicians. A high-quality mathematics education will provide children with the necessary stepping stones for every day and future life – with it being essential and critical to science, technology, engineering and financial and numerical mathematical literacy crucial to most forms of employment.

To develop children in to well-rounded mathematicians, we expose our learners to a wide range of rich and varied learning experiences in maths. Through the depth and range of learning which is matched to individual needs allows children to build a strong and rigorous but flexible and creative understanding of maths.

We teach the National Curriculum objectives based around long-term planning documents produced by the White Rose Maths Hub. This is put into action in the classroom through daily teaching which follows the school’s ‘Maths Learning Cycle’.

Model

Our whole-school model for teaching mathematics is based around the model developed by the NCETM and focuses on five key areas of mathematical learning.

* Coherence – the understanding of the maths they are doing. Children need to be absolutely secure in their understanding to allow for deep and sustained learning.
* Representation and Structure – children who are exposed to different representations and structures will become more flexible and resilient mathematicians. It exposes the ‘doing’ of the mathematics, providing children with a visual understanding of what occurs when manipulating numbers.
* Fluency – quick and efficient recall of facts and procedures allwos children to think strategically to solve problems. It allows children to move flexibly between different contexts and representations, spot relationships and patterns, and make connections. Children will draw on their ‘Coherence’ knowledge (a wide range of methods, strategies and approaches) to think mathematically.
* Variation – the essential ideas and features of a concept are highlighted when giving examples. Children will be exposed to this continuously through bespoke questioning.
* Mathematical Thinking – ideas that children are taught are understood deeply and not just ‘received’. Children will spend time looking for and identifying patterns and relationships, connecting ideas, reasoning logically, explaining, conjecturing and proving.



These five key areas will be ever-present in our schools daily teaching of mathematics. Children may be (where relevant) immersed into a practical or visual representation of an area of mathematics prior to it being explicitly ‘taught’.

The main bulk of what children learn will be taught in lessons that follow the curriculum objectives, although these may be chunked into smaller, more manageable and appropriate objectives dependent on the needs of the children. Children will be exposed to the five key areas of maths as described above and through intelligent planning, teaching and questioning children will develop the requisite skills to grow into confident mathematicians.

At the end of a ‘block’ of learning children will complete an assessment which will support teacher judgement. Children who require further time working on an area of the most recent block of work will work with an adult or in groups to tackle any areas of weakness or misconceptions they may have. Children who have a full understanding of this area of their learning will complete an ‘Extension Pathway’. This will be a longer task or investigation that will draw together multiple areas of learning, require creative and flexible thinking and use the skills they have been working on in the block.

Aims

We believe that our maths learning cycle, as a tool for delivering, teaching and assessing the objectives will foster a love for mathematics, develop creative, adaptable and resilient learners and also allow teachers to spend time where it can make the greatest difference. All children will work through carefully chosen, created and planned questions that are age and ability appropriate before moving onto further, more challenging problems. Through daily practise and varied exposure and experiences for all, our learners will develop the key areas of mathematical thinking, thus developing capable, fluent, resilient and creative mathematicians.