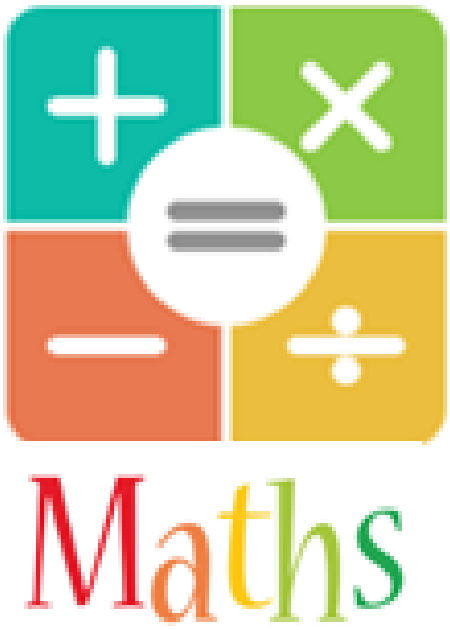
TEACHING MATHEMATICS

AT HOPPING HILL PRIMARY SCHOOL



"Pure Mathematics is, in its way, the poetry of logical ideas."

Albert Einstein

Golden Threads

Understanding and fluency

Connecting what I already know to new learning

Problem Solving

Investigating and finding my own solutions based on my understanding, skills and reasoning

Reasoning

Convincing myself and others that my thinking is correct

Resilience

Trying again when I get things wrong

Vocabulary and Knowledge

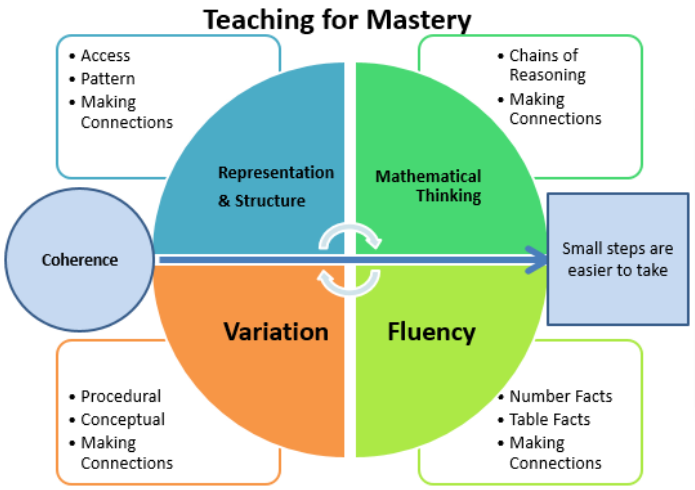
Speaking and understanding like a mathematician

INTENT

At Hopping Hill, we believe that mathematics is the vehicle through which children learn to be resilient problem solvers and learn skills, knowledge and understanding that are key to them being able to manage their own independent lives. We aim to instil a passion for mathematics that stays with our children throughout their educational careers and whereby children are enabled to make links to real life situations and problems.

We aim to teach the children to learn mathematics by supporting them with strategies to organise their thinking using tools such as manipulatives and pictorial representations. Children are provided with the required vocabulary and knowledge to talk about and understand mathematics.

IMPLEMENTATION

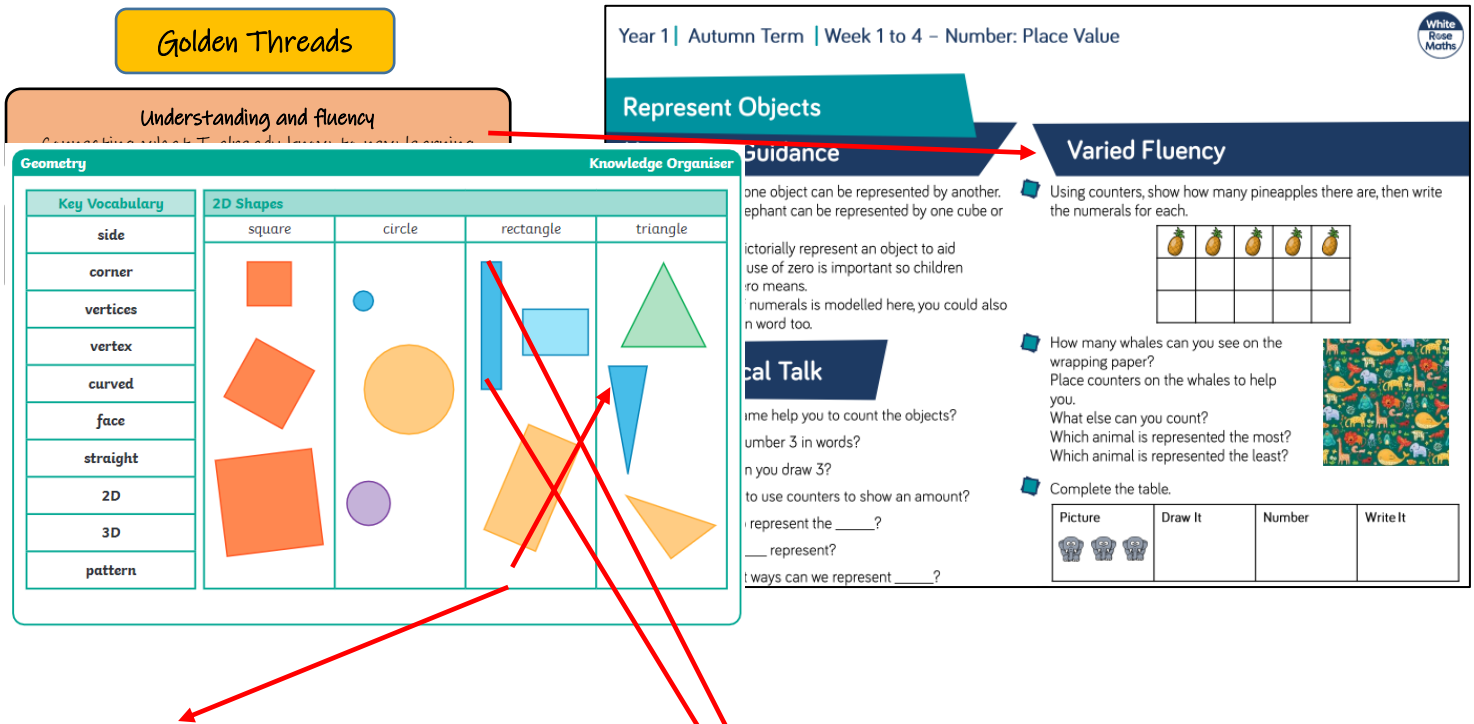


We follow a Teaching for Mastery curriculum as endorsed by the Department for Education (DfE) and the National Centre for Excellence in the Teaching of Mathematics (NCETM). We believe that high expectations are crucial – teachers believe that all children can achieve, and they are encouraged to believe that through hard work, they can succeed in mathematics. Our lessons involve whole-class teaching with children working through lesson content at broadly the same pace, mastering content before moving on to the next steps in learning. This involves carefully planned, small, coherent steps that are achievable. Those children that find grasping a concept more challenging are offered rapid intervention, so they are more equipped to move on with the class. We differentiate through depth rather than accelerating through content. Our children are required to reason mathematically and are offered opportunities to work on key ideas and learning that encourage intelligent practice. This is fostered by drawing children's attention to important features and structures of mathematics and by making connections through lessons that incorporate procedural variation (by varying numbers or unknowns, strategies or problems) and conceptual variation (by varying the representations given to support children's understanding). Children are also given time to learn key tables and number facts to improve their mathematical fluency.

Mathematics is taught each day throughout all year groups, and lessons include time to practise and solve mathematical problems, which involve reasoning. The 'White Rose' scheme of work is used in Key Stages 1 and 2. Number sense is promoted in classes through discrete sessions on a daily basis (ten minutes) concentrating on key facts such as multiplication tables and addition and subtraction facts leading to automaticity.

In early years, mathematics is part of the continuous provision that is offered throughout the year and reflects learning laid out in Development Matters 2021. In line with this documentation, and the ethos of in the moment planning and being led by the children's interests, specific topics and vocabulary are not prescribed. The golden threads are reflected in the EYFS Mathematics overview, and this assists the teachers in planning provision to reflect their role in the beginning of the children's mathematics thinking and understanding.

When planning for learning using the school's medium-term plans or EYFS overview, teachers will ensure they have knowledge of the learning in a particular 'topic' in the previous years and where this will progress to (being aware that a particular linked topic might not appear in the next chronological year). This includes EYFS who will be aware of the mathematical vocabulary and knowledge expected in year 1 when planning provision.

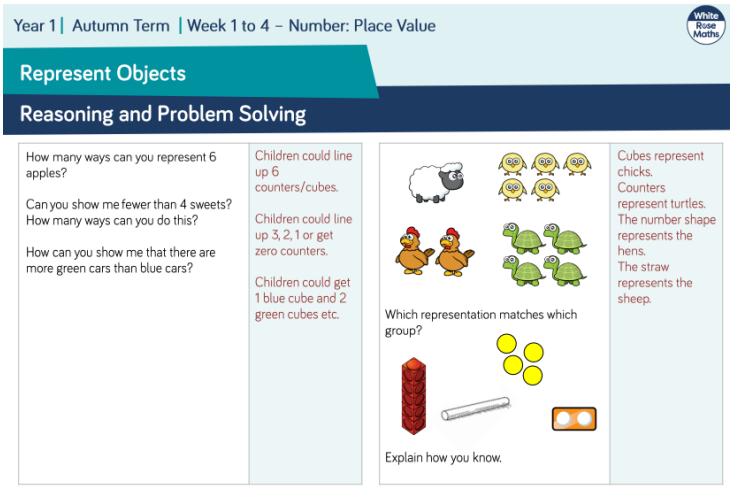


Assessment

Teachers use pre and post unit End of Block assessments to gain an understanding of the children's learning. Each full term, children use the White Rose tests for mathematics. These are used to highlight children working at different levels – highlighting those who may need interventions or those that require deeper learning tasks.

Access the link below to find out more about the White Rose programme of study and its links to Teaching for Mastery.

https://whiterosemaths.com/



INTENDED IMPACT

- ✓ Pupils will develop a love of mathematics.
- ✓ Pupils will develop their number sense leading to automaticity.
- ✓ Pupils will build on previous learning in carefully planned coherent steps.
- ✓ Pupils will develop efficient and most effective methods to solve problems.
- ✓ Pupils develop their representational fluency making connections between familiar and unfamiliar representations incorporating variation theory.