

Maths teaching at Hermitage

At Hermitage we cover the National Curriculum 2014 objectives in depth. Our schemes follow a depth and mastery approach allowing time to ensure the objectives are thoroughly embedded. Planning is fluid and is modified as the week progresses depending on the children's progress. Maths vocabulary plays an important part and vocabulary pertaining to each objective is shared with the children and embedded in their learning.

Staff use textbooks, worksheets, practical resources, videos and the internet to support the children to master, and become fluent in, a particular skill. We aim to use a wide range of teaching techniques and resources to ensure learning is engaging and that concepts are mastered.

Teaching

When teaching a new concept, pupil's understanding is developed in a structured fashion as outlined below:

- Concrete learning – students have the opportunity to use concrete objects to help them understand what they are doing (practical learning). These hands on approaches increase their access to learning.
- Pictorial – students then build on this concrete approach by using pictorial representations. These representations are then be used to reason and solve problems.
- Abstract – with the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence.



Teaching of an objective at Hermitage consists of embedding:

- Fluency: pupils become fluent in the fundamentals of the concept, through varied and frequent practice, so that they are able to develop conceptual understanding and recall and apply their understanding.
- Reasoning: pupils are able to follow a line of enquiry, understanding relationships and patterns, and using mathematical language to explain their thinking.
- Problem solving: pupils can apply their mathematics to a variety of problems building in complexity.

Lesson Organisation



In addition to the 5 hourly maths lessons, there are daily 30-minute number skills activities to support the children's number fluency. Maths homework is set each week. MyMaths, a fully interactive online mathematics learning tool, is used by teachers to support mathematics learning both in class and at home. Children are encouraged to access it regularly at home to support areas of mathematical learning.

The curriculum is designed around the C–P–A approach (Concrete–Pictorial–Abstract). As a result of this approach, regardless of year group or stage of development, range of classroom equipment is used to develop learning.

In KS1, pupils work in mixed ability groups using the Inspire Maths scheme. This follows a mastery approach beginning each unit with concrete modelling, moving on through guided practice, pictorial and abstract application of knowledge and then into practice book activities to assess fluency, reasoning and problem solving. Inspire Maths is built on a cumulative spiral curriculum, focusing on core topics to build deep understanding. The overarching aim is to help all children understand and use mathematics confidently and competently.

In KS2, pupils work in mixed-ability groups on mathematical fluency, reasoning and problem solving activities. Each lesson may not contain all three. Differentiation takes place through questioning and scaffolding: Pupils who grasp concepts quickly are challenged through rich and sophisticated problem solving which deepen their knowledge of the same objective rather than moving quickly on to new content. Children who require further support may work in a smaller group with guided tasks, additional practice and/or increased scaffolding through questioning and use of manipulatives.

Assessment

Pupils' understanding is assessed on a regular basis (through questioning, marking and testing). Marking is carried out in the lesson for instant feedback. Self-marking and peer-marking is sometimes used to aid motivation. Teachers will mark in depth, giving an 'Action Response' (=>) to address a misconception or further a pupil's learning.