



Mathematics

Intent

Mathematics is important in everyday life and, with this in mind, the purpose of Mathematics at Cassop Primary is to develop an ability to solve problems, to reason, to think logically and to work systematically and accurately. All children are challenged and encouraged to excel in Maths. New mathematical concepts are introduced using a 'Concrete, Pictorial and Abstract' approach; enabling all children to experience hands-on learning when discovering new mathematical topics, and allows them to have clear models and images to aid their understanding. Arithmetic and basic math skills are practised regularly to ensure key mathematical concepts are embedded and children can recall this information to see the links between topics in Maths.

We recognise that good Math teaching works actively involves students in their learning and shows how Mathematics can help make sense of the world

Our aims in Maths:

- To promote enjoyment, enthusiasm and curiosity for learning through practical activity, exploration and discussion.
- To develop the ability to solve problems through decision making and reasoning in a range of contexts
- To explore features of shape and space, and develop measuring skills in a range of contexts
- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time.
- To develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To develop mathematical vocabulary, and present a mathematical justification

Implementation

At Cassop we have adopted the White Rose Maths scheme as a planning spine to guide and inform planning. Staff use this flexibly and adapt their delivery to suit the needs of the children. A range of planning resources including those provided by the NCETM and NRICH are used to further enrich the children's maths diet. Children are given the opportunity to explore and understand concepts in depth, rather than covering it superficially and this practice and consolidation helps children to grasp the links between topics and to understand them more deeply.

- Basic Maths skills are taught daily. Focussing on key mathematical skills including place value, the four operations and fractions.
- A range of reasoning resources are used to challenge all children and give them the opportunity to reason with their understanding.
- Interventions are used to support children to ensure children are ready for their next Maths lesson.
- Children are taught through targeted differentiated small group and mixed ability whole class lessons.
- Lessons use a Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes. We implement this approach through high quality teaching, delivering appropriately challenging work for all individuals. To support, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve maths without equipment or images. This is exemplified in the Calculation Policy. Maths manipulatives are used at every stage throughout the curriculum.
- Revise and Review consolidation lessons are used to revisit previous learning and ensure Maths skills are embedded.
- Where possible, links are made with other subjects across the curriculum.
- They are taught to explain their choice of methods and develop their mathematical reasoning skills. This is a hugely important area of the curriculum and all staff encourage 'Math Talk'
- Resilience, adaptability and acceptance that struggle is often a necessary step in learning is promoted

Impact

At Cassop we are aware that Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. Children can demonstrate a quick recall of facts and procedures including the recollection of the times table.

Pupils use vocabulary confidently and articulately in maths lessons. They have the skills to use methods independently and show resilience when tackling problems. They demonstrate the flexibility and fluidity to move between different contexts and representations of maths. Children show a high level of pride in the presentation and understanding of the work.