

MATHEMATICS POLICY AT ALWOODLEY PRIMARY SCHOOL

Our Mathematics vision is to deepen the children's mathematical understanding through a mastery approach.

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

The National Curriculum for Mathematics aims to ensure that all pupils:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

(National Curriculum 2014)

Aims

At Alwoodley Primary School, we aim to make children's learning in mathematics relevant, practical, creative, exciting and engaging. Mathematics teaches children to calculate, communicate, reason and solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. We aim for children to achieve their fullest potential in this subject.

Objectives:

- ❖ Promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- ❖ Develop mathematical skills, knowledge and quick recall of basic facts
- ❖ Promote confidence and competence with numbers and the number system
- ❖ Develop the ability to solve problems through decision-making and reasoning in a range of contexts
- ❖ Develop a practical understanding of the ways in which information is gathered and presented
- ❖ Explore features of shape and space and develop measuring skills in a range of contexts
- ❖ Develop an appreciation of the creative aspects of mathematics
- ❖ Understand the importance of mathematics in everyday life
- ❖ Enable children to develop their skills of co-operation through working with others and to encourage where possible, ways for children to explore mathematics in forms which are relevant and meaningful to them

Inclusion

At times, teachers and teaching assistants will work with individual and small groups of children. All children will be supported or challenged through extended challenges. Planning will reflect the varying needs of all children in the class. Where possible, the diverse society in which we live will be reflected in the teaching and learning of this subject.

Curriculum Organisation

In Early Years, children will learn mathematical knowledge and skills through carefully planned provision. For children in the Reception Class, this is enhanced by discrete daily teaching sessions. Mathematics is a core subject of the National Curriculum and is taught daily in both Key Stage 1 and Key Stage 2.

Teachers plan lessons according to the needs of the class. Teachers use the principles of 'Assessment of Learning' to inform planning.

Long term plans are modelled around the White Rose Schemes of Learning.

At Alwoodley Primary School, we focus on having fun in Maths, learning in real life situations and solving problems. We enjoy taking our learning outside by exploring maths trails and doing active maths. We use current events to make our learning meaningful. We are also committed to getting active in our maths lessons as part of our commitment to being a healthy school.

Mastery in Mathematics

Our Maths lessons incorporate the key principles of teaching for mastery. We take the whole class through the mathematics in small steps to build deep understanding. We ask children to reason, discuss and connect their mathematics using mathematical vocabulary and a range of representations to show mathematical concepts and relationships. We expect children to develop fluency with their recall, and use of key number facts including addition pairs and multiplication facts. We challenge children by asking them to reason about and apply their mathematics, and to identify common errors and misconceptions.

Assessment, recording, monitoring and reviewing

Assessment for Learning is a continuous part of the planning, teaching and learning cycle.

There are a variety of methods used when assessing children which may include:

- ❖ Teacher or teaching assistant focused verbal questioning to an individual or group
- ❖ Teacher or teaching assistant observation of an individual or group completing a task
- ❖ Children completing thinking maps, diagram or giving a written explanation to show understanding
- ❖ Marking of books and feedback tasks appropriate to age and ability
- ❖ NFER tests
- ❖ White Rose end of unit assessments

Lesson observations, work scrutiny and pupil discussions are completed as part of the school's monitoring calendar.