

# Grange Primary School



## Mathematics Policy

Updated: Autumn 2021

To be reviewed: Autumn 2022

## Aims

At Grange Primary School, we believe that mathematics equips pupils with a uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life; it is integral to all aspects of life and with this in mind, we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At Grange Primary School we use White Rose as the basis of our mathematics programme. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving and the development of mathematical thinking and a rigorous approach to the development of teacher subject knowledge are therefore essential components of the Grange approach to this subject

At Grange Primary School, we follow the White Rose scheme for mathematics, which covers all of the objectives set out in the National Curriculum. White Rose fosters a culture of deep understanding, confidence and competence in maths – a culture that produces strong, secure learning and real progress. Our aim is to create assured, happy and resilient mathematicians, who relish the challenge of maths and have lively, enquiring minds. Through our curriculum we ensure that all children:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- 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.

Our aim at Grange Primary School is to provide high-quality, meaningful teaching and learning experiences in mathematics so our children become enthusiastic, confident and independent mathematicians. Therefore, we will:

- set high expectations so our children will achieve their full potential.
- respond to our pupils' diverse learning needs in accordance with guidelines in the National Curriculum by providing a broad and balanced mathematics curriculum.

- ensure that children are taught through the concrete, pictorial and abstract sequence of learning to ensure a deep and thorough understanding of the mathematical principle they are learning.
- ensure that all children, no matter their ability, will be able to access age-appropriate mathematics lessons through clear success criteria, differentiation and resources.

## **Key areas within mathematics**

### **Early maths**

Children in EYFS receive maths lessons daily and maths is built into the ongoing provision throughout each day. In EYFS the White Rose scheme is followed in daily maths lessons and threaded throughout the wider curriculum. Children record work in their mathematics books at least once weekly in adult-led maths lessons and have many other opportunities to work towards the end of year Early Learning Goals. Throughout the day, children take part in number rhymes, songs and games to consolidate maths learning.

### **Arithmetic**

At the start of each mathematics lesson, children are taught and have the chance to practise arithmetic skills. This can either be a lead-in to the main topic being taught in the maths lesson or a stand-alone skill the teacher has noticed the children need support with. In key stage 1 this is heavily based on the four operations and simple times tables, moving up to fractions, decimals and percentages work in upper key stage two.

### **Times tables**

Children in year 4 now have a times tables test towards the end of the school year. This tests the children's knowledge and recall of multiplication and division facts of all times tables (up to the 12 times table). Children practise times tables throughout the day at school and are set times tables to learn at home too.

### **Problem solving and reasoning**

Problem solving and reasoning are crucial skills to have in mathematics. Each sequence of mathematics lessons ensures that children are taught a concept, have a chance to practise (varied fluency) and then move on to tackling problem solving and reasoning problems linked to the skill being taught. Teachers use White Rose to ensure that problem solving and reasoning problems are age-appropriate and cover the skills children have already been taught. Problem solving and reasoning allow children to apply the knowledge they have been taught.

## **Assessment**

Work is marked throughout lessons by teachers and support staff to ensure that misconceptions are addressed promptly. This AfL is crucial in mathematics lessons and enables teachers to pull groups of children together to re-teach or push children on to the next stage of their learning.

Children are assessed regularly to ensure they are making good progress and to identify and address gaps in learning. In years 1-6, children sit NFER arithmetic and reasoning assessments 4 times a year. Data is collected and assessed after each assessment period, and pupil progress meetings are held to discuss progress, attainment, next steps and interventions that need to be put into place.

Statutory assessments take place throughout the year in a range of year groups and inform teaching and learning throughout the children's time at Grange Primary School:

- EYFS 'Good level of development' at the end of the reception year
- Year 2 SATs assessments
- Year 4 times tables test
- Year 6 SATs assessments