

# Mathematics Policy



Mathematics Coordinator:  
Mrs Bentley

## **Our Vision:**

Through a positive caring environment, we provide the opportunity for every child to reach their full potential.

## **Our Big Ideas in Primary Mathematics are:**

- The Number Line
- Place Value
- Equivalence
- Meanings and Symbols
- Estimation
- Classification
- Patterns
- Numerical Reasoning

Big Ideas help learners connect different aspects of mathematics.

Big Ideas are conceptually important in encouraging connections.

A Big Idea can be addressed across all the years of primary schooling.

## **Rationale**

Mathematics equips pupils with the 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 Villiers we use the White Rose Maths overviews 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 Villiers Primary School approach to this subject.

## **Aims**

We aim to provide the pupils with a mathematics curriculum and high quality teaching to produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to the full.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- calculate accurately and efficiently, both mentally and in writing and paper,
- drawing on a range of calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements

- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2d and 3d shapes

### **Provision**

Pupils are provided with a variety of opportunities to develop and extend their Mathematical skills, including:

- Group work
- Paired work
- Whole class teaching
- Individual work

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts
- maths games

We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

We set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

Teachers plan problem solving and investigational activities daily to ensure that pupils develop the skills of mathematical thinking and enquiry.

To provide adequate time for developing mathematics, maths is taught daily and discretely. Maths lessons may vary in length but will usually last for about 60 minutes. Alongside a daily 20 minutes arithmetic slot and a 15 minute times tables slots.

### **Teaching Approaches**

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used. A typical lesson would include:

- Both teaching input and pupil activities,
- A balance between whole class, guided grouped and independent work, (groups, pairs and individual work)
- effectively differentiated activities/objectives and appropriate challenge.

Sometimes the focus for the session is new learning, at other times pupils may be practising, to master the application of a concept they have learned earlier. The focus of the session may vary for different children depending on their learning needs.

Teachers plan learning that is differentiated to meet the needs of all pupils, whether they have a specific learning difficulty in maths or whether they are particularly able.

### **Assessment**

#### **Formative Assessment**

Teachers integrate the use of formative assessment strategies such as effective questioning, the use of success criteria and effective feedback and response in their teaching.

### **Summative Assessment**

Using termly PIRA and White Rose tests, pupils are assessed against NC levels every term. The school's progress tracking system is updated termly.

National Curriculum tests are used at the end of KS1 and 2, with Year 2 testing every half term and Year 6 testing every four weeks; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments.

All assessments and teaching informs teachers understanding of a child's ability in maths and this is recorded in an APP document for a cross section of the class (6 children, 2 top, 2 middle and 2 bottom).

### **Early Years Foundation Stage (EYFS)**

We follow EYFS curriculum guidance for Mathematics. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts. Pupils initially explore numbers to 20 and the development of models and images for numbers as a solid foundation for further progress.

### **Role of the Subject Leader**

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENDCO and Intervention Co-coordinator.
- Observes colleagues from time to time with a view to identifying the support they need.
- Attends CPD
- Discusses regularly with the Headteacher and the mathematics governor the progress of implementing National Curriculum for Mathematics in school
- Deploys support staff to address mathematics related needs within the school.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.