



Pirton Hill Primary School

Maths Policy (Spring 2025)

Originated by: Mr Swaile (Maths Lead)

Ratified by Governors:

Review date:

1. Overarching Values

Expect:

*We all **expect** to work hard, and meet our own high expectations, in a safe environment with access to high quality resources and opportunities that broaden our horizons.*

Believe:

*We all **believe** in ourselves, and each other, and know that everyone has something special to contribute.*

Achieve:

*We all have the opportunity to **achieve**, and fulfil our potential, regardless of our backgrounds.*

Enjoy:

*We all strive to develop passionate and determined life-long learners who **enjoy** learning, understand how to progress and take pleasure in succeeding.*

2. Introduction

Mathematics teaches children how to make sense of the world around them through developing their ability to understand number, calculate, reason and solve problems. It helps children to understand relationships and patterns in both number and space in their everyday lives. The Mathematics curriculum should be bold, provide breadth and balance and be relevant and adapted to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels.

3. Aims

We aim to provide the pupils with a broad and balanced 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 high quality resources so that pupils can develop their mathematical understanding and skills to the full.

Our pupils should:

- have a well-developed sense of the value of a number and where it fits into the number system.
- know to 'automaticity' number facts such as number bonds, multiplication tables, doubles and halves.
- be flexible in their thinking to simplify problems.
- use what they know to automaticity to figure out solutions mentally.
- calculate accurately and efficiently, drawing on a range of both mental and written methods.
- make sense of number problems and identify the operations needed to solve them.
- understand the importance of talk in Maths and explain their methods and reasoning, using correct mathematical terminology.

- 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.
- develop a Growth Mindset where mistakes are seen as an opportunity for learning.



4. Key Principles of Teaching and Learning

- Planning is adapted and pitched to meet the needs of all learners in our class.
- Learning is explicitly linked to prior knowledge, future learning and across the curriculum.
- The learning objective and success criteria are explicit, and understood by all children.
- Children should be interested and engaged in learning.
- Children should know how well they are doing during a lesson and their next learning steps.
- High quality feedback is provided to move learning forward.

5. Learning Sequence

At Pirton Hill, we believe that children not only need to learn a wide range of Maths skills, they also need to master these skills. In order to achieve this, skills are taught in a three-step approach where the children experience Maths practically before moving to pictorial and written formats.

For example: Jack has 3 cars and Sam has 1 car. How many cars do they have altogether?

Concrete	Pictorial	Abstract
Using real objects.	Using pictures and visual representations.	Using numbers and symbols.
		$3+1=4$

6. The Mathematics Curriculum

Mathematics is a core subject of The National Curriculum. We follow the 2014 National Curriculum which 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.



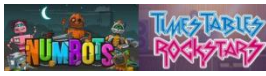
7. White Rose Maths Scheme

The delivery of Maths at Pirton Hill is supported by the use of White Rose Maths. This is a maths mastery scheme influenced, inspired and informed by the work of leading maths researchers and practitioners across the world. White Rose Maths brings together a team of highly experienced and passionate maths teaching experts to support schools. The scheme is built around the need for children to master skills and knowledge. It has been written with the key 'mastery' principles in mind to ensure all children have access to high quality teaching and learning.

These principles are:

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- Mathematical learning behaviours are developed such that pupils focus and engage fully as learners who reason and seek to make connections.
- Teachers continually develop their specialist knowledge for teaching mathematics, working collaboratively to refine and improve their teaching.
- Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time.
- Lesson design links to prior learning to ensure all can access the new learning and identifies carefully sequenced steps in progression to build secure understanding.
- Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.
- It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' procedural fluency and develop their conceptual understanding.
- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.
- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed using the Concrete, Pictorial, Abstract pedagogy and approach to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.

- Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.



8. Mental Maths

We place a high emphasis on the importance of children having rapid recall of key Maths facts, such as times tables and number bonds. Knowing these facts to 'automaticity' frees up the children's minds to concentrate on the more difficult concepts of reasoning and problem solving.

The learning of key Maths facts is supported by Numbots and Times Tables Rockstars. These programmes have been written to help pupils improve their mental maths skills in a challenging but fun environment.

Numbots is primarily aimed at KS1 pupils supporting development of number bonds, addition and subtraction knowledge. Pupils are awarded with a 'Diamond' badge once they have completed the Numbots story mode.

Times Tables Rockstars is primarily aimed at KS2 pupils to develop automatic recall of multiplication and division facts. Pupils are awarded with a 'Rock Hero' badge once they have achieved Rock Hero status.

9. Planning

Teachers plan sequences of lessons following the teaching sequence set out in the White Rose Maths scheme of learning. This scheme of learning and associated resources are adapted to meet the needs of the class.

Planning documentation (the White Rose Scheme of Learning) should be shared with all appropriate adults: Including Teaching Assistants, Support Staff and Higher Level Teaching Assistants.

Lessons are planned following these principles:

- Maths is planned for and taught daily in Nursery, KS1 and KS2. Reception classes will be taught explicitly 4 days per week and have access to maths activities through continuous provision daily.
- Lessons are structured to embed mathematical understanding through concrete, pictorial and abstract representation.
- Lessons are structured to develop fluency, reasoning and problem-solving skills.
- Opportunities to retrieve previously learned facts and procedures are integrated to every lesson (specifically using the White Rose Flashback 4 resources in Year 1 to 6).
- The foundations of mental calculation and recall of number facts are established thoroughly through daily starters and oral rehearsal which consolidate mental recall and mental/written calculations.
- Teaching, questioning and level of support are adapted so that the children are all working towards learning the same mathematical concept (wherever feasible) appropriate to their current level of ability.
- All children will be exposed to challenge through tasks and questioning, including further problem solving and reasoning activities for the highest attaining pupils.
- Children are actively involved in their learning, building an enthusiasm for Maths.
- Children will develop an appropriate mathematical vocabulary as modelled and taught explicitly by the teachers, using guidance from the vocabulary specified in the national curriculum and White Rose scheme.

- Time is given in other subjects for pupils to develop and apply their mathematical skills.

Following (or during) the Maths lesson, a feedback sheet should also be completed in line with the PHPS T&L policy. Planning (the White Rose Scheme of Learning) should be annotated where necessary to aid future planning.

10. Assessment, Monitoring and Evaluation

In KS1 and KS2, children are assessed in Maths every half-term against the NAHT KPI statement on DCPro. Every full term, pupils will complete the Progress in Understanding Maths (PUMA) test in Y1-Y5 and Y6 pupils will complete past SATS papers.

The outcomes of these tests are used to inform teacher assessment and to carry out a gaps analysis. (See Assessment policy for further detail)

Monitoring of planning, teaching and assessment will be carried out regularly by members of SLT and Maths Subject Leader, using the following:

- Learning walks
- Drop ins
- Planning scrutinies
- Book scrutinies
- Pupil voice
- Analysis of test data
- INSET, staff training and CPD

11. Marking and Feedback

Children's work must be marked accurately in line with the Pirton Hill Primary School Feedback Framework. Children should receive verbal 'in the moment' feedback during lessons. Written feedback when given should address misconceptions and move children's learning forwards. 'Moving on' comments should include, where appropriate, reminder prompts, scaffolding prompts and example prompts. Marking will be monitored by members of the SLT and the Maths Subject Leader and individual feedback will be given. (See Marking and Feedback policy for further detail)

12. Maths Learning Environment:

The school aims to provide a mathematically stimulating environment through:

- displays that promote mathematical thinking and discussion.
- working walls and displays of pupils' work celebrating achievement.
- providing a good range of resources for teacher and pupil use.
- the use of rich and varied activities to foster enthusiasm for Maths.

13. Homework

All Pupils are expected to play Numbots (KS1) or Times Tables Rockstars (KS2) every week (see homework policy for further details).