



Maths Policy 2024/25



Our school policies reflect Pilgrim Primary Academy's commitment to an inclusive, creative and stimulating curriculum, based around high quality teaching and learning. It reflects our curriculum aims of: culture and community, ambition and well-being.

Purpose of Study:

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. (National Curriculum)

At Pilgrim we endeavour to ensure that children develop a confidence in their ability to approach a range of mathematical problems and make sense of our world. We aim not only to prepare our children for the next stage of their education, but also to lay the foundations for successful lives after school and the jobs of tomorrow, which will require great levels of mathematical skills and an ability to think in depth mathematically in order to use technology that doesn't yet exist. Our Mathematics education supports the whole school curriculum driver of Ambition.

Aims:

At Pilgrim we teach maths through the mastery approach. Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject which is the main aim of our curriculum.

In order to master the curriculum, we aim for all children to:

- 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
- 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.
- develop a growth mindset and positive attitude towards mathematics.
- become independent learners and to work cooperatively with others.
- appreciate real life contexts to learning in mathematics.

Knowledge and understanding:

KS1:

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of

measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower KS2:

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper KS2:

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Curriculum Planning:

Long term planning: Maths is taught in each year group based on the DFE Ready to Progress Document which outlines the core objectives that need to be taught (in line with the National Curriculum).

Medium term planning:

In line with the DFE ready to progress documents, teachers produce 'S Plans' which outline the key objectives they will be teaching and the sequence they are teaching them in. These objectives will be matched up to the small-step White Rose objectives. They will clearly map out vocabulary, resources and opportunities for active learning. These plans are regularly assessed and discussed with teams by the Maths Leader.

Short term planning:

Our short term plans are planned collaboratively in year groups and are evidenced through teachers'

daily slides. Slides are expected to include the following: a learning intention and where it fits in the sequence, key questions and vocabulary, opportunities for concrete apparatus, pictorial and abstract representations and opportunities for children to practise and apply their skills. Teachers also have to consider; any misconceptions that may need addressing, resources and the role of adult support within a lesson. They are advised to follow guidance in the White Rose Maths daily steps as the basis of their planning but to also refer to the NCETM and N:Rich documents.

Assessment and reporting:

Assessment for learning (AfL) underpins the teaching and learning of mathematics at Pilgrim. It is an integral part of a lesson and enables teachers and teaching assistants to adapt their teaching to meet the children's needs. This provides opportunities to evaluate what has been learnt, review success criteria and address misconceptions. It should also provide opportunity for peer/self assessment so children understand what they attained and where to go next.

Supplementary to this ongoing formative assessment, termly summative assessment (PUMA tests, hot tasks) helps us to triangulate our judgments. At the end of each term teacher judgements are entered onto our assessment system (OTrack). Teachers then talk through the progress of their pupils at termly tracking progress meetings: this ensures targeted support can be given to those who need it.

Subject leader assessment and monitoring:

The maths leader, alongside SLT are responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, planning scrutiny, learning walks, pupil voice, staff discussions and audit of resources.

The role of the maths leader is to:

- To lead the development of mathematics throughout the school
- To help raise standards in mathematics
- To provide teachers with support in the teaching of mathematics
- To provide staff with CPD opportunities in relation to mathematics
- To monitor and maintain high quality resources
- To keep up to date with new developments in the area of mathematics

Date of Policy: September 2024

Review date for policy: September 2025