Mathematics Curriculum
Intent and Implementation



Our School Vision:

Recognising the unique light that shines in every individual, we strive to 'encourage one another and build each other up' (1 Thessalonians 5:11) to ensure that all can thrive. Through our core Christian values of Love, Hope and Justice, we inspire learning for life, empowering everyone to flourish and make a positive difference in the world.

Curriculum Intent:

- To develop articulate, resilient and empowered citizens who make a difference to others
- To provide a coherent and ambitious curriculum that leads to a greater depth of understanding for all
- To inspire pupils with purposeful and interconnected learning experiences

Intent

At Preston Candover CE Primary School, we believe mathematics is an essential life skill that enables pupils to make sense of the world around them. We want every child to develop confidence, curiosity and enjoyment in mathematics and to recognise its importance in everyday life and future learning. Our ambitious curriculum is designed to enable all pupils to achieve, including disadvantaged pupils, pupils with SEND and those who may experience other barriers to learning. We promote a positive 'can do' attitude and encourage pupils to become confident, independent and resilient mathematicians who are willing to persevere when faced with challenge.

Our curriculum prioritises secure mathematical foundations and is carefully sequenced so that pupils build knowledge and skills cumulatively. We identify the most important mathematical knowledge, concepts, vocabulary and procedures that pupils need to know and remember and provide purposeful opportunities to revisit, practise and connect learning over time. Particular emphasis is placed on developing secure number sense, number facts and fluency in calculation, providing strong foundations for increasingly complex mathematics.

Fluency, reasoning and problem solving are integral to our curriculum. Pupils learn to recall and use mathematical knowledge efficiently, select appropriate strategies, make connections, reason, solve problems and explain and justify their thinking. Mathematical vocabulary is explicitly taught so that pupils can communicate their ideas accurately and confidently. Manipulatives and representations are used purposefully to reveal mathematical structure and support pupils in moving towards increasingly abstract and independent thinking.

By the end of Year 6, we aspire for pupils to be confident, fluent, curious and resilient mathematicians who can draw upon secure mathematical knowledge, select efficient strategies, reason, solve problems and articulate their thinking. They will understand the relevance of mathematics in the wider world and have the strong foundations needed to succeed in the next stage of their education.

Implementation

We teach the statutory National Curriculum through a coherent and carefully sequenced mathematics curriculum from EYFS to Year 6. Mathematics is taught explicitly as a subject, alongside meaningful opportunities to apply mathematical knowledge across other areas of the curriculum and through wider school experiences.

Teachers identify the most important knowledge, concepts, vocabulary and procedures pupils need to learn and consider how these build upon prior learning. Pupils' starting points are established and prerequisite knowledge is revisited where necessary. Retrieval, review and purposeful practice are used throughout the year to strengthen understanding, address identified gaps and connect prior learning with new learning.

Mathematics is taught through carefully sequenced blocks of learning, informed by Hamilton Brookes planning and the statutory requirements of the National Curriculum. Across these blocks, pupils develop knowledge and understanding within:

- Number and place value
- Addition and subtraction, including mental and written strategies
- Multiplication and division, including mental and written strategies
- Fractions, decimals and percentages
- Ratio and proportion, where appropriate
- Algebra, where appropriate
- Measurement
- Geometry, including properties of shapes and position and direction
- Statistics

Fluency, reasoning and problem solving are developed throughout all areas of mathematics. The length and organisation of learning remain responsive to pupils' understanding. Teachers use assessment and professional judgement to determine when further explanation, practice or consolidation is required rather than moving on before important knowledge is secure. Teaching is explicit, responsive and carefully structured. New learning is introduced in manageable steps, with teachers modelling mathematical concepts, methods, vocabulary and thinking clearly. Teachers check understanding systematically through questioning, discussion, observation, pupils' explanations, children's learning and appropriate assessments. This enables misconceptions and gaps to be identified and addressed promptly and teaching to be adapted accordingly.

Fluency is developed through purposeful practice of important number facts, multiplication facts and calculation strategies. Pupils are encouraged to select methods that are Appropriate, Reliable and Efficient (A.R.E.) rather than simply applying a taught procedure. Mathematical talk, reasoning and problem solving are embedded throughout learning, with pupils expected to explain their thinking, make connections, compare approaches and justify their choices.

Manipulatives and representations, including number lines, place-value resources, Numicon, Dienes, bead strings and fraction resources, are selected purposefully to make mathematical structures and relationships visible. Teachers explicitly connect concrete resources, visual representations, mathematical language and abstract notation. Scaffolding is adapted and reduced as pupils become increasingly secure and independent. We prioritise keeping up rather than catching up. Where assessment identifies gaps or misconceptions, pupils receive timely additional teaching and practice closely connected to classroom learning. This may include additional modelling, smaller steps, guided practice, pre-teaching or targeted intervention, including Numberstacks where appropriate. Additional support is reviewed regularly and adapted according to pupils' subsequent learning. Pupils in Years 1–2 use Numbots and pupils in Years 2–6 use Times Tables Rock Stars (TTRS) to provide additional purposeful practice of key number and multiplication facts.

In EYFS, children develop secure foundations in number, numerical patterns, shape, space and measure through explicit mathematical teaching alongside carefully planned continuous and enhanced provision. Mathematics is also developed meaningfully through routines, stories, continuous and enhanced provision and adult interactions. Adults model precise mathematical vocabulary, use questioning to extend children's thinking and assess understanding through observation and interaction. Practical resources and representations enable children to explore mathematical ideas, identify patterns and make connections.

Teachers use long-term planning to ensure that the mathematics curriculum is coherent, appropriately sequenced and covers the statutory National Curriculum, including within our mixed-year classes. Hamilton Brookes is used as a planning resource alongside high-quality materials including NCETM and NRICH. Teachers use professional judgement to select and adapt resources according to the intended mathematics and the needs of their pupils.

Planning considers prior knowledge, mathematical knowledge and concepts, key vocabulary, appropriate representations, likely misconceptions and opportunities to develop fluency, reasoning and problem solving. Assessment is used to identify pupils' starting points and inform subsequent teaching. Physical resources are readily available and selected purposefully to support conceptual understanding. Where meaningful, mathematics is applied through real-life contexts, other curriculum subjects and wider school experiences.

Teachers' mathematical subject and pedagogical knowledge is supported through professional learning, collaboration and engagement with high-quality, evidence-informed materials. The Mathematics Subject Leader identifies priorities for further professional development and supports teachers to implement the intended curriculum consistently and effectively.

Maths for Every Child

Our mathematics curriculum is ambitious for every pupil. Teachers identify pupils' starting points and potential barriers to learning and adapt teaching while maintaining high expectations of what all pupils can achieve. Adaptive teaching may include additional modelling, smaller steps, pre-teaching, carefully selected manipulatives and representations, vocabulary support, guided practice or additional opportunities for rehearsal and retrieval. Adaptations are designed to enable pupils to access the intended mathematical learning while developing increasing independence.

Pupils with SEND are supported to access the intended curriculum wherever appropriate, with teachers working alongside the Inclusion Lead, support staff and families to identify effective adaptations. The needs of disadvantaged pupils and others experiencing barriers to learning are considered carefully so that support responds to identified need. LSAs support high-quality teaching through appropriate questioning, modelling and scaffolding, with the aim of developing pupils' mathematical understanding and independence. Pupils who grasp concepts rapidly deepen their understanding through reasoning, problem solving, making connections and generalising. Where pupils have gaps in knowledge, additional teaching or targeted intervention is closely linked to classroom learning and reviewed regularly. Our aim is for every pupil to experience success and appropriate challenge, developing confidence, resilience and independence as a mathematician.

Assessment

Assessment is an integral part of mathematics teaching and is used to establish what pupils know, understand and can do, identify misconceptions and determine appropriate next steps. Teachers continually assess understanding through questioning, discussion, observation, mathematical talk, pupils' explanations, children's learning, annotated teachers planning and appropriate unit assessments. This enables misconceptions and gaps to be identified promptly and teaching to be adapted accordingly.

Feedback is timely and purposeful and may be verbal or written. Pupils are given opportunities to respond to feedback, correct misconceptions and improve their learning. They are taught to check whether answers are reasonable, identify and learn from errors and consider the efficiency of different methods.

Summative assessment is used alongside teachers' day-to-day knowledge of pupils to provide a broader picture of attainment and progress. Statutory assessments, including the Year 4 Multiplication Tables Check and Year 6 national curriculum tests, are considered alongside school assessment information. Assessment information is used to identify pupils requiring additional support or challenge and to inform future teaching, curriculum development and intervention support.

Teachers pay particular attention to what pupils with SEND, disadvantaged pupils and those experiencing other barriers know, understand and can do. Assessment is used to identify gaps and barriers promptly, so that teaching, adaptations and additional support can be adjusted to enable these pupils to learn the intended curriculum and make progress from their starting points.

What makes a Preston Candover Mathematician?

End of KS1: Preston Candover mathematician is curious and confident with numbers, enjoys spotting patterns, chooses ways to solve problems and explains their thinking using mathematical language.

End of KS2: Preston Candover mathematician is confident, fluent and resilient, able to make connections, choose efficient strategies, reason and justify their thinking, and tackle mathematical challenges with curiosity and independence.