Vision: Inspiring learning for Life

We aim to enable our pupils to flourish through our provision.

Overall school 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

Mathematics

Intent

At Preston Candover CE Primary school, we believe mathematics is a skill we use daily and our curriculum allows our children to make better sense of the world around them by making connections between mathematics and everyday life.

Mathematics forms an important part of our broad and balanced curriculum where we endeavour to ensure that children develop an enjoyment and enthusiasm for mathematics, which will stay with them throughout their lives and empower them in the future. To achieve this, we foster a positive 'can do' attitude to mathematical learning and we promote the fact that 'we can all do maths!'. We believe all children can achieve in mathematics and teach for secure and deep understanding of mathematical concepts through manageable steps. We want our children to become confident mathematicians that believe in their own ability and have the resilience within the mathematical challenges they undertake. We believe this is achieved when children are confidently fluent in their understanding of number and in their calculation strategies. With this confidence, they can apply what they know to reason and explain their thinking and to solve problems, developing and accessing higher levels of understanding. Our aim is to develop a positive culture of deep understanding, so they are articulate, resilient and confident in mathematics. We place great emphasis on the use of concrete resources and pictorial representations at all ages, to enable children to fully understand the concepts and principals, when presented with abstract calculations and questions. This is supported by revisiting substantive and disciplinary knowledge regularly to allow repetition to embed learning. We ensure that the children in our school are challenged in our ambitious mathematics curriculum.

By the end of Year 6, we aspire that all children become mathematicians that have developed a bank of efficient and accurate strategies that can be used to calculate effectively. The concrete, pictorial and abstract process will have underpinned these so children understand rather than just do, which ultimately will allow children to identify when answers do not make mathematical sense. Children will be able to apply these calculation skills and understanding of other areas to become confident and resilient problem-solvers with the ability to reason and articulate their ideas mathematically. Children will have the language to be able to justify, reason and explain their answers. All children will understand the relevance and importance of mathematical learning in relation to real world concepts.

As a school, we aim to achieve mathematics outcomes that are higher than national in Key Stage 1 and 2.

Implementation

In Mathematics we ensure that we are following the National Curriculum. Mathematics is considered a subject in its own right but is also used to support other areas of the curriculum e.g., in Science, Computing, Design Technology, etc and within key events that happen throughout the year. For example: Maths and Art week, Fairtrade Fortnight, Global Awareness and World Book Day.

We always begin the academic year with re- capping the year before and we revisit previous learning at the beginning of each mathematics lesson, so the children can consolidate, make links to their prior learning and can build confidence in the subject. Throughout the year, the mathematics taught is organised in the strands below.

- Number and place value
- Mental addition and subtraction
- Written addition and subtraction
- Mental multiplication and division
- Written multiplication and division
- Fractions, ratio, and proportion
- Decimals, percentages, and their equivalence to fractions
- Problem solving, reasoning and algebra
- Geometry: properties of shapes
- Geometry: position and direction
- Measurement
- Statistics

These strands will be taught in 1- or 2-week blocks, this is flexible and teacher judgement will be made. Each strand will be revisited throughout the year and in our Mathematics starters. This will give all children the opportunity to use their prior learning, make stronger Mathematical links, put their learning in real- life contexts and develop their Mathematics learning at a deeper level and as a result, stay within their long- term memory.

In Preston Candover, children enjoy mathematics and have a secure and deep understanding of fundamental mathematical concepts and procedures when they leave us to go to secondary school. Having a low threshold, high ceiling approach, enables all children to have the opportunity to succeed and challenge themselves. Children in our school enjoy learning Mathematics because it is engaging, personalised and purposeful and as a result, most children are confident in the subject. Our curriculum ensures that Mathematics is achievable for all and staff encourage a positive 'can do' mindset towards mathematics in all pupils, creating learning experiences which develop children's resilience in the face of a challenge and carefully scaffolding learning so everyone can make progress. The curriculum gives objects, pictorial representations, equations and word problems within their Maths lesson, which suits all different types and therefore giving every child the opportunity to succeed.

Our ambitious curriculum enables each year group to progress together and therefore succeed together. Some children may develop concepts at a deeper level or may need more scaffolding than others, to meet their individual needs. Difficult points and potential misconceptions are identified in advance and strategies to address them planned. Key questions are planned, to challenge thinking and develop learning for all pupils. Contexts and representations are carefully chosen to develop reasoning skills and to help pupil's link concrete ideas to abstract mathematical concepts.

Fluency is at the centre of all our mathematics lessons; all pupils are given the opportunity to practise in numerous ways to ensure each learner can become mathematically fluent. In each classroom, mathematical manipulatives are being used to help all children succeed, these can be found in individual mathematical packs and on mathematics stations. All staff ensure that they model the aspect of mathematics and mathematical vocabulary, to ensure every child understands and if they require further explanation for the concept, support is given by showing them another way or providing pupils with 1:1 or group support.

We use pre-teaching for pupils who are less secure in specific areas of mathematics, to help each child become more confident. We aspire for every child to enjoy mathematics and have confidence and high aspirations within the subject. Therefore, we do not group in mathematics through ability but some children have support choosing the right challenge for them, so that they can reach their full potential. Pupils are encouraged to explain their reasoning behind their answers and given regular time to talk to peers and members of staff about their findings in Maths. Interventions are available for some pupils based on the objectives that have not yet been met; this is supported by our school assessment gap analysis. Pupils (Year 1-6) are set mathematics home- learning throughout the year. Pupils, who are in Year 2-6, all have a Times Tables Rockstars (TTRS) login and are encouraged to use this learning tool at least 2/3 times a week. Pupils learn times tables, key number facts, have a true sense of number and are encouraged to think whether their method for tackling a given calculation or problem is Appropriate, Reliable and Efficient (A.R.E). Problem solving is at the centre of our maths curriculum, which develops pupils' understanding of why something works so that they truly have an appreciation of the importance of mathematics. These tasks deepen knowledge and improve reasoning skills within the objectives of their year group.
In Early Years Foundation Stage (EYFS), children explore mathematical concepts through active exploration and their everyday play-based learning. Children are taught key concepts and develop number sense using a hands-on practical approach. EYFS teachers provide opportunities for children to manipulate a variety of objects, which supports their understanding of quantity and number. The CPA approach is used when teaching children key mathematical skills. Members of staff allow children time for exploration and the use of concrete objects helps to support children's mathematical understanding. Mathematics in the early years provides children with a solid foundation that will enable them to develop skills as they progress through their schooling and ensures children are ready for the National Curriculum.

Planning
Teachers use a long-term plan and create weekly mathematics planning, which is saved in teacher's resources and printed, annotated, and evaluated each week and put into their planning folder. The long- term plan is aspects of Hamilton Brookes, as we use this as a skeleton planning resource, to ensure that we are covering all the objectives for each year group, for mixed year classes. We use the objectives and a variety of resources to form a sequence of lessons. These resources include: NCTEM, Nrich, dip and picks and many online resources and TTRS. Class teachers and LSA's match physical resources to support the pupils further with these lessons, which include number lines, number squares, place value charts, Numicon, dienes, place value cards, bead strings, man- made and natural counting objects, fractions resources, time resources, etc, which are available for pupils at all times in the classroom and in their mathematics packs. We aim for mathematics to be contextualised and purposeful for all pupils and where possible, mathematical content is linked to class termly topics and key events that happen throughout the year. For example: Maths and Art week, Fairtrade Fortnight, Global Awareness and World Book Day.

Maths for Every Child
Our curriculum follows a mastery approach, which enables all children to succeed in mathematics as a whole class. This is achieved by ensuring our learning is differentiated and scaffolding is put in place, resources are always accessible, and learning is presented through concrete, pictorial and abstract. Children have the opportunity to be challenged through investigations that deepen their understanding of a Mathematical concept. Children who do find aspects of the mathematics curriculum more challenging will be supported. Extra support we put in place for all when they need it throughout each daily Maths lessons and through personalised interventions.

Assessment

We encourage all pupils to present their Maths learning neatly, so that they are able to refer back to previously learning with ease. Teachers assess pupil's knowledge, understanding and skills throughout all Maths lessons by observing the pupils during the lesson and adapting planning when necessary to suit the needs of the children in their class. Feedback is given to pupils by their peers, LSA's and teachers verbally or written in their mathematics book and home- learning. All teachers follow the school marking and feedback policy and ensure that next steps are given in the children's learning, through a paw print, which the children are given time to respond to. The children's mathematics learning is also assessed three times a year using the Target Tracker statements. We aim for all children to make at least 6 steps progress by the end of the year. This assessment is based on their learning in class but also from: three assessment points in the year: November, February, and June. Year 6 carry out SATS- arithmetic and reasoning in May. All assessments are used to inform and improve future practice and support children in closing gaps within Mathematics.

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