

Newton Solney C of E Infant School

Mathematics

National Curriculum 2014 KS1

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.

Aims

The national curriculum for mathematics 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.

Intent

Our curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability, additional needs, to fly high and to reach their full potential, within the love of Jesus.

At Newton Solney C of E Infant School it is our Intent to provide all children with a high-quality, broad and challenging Mathematics curriculum and for every child to develop a good conceptual understanding of Maths, to become fluent in the fundamentals of Maths and to equip them with the skills of calculation, reasoning and problem solving that they need in life beyond school. The problem solving based lessons will allow children to become fluent in Maths vocabulary and in the fundamentals of maths, developing their understanding and the ability to recall and apply knowledge rapidly and accurately. Children will be able to reason mathematically by justifying, making links to known facts, and providing proof using mathematical language. Children will develop resilience that enable all children to problem solve with increasing confidence. Links across the curriculum will be made and skills and mathematical knowledge will be applied.

We aim for the children at Newton Solney to become confident mathematicians who are independent, inquisitive and not afraid to take risks.

Implementation

At Newton Solney, in the Foundation Stage, children will follow the White Rose Maths materials and will be provided with many exciting opportunities, through planned purposeful play and a mix of adult-led and child-initiated activities, to develop and improve their skills

in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure.

Throughout Key Stage 1, we base our daily lessons on "Maths no problem" and supplement this with our own resources and "White Rose" to teach a broad and challenging curriculum. Our Mathematics curriculum provides many opportunities for children to develop confidence and fluency with whole numbers, counting and place value. The use of practical equipment, such as concrete objects and measuring tools, supports the children to gain a deeper conceptual understanding before being challenged through tasks and questions to explain their reasoning and solve a range of problems. The children are equipped with the skills to recognise shapes and their properties and measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

Class Maths Quiz Box (Year 2):

Children revisit past learning through the class quiz box and this includes much work on vocabulary and mathematical explanations.

Assessment:

Children are regularly assessed, misconceptions addressed and interventions put into place when required. At Newton Solney a variety of methods are used to find out what the children know and understand. Lesson activities are scaffolded to suit the different abilities and learning styles. Mathematics lessons allow for collaborative learning and thus encourage children to talk in pairs or through class discussion, to share and explain learning. For those children who grasp concepts rapidly, they will be challenged through a range of problems, whilst those not sufficiently fluent will be provided with opportunities to consolidate their understanding through additional practice and intervention. Children's understanding of taught concepts will be assessed using end of block assessment tasks which provide opportunities for children to demonstrate their understanding fully.

Children in the Foundation Stage will be assessed against the Early Years Framework 2021. Children in Year 2 will be assessed against the End of Year 2 Teacher Assessment Framework.

Impact

Mathematics monitoring includes work scrutinies, lesson observations and/or learning walks, pupil voice interviews/questionnaires in order to ascertain correct curriculum coverage, the quality of teaching and learning as well as the children's attitudes to and retention of maths learning. This information is then used to inform further curriculum developments and provision is adapted accordingly.

Through the systematic, teaching and assessment of Maths most children reach end of year expectations and are able to talk confidently about their Maths work and use their problem solving skills to solve problems and reason with increasing confidence and accuracy.

Through the systematic teaching of Maths and problem solving our aim is for children to become fluent and confident Mathematicians who can apply their knowledge and experience to a range of situations as they move into Key Stage 2.