Roecliffe CE Primary School

Maths Rationale

Intent

and

Implementation

Maths Intent

'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 2014**

At Roecliffe C of E Primary School, our intent is:

- We provide full coverage of the national curriculum and we take our purpose and aims from the National Curriculum 2014:
  - become fluent in the fundamentals of mathematics
  - reason mathematically by following a line of enquiry
  - can solve problems by applying their mathematical knowledge to a variety of problems
- To provide every child with high quality mathematics education through a mastery approach.
- To develop curiosity and enjoyment about the subject.
- For our children to find mathematics challenging, yet rewarding.
- To provide children with opportunities to explore their mathematical understanding through a variety of concrete, pictorial and abstract challenges which deepen their conceptual understanding.
- To provide children with deep, long-term, transferable knowledge and skills. This is explored through a range of fluency, problem solving and reasoning activities in a range of contexts.
- Support children in having **faith** in themselves and others by setting challenging tasks. Children will have **courage** to have a go, be resilient, and learn from their mistakes. Children will **love** one another, so are given the skills to work positively with others.

Maths Implementation

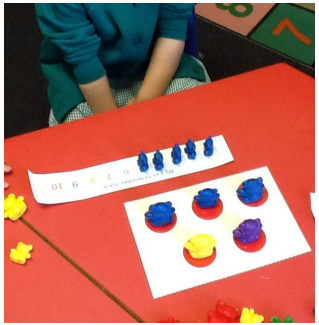
EYFS:

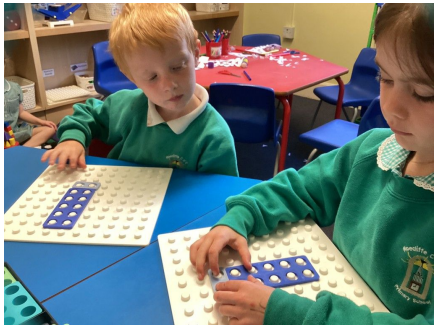
-In the Early Years Foundation Stage at Roecliffe CE Primary School children are given creative opportunities to develop their mathematical knowledge and spark curiosity and interest for the subject.

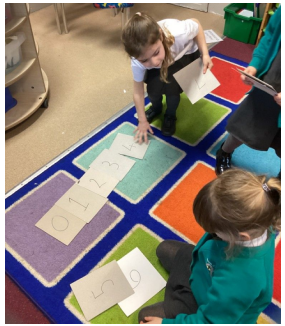
-Mathematics is taught discretely, daily, through the White Rose scheme of work, incorporating NCETM Numberblocks approach where possible.

-Mathematics is also evident through the continuous provision. There is a discrete mathematics area, which children can engage with and move concrete manipulatives to other areas as they wish, and they are encouraged to do so to extend learning.

-There are mathematical opportunities in every area of the provision which are both adult and child led. One example of this was in the café role play area in the Autumn term where there were menus with prices, opening and closing times, money, different size cups for children to embed mathematical vocabulary and 4 cups, plates and forks to aid children's 1:1 correspondence.







Maths Implementation

KS1 and KS2

-We are working alongside the Yorkshire Ridings Maths Hub to develop our Mastery approach.
-Mathematics is taught daily and cross curricular links are made wherever possible to consolidate learning and transfer skills.
-In Key Stage 1 and 2 we use the White Rose Scheme of learning to plan and deliver lessons.
-We use the Clare Christie approach to learning times tables and since September 2022 every child from year 3 to year 6 accesses this for 10 minutes, daily.
-Children are given the opportunity to practise and develop their skills through concrete, pictorial and abstract challenges.
-Threaded through lessons are opportunities for children to be exposed to fluency, reasoning and problem solving.
-We differentiate through support and resources used rather than providing children with different questions during lessons. We believe the use of low threshold, high ceiling tasks creates a culture of success for everyone.
-We emphasise maths being a real-world skill by making links in units in the curriculum and by providing children with real world experiences, for example communicating with parents and asking the children to find real world maths around their homes (as seen in the photos below) and a Yorkshire Building Society activity day.


dividing baking into thirds


playing music


using money to pay (and calculating change)


telling the time


calculating how long a ham must be cooked, depending on its weight

Maths Implementation

How we make mathematics accessible to all children at Roecliffe: Adapted from National Association for Special Educational Needs (NASEN)

Planning Inclusive Lessons

At Roecliffe, our maths planning has adopted a mastery approach, with the White Rose lesson objectives planned to ensure all learners are able to engage in the learning, no matter their prior attainment levels. Where possible, the whole class work on the same material and tasks are not differentiated, but instead increase in difficulty and depth. This leads to our children having increased self-esteem as they work on the same tasks as their peers, as well as a more secure understanding of a concept. Tasks are differentiated by the use of resources and visuals and adult support. This enables all learners to meet the same objectives as their peers.Where necessary, for certain children, alternative tasks may be given where appropriate after discussion with the SENDCo. Mastery includes the use of resources and representations to help all learners see the structure of the maths; children with SEND may require the support of these resources for a slightly longer period but should be scaffolded to develop independence in engaging with the mathematics without the resource.

Creating an Inclusive Environment

The best maths learning happens when learners can talk through their ideas with a teacher or a partner, and therefore we encourage this productive discussion during lessons. We also promote a culture where mistakes are embraced and viewed as a part of the learning process, this helps raise children's self-esteem and confidence to engage with new learning.

Maths Implementation

How we make mathematics accessible to all children at Roecliffe: Adapted from National Association for Special Educational Needs (NASEN)

Curriculum Considerations

At Roecliffe, our aim is for all children to develop a secure and long-term knowledge of mathematical concepts through carefully planned lessons, which gradually and strategically build on prior learning following a mastery approach. Our teaching style constantly revisits and builds on prior learning, helping to make connections and develop depth of understanding. At the start of every maths lesson we have 10 minutes of fluency to consolidate and embed prior learning, whether that be from yesterday, last week, last term or last year. Classes also use White Rose Flashback 4 to revisit prior learning.

Strategies to Scaffold Learning

- In a Roecliffe maths lesson we have a focussed time to discuss key vocabulary relevant to the lesson and to the unit and this will be documented on the learning wall. Where possible, actions and visuals will be used to remind learners of the meaning of a word, or how it links to a mathematical symbol.
- If solving word problems, we deploy an adult or pair a learner with a confident peer to read the questions aloud to relieve the pressure of decoding the language. Some of our learners benefit from 'drawing' the word problem, so that after a question is read, the learner has an image to refer to. This can enable them to 'see' the information they are missing, and decide what they need to work out, so that they can solve the word problem.
- The use of concrete resources and pictorial representations are extremely important in helping our learners to access questions.

Maths Implementation

How we make mathematics accessible to all children at Roecliffe: Adapted from National Association for Special Educational Needs (NASEN)

Strategies to Scaffold Learning (continued)

- We mark as many learners' work in the moment as possible, rather than at the end of the lesson. If the learner can see they are on track as they are completing a task, this will motivate them to keep going and will boost their confidence. Using this method also means we can correct and explain any mistakes as they happen, helping our learners avoid embedding misconceptions.