

East Ayton



Primary
School

Traditional Values, Modern Vision

Maths Policy

Reviewed: December 2023

Next review due: December 2025



East Ayton Primary School



Maths

Aims

Through the National Curriculum, we aim to ensure that all pupils:

1. 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.
2. reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
3. 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

Mathematics teaching at East Ayton Primary School is underpinned by 4 key aims that all pupils:

Intent 1

Become fluent in the fundamentals of mathematics, including through varied and frequent practise with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge.

Intent 2

Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Intent 3

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 4

- Understand that mathematics needs to be intrinsically linked to real life and developed through subjects across the curriculum.

- To engage in problem solving activities with confidence and resilience.
- Seeing mathematics as enjoyable, and fostering an interest and engagement as part of life-long learning.

Implementation

Delivery and coverage of National Curriculum mathematics is supported through the use of White Rose Maths, which organises teaching and learning into a series of blocks. Through our teaching we continuously monitor pupils' progress against the White Rose small-steps and 'Ready-to-Progress' statements, making formative assessments and using these to inform our teaching. Summative assessments are completed at the end of each half term; results support teaching assessments. White Rose uses a mastery approach and focusses on specific mathematical concepts which are revisited multiple times throughout the year allowing children to make connections and build on prior learning. Confidence and resilience is developed through high quality, rigorous, daily teaching of mathematical knowledge and skills, and children are exposed to a rich climate of differentiated problem-solving, and where possible, the teaching of knowledge and skills will be rooted in real-life learning opportunities. Teachers also ensure that all children are provided opportunities to engage with reasoning investigations and challenges which allow them to explain and justify their answers using appropriate vocabulary. Enrichment opportunities include outdoor learning and the forest school area.

Impact

- Through discussion and feedback children talk enthusiastically about their maths lessons and they can articulate the context in which maths is begin taught and relate this to real life purposes.
- Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- Children demonstrate quick recall of facts and procedures which includes the recollection of times tables.
- Pupils use specific vocabulary in maths lessons, and they have the skills to use methods independently and show resilience when tackling problems.
- Children show a high level of pride in the presentation and understanding of the work.
- At the end of each term we assess children against their ELG.

Teaching SMSC through maths

Spiritual development

The study of mathematics enables pupils to make sense of the world around them and we strive to enable each of our pupils to explore the connections between their numeracy skills and every-day life. Developing deep thinking and an ability to question the way in which the world works promotes the

spiritual growth of pupils. Mathematics can be used to explain the world and the mathematical patterns that occur in nature such as the symmetry of snowflake patterns or the stripes of a tiger, Fibonacci sequence.

Moral development

The moral development of pupils is an important thread running through the mathematics syllabus. Pupils are provided with opportunities to use their maths skills in real life contexts, applying and exploring the skills required in solving various problems. Pupils are given the opportunity to be aware of the use and misuse of data in all issues including those supporting moral argument.

Social

Problem solving skills and teamwork are fundamental to mathematics through creative thinking, discussion, explaining and presenting ideas. Pupils are always encouraged to explain concepts to each other and support each other in their learning. In this manner, pupils realise their own strengths and feel a sense of achievement which often boosts confidence. Over time they become more independent and resilient learners.

Cultural development

Cultural education concerns the wealth of mathematics in all cultures and the opportunities pupils are given to explore aspects of personal culture and identity through mathematics. Recognition is given to symmetry patterns, number systems and mathematical thinking from other cultures.

- Islamic geometric patterns, Rangoli designs
- Mathematic is used in conjunction with RE when looking at tessellations in architecture of mosques and symmetry
- Link to numbers and how they work and the patterns therein including Roman Numerals
- Mathematics is used to communicate climate change and represent this using graphs
- Consider time: Mayan calendar/MYA
- Pythagorus theorem (UKS2)

Financial Awareness

The new mathematics curriculum is intended to ensure that young people leave school with an understanding of the skills needed for personal finance. We recognise fully that managing money is a vital life skill. Children are exposed to money issues early and forms a core skill as early on as Reception. Children are introduced to the concept of buying items in shops and using coins in real life scenarios which progresses to children in Upper Key Stage 2 creating budgets for spending. Our children are taught so that they have a secure foundation when they progress onto Secondary Education.