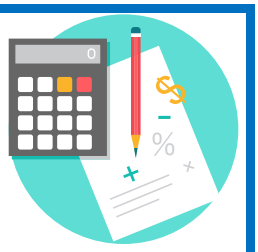
Hunningley Primary Academy
The best in everyone™
Part of United Learning



Maths

Intent:

The mathematics curriculum at Hunningley Primary Academy provides children with skills essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment, through the framework of seven vertical concepts. Beginning first with the National Curriculum, we have designed our curriculum as a progressive model around these vertical concepts which provide a concrete lens through which to study and contextualise mathematics, as well as small steps to help pupils to gain a deep understanding of complex, abstract ideas:

Place Value

Addition and subtraction

Multiplication and Division

Fractions

Decimals

Measurement

Statistics

Our children must be skilled and confident with maths. We aim to provide a high-quality mathematics education using a mastery approach so that all children:

- Become fluent in the fundamentals of mathematics;
- Can reason mathematically;
- Can solve problems by applying their mathematics.

(National Curriculum 2014)

Our curriculum is designed in a way that embeds core disciplinary knowledge and the ability to approach challenging, mathematical reasoning and problem solving, using a concrete, pictorial, abstract approach. It equips children with sufficient knowledge to think, act and work like professional mathematicians.

Implementation:

Early Years is the first opportunity to develop our children's curiosity for mathematics. We implement our maths curriculum by following the interests of the children through the Early Years Foundation Stage Statutory Framework which aims to guide children to make sense of number and numerical patterns.

We relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document.

We continually observe and assess children against these areas using their age-related objectives; and plan the next steps in their mathematical development through a topic-based curriculum. There are opportunities for children to encounter Maths throughout the EYFS (both inside and outside) – through both planned activities and the self-selection of easily accessible quality maths resources.

Throughout Reception, teachers draw the elements of a daily mathematics

lesson together so that by the time children move into Year 1 they are familiar with a structured lesson / activity. We use the United Learning EYFS Curriculum as a tool to plan these lessons as well as elements of the Mastering Number project.

At Hunningley we use White Rose Maths Version 3 as our tool to deliver the maths curriculum, which has been written to support teachers in all aspects of their planning. Declarative (facts and formulae, conceptual understanding), procedural (methods, relationships between facts, procedures and missing facts) and conditional knowledge is built into the scheme of learning. White Rose Maths is fully supported by the Department for Education as it meets the requirements of the new curriculum. It provides all the elements that teachers need to teach maths mastery with confidence and to encourage children to talk using mathematical language. To support children's understanding in each unit there is a knowledge organiser which collects key vocabulary, prior learning, current learning and future learning. When teachers plan a unit, they begin with the end in mind, having clarity about exactly what they want the children to learn and curate lessons accordingly. Outcomes are clear and detailed, and each lesson has a concise learning intention. We are determined that children develop the progressive skills of a mathematician throughout their time at Hunningley. Substantive knowledge rich lessons, where children build on prior learning and situate knowledge within carefully constructed concepts, are delivered following Rosenshine's Principles of Instruction.

The curriculum is well designed and developed to be ambitious for all leaners and to ensure children know more and can remember more. Based upon up-to-date research on cognitive load and on how children learn most effectively, determined our approach to implementing our maths curriculum. We take an approach of spacing out new knowledge combined with interleaving and retrieval practice to ensure learning sticks. Each unit has built in practice, retrieval and reinforcement of the key vertical concepts to ensure knowledge sticks in the long-term memory. For learning to stick in the long-term memory we teach mathematical knowledge in meaningful contexts and in a connected way.

For each unit of learning, teachers plan for and children experience:

- The disciplinary knowledge needed to be successful mathematicians.
- Co-operative learning using Kagan strategies to ensure high levels of accountability and engagement for all children.

• A careers pathway that highlights the range of jobs and careers that learning in maths can lead to.

• Classroom working walls which detail modelled teaching for children to use a scaffolds

• Questioning is used to allow pupils to consolidate knowledge and understanding where necessary or to apply learning in an open manner.

• To enable children of all abilities to access the curriculum, additional models and scaffolds are provided. Teachers reference the 'Mathematics Four Broad Areas of Need document' to ensure their planning meets the needs of all children; changes to pedagogy are also considered and changes to content are made in consultation with the Maths Lead and the SENCO.

Most children follow the curriculum of their academic year group; however, some children are further behind. As much as possible these children follow the curriculum for their year group and then slot into the same strand of learning at their working level. A small number of children who cannot access the curriculum in this way follow a bespoke curriculum based on WRM and A2E small steps.

Impact:

Our Mathematics Curriculum is high quality, well sequenced and planned to demonstrate progression. Children will become successful, skilled and confident to use mathematics in their everyday lives. To support their understanding of the importance of mathematics children have a careers page that gives a range of examples of types of employment needing mathematical skills.

Our curriculum is designed in a way to be suitably challenging; we believe that if children are keeping up with the demands of each lesson, that they are making good or better progress. In addition to this, we measure the impact of our curriculum through the following methods:

- A pre learning quiz to ascertain whether children have mastered the prior learning needed to enable them to access the planned unit. This takes place two weeks prior to the start of new learning to provide time for any prior learning gaps to be addressed. This is seen in pupil books within a yellow border.
- Weekly flash tests are part of the spaced retrieval process and identify areas to review then retrieve.
- Weekly arithmetic test in Key Stage 2, which are also part of the spaced retrieval process and identify areas to review then retrieve.
- End of unit quizzes are an assessment opportunity to identify weaker areas of learning, leading to keep up lessons/group work to ensure learning is solidified.

- Termly PUMA testing, national test that is standardised, to identify areas of strong learning and gaps which are then fed into the curriculum or addressed as small group interventions. Helps us to know how well our children are learning nationally and within the group.
- Year 2 and 6 SATs mocks and end of key stage assessments again identify areas of strong learning and gaps which are then fed into the curriculum or addressed as small group interventions or lead to curriculum tweaks for the following year.

Our maths curriculum is also planned in a way which promotes the cultural capital of all out children. We develop cultural capital in maths through our work on maths in the wider world, from simple identification of shapes in the environment and measures in cooking, through discussing careers, economics, finances and how it impacts on ours and others lives. Maths in the news is explored through Votes for Schools.