



Usworth Colliery Primary School Maths Curriculum Narrative



Usworth Colliery Primary School Curriculum Vision

Enjoy achieving together...to be the best that we can be!

At Usworth Colliery, we have high expectations and aspirations for all. We pride ourselves on providing a safe, happy and healthy environment which supports our children to become confident, caring and independent learners. As a highly inclusive school, we support all our learners to access an education pathway that supports them to build on their starting points, considers their social and emotional needs and challenges them to thrive. Our ethos and core values, along with our engaging curriculum, prepares our children for modern day life and their next stage of learning. We aim to deliver a curriculum that supports our children to be ready for the real world with opportunities to problem solve, develop resilience, be inspired, curious and creative and develop aspirations for their futures. We are determined that our children will make strong progress regardless of their starting points through a well sequenced, broad and balanced curriculum. Oracy development is at the heart of the entire curriculum: children use key stem sentences to develop language structures and progression is designed across the curriculum in the Physical, Linguistic, Cognitive and Social & Emotional strands. Lessons are crafted to support pupils to build on prior knowledge, revisit key learning, practise key skills and make links, to help them learn more and remember more. We actively encourage respectful, positive relationships for all and promote British Values to maintain a strong whole school community.

Safety, Resilience, Care, Aspiration

Maths INTENT

At Usworth Colliery Primary School, we want to inspire our children to be great mathematicians who are engaged in their learning, passionate about their work and resilient when challenged. Through careful planning that is linked to real life experience and cross-curricular content, we want to build resilient problem solvers who are challenged to try hard, reason using accurate vocabulary, think creatively and flexibly and are able to work collaboratively by communicating their ideas coherently. This could be through using practical resources, pictorial representations or formal written methods and explanations. Further, we want our children to be excited and confident about their work and proud to share it with their peers, staff and visitors. It is our vision that children use their classroom learning to develop confidence in applying their skills to the real world; understanding the value that learning the fundamentals of Mathematics has. From this, we support them to cultivate their own aspirations to achieve across a range of areas.

We INTEND that our curriculum will:

challenge children	It will push children to achieve their greatest potential and apply their mathematical skills in different ways while developing resilience when things are tough.
develop strong basic skills	It will mean children become fluent with basic mathematical skills that can then be applied to different areas of the mathematical curriculum; being built upon as skills progress.
ensure concepts are embedded deeply	By deeply understanding mathematical systems and being able to understand how concepts work, children will ensure they are transferred to the long-term memory. Opportunities to unpick questions and delve deep to understand how concepts are linked allow children to make meaningful connections.
create transferable skills	Children can apply their mathematical skills in different areas of the curriculum (e.g. statistics in Geography, History and Science; measuring in D&T) to ensure life-long skills for the real world are developed.
take individual starting points into account	Give all children the opportunity to succeed through revisiting prior learning to make links to new concepts so that starting points are built on.

Maths IMPLEMENTATION

So that the majority of our children reach age related expectations at the end of each key stage, we use a mastery approach and lesson structure to teach Mathematics. We believe that to achieve coherence, learning needs to be broken down into small, accessible steps (to avoid cognitive overload) that allow children to make incremental progress by combining fluency in basic skills and methods with opportunities for rich and integrated reasoning and problem solving. It also offers our children the chance to use practical, concrete resources throughout lesson sequences, where appropriate, to support their understanding alongside using pictorial or abstract recordings where children are ready to do so.

We follow the NCETM Prioritisation Curriculum design and use their materials as a guide for teachers to develop their own professional understanding and subject-specific pedagogy. This curriculum design allows us to spend sufficient time on the key content domains to ensure that learning is deep and concepts are linked together. We use a range of support and challenge opportunities (including adults support, immediate intervention, rich and complex problem solving) to ensure that the vast majority of children move through the curriculum at broadly the same pace. Children are encouraged to use stem sentences as a frame for explanation and to conjecture and generalise themselves having explored mathematical structures and patterns. To ensure the basic skills are embedded, children access Hi5 sessions (daily Maths meetings) that focus on counting, fact recall and calculation. Children from EYFS to Year 2 access Mastering Number for this time while children in Years 4 and 5 use Mastering Number @ KS2. Children in Year 3 and Year 6 spend time recapping and deepening concepts.

To support problem solving, children access a monthly problem solving session which allows them to work collaboratively and creatively on a wide array of problem types.

Assessment is key to ensuring the curriculum is pitched accurately for pupils; post-assessments are completed at the end of each unit which inform teachers of those children who need more

<p>Real-world Opportunities:</p> <p>Real life problems and contexts. Learning about money and the coins and notes that can be used both in Maths lessons and through enterprise and external visitors (e.g. Natwest/HSBC). Measuring practically in a range of contexts (including Science, Geography and D&T), e.g. length, weight, capacity. Identifying shapes and their properties in real-life contexts. Learning to tell the time, use a calendar and timetables. Collecting, displaying and interpreting data linked to Science experiments and Geographical Fieldwork enquiries.</p>		<p>Big ideas:</p> <p>Mathematical Thinking: Children are encouraged to look for patterns, reason, make connections and conjectures & generalisations with teaching material that is carefully sequenced.</p> <p>Problem Solving: Children are taught to be able to think systematically in order to make appropriate decisions to apply known skills in a variety of contexts.</p> <p>Coherence: Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply in a range of contexts.</p>
<p>Representation & Structure:</p> <p>Representations are carefully chosen to expose mathematical structure with the intention to support children to 'see the Maths'.</p>	<p>Variation:</p> <p>Teaching draws attention to key features and concepts; exposing essential and non-essential features of concepts and making purposeful changes to scaffold thinking as concepts are developed.</p>	<p>Fluency: Children develop the ability to perform mathematical operations and processes accurately and quickly. Mathematical fluency has 4 parts: accuracy, automaticity, speed, flexibility.</p>

Maths IMPACT

Children at Usworth Colliery Primary School are engaged in Mathematics and are proficient problem solvers. They develop a positive attitude to their Maths learning through an environment that promotes them to investigate, ask questions and celebrate mistakes as learning points. The vast majority of children are resilient and motivated to challenge themselves in lessons. Through the Mastery approach, they develop strong basic skills and are able to make links across different concepts to create deep knowledge and transferable skills. Children can talk about their learning in Maths and its use in multiple area throughout their daily life.

Children's starting points are taken account of and curricula are adapted, where necessary, to ensure children succeed. A supportive and inclusive environment allows children to progress and achieve mathematically. Live marking and immediate (same day) interventions support children to be the best mathematicians they can be so that children can all work on their year group objectives and move through the curriculum at broadly the same pace. Planned interventions are used to narrow gaps in previous learning.

While the NCETM Prioritisation Curriculum has not yet had a consistent impact on end of KS2 data, internal data shows an increase in children achieving the expected standard each term. Where focus has been on basic skills development (influenced by subject action plan in 2023-24), children have made accelerated progress (Years 1 and 2) and increased development of teaching times tables centred on multiplicative structure led to increases in both the number of children passing the Y4 MTC, those scoring 21+ and the average score rising significantly.

Our feeder secondary school has noted that children from Usworth Colliery are proficient in their reasoning and mathematical abilities once they reach secondary school and it our mission to ensure that when children leave Usworth Colliery Primary School, they are mathematically fluent problem solvers, proud of their achievements.

The IMPACT of our curriculum will create pupils who are:

Pattern Seekers	curious about maths and want to spot links and patterns; consider what they notice, able to offer conjectures to investigate and generalisations founded upon the outcomes of these investigations.
Problem solvers	able to use their deep understanding and basic skills to confidently solve problems; looking for the most effective strategies.
Resilient	resilient when faced with challenging problems, able to break them down into small steps and can use their deep understanding to solve the problems.
Eager	proud of their achievements in Maths and able to articulate the journey they have been on to gain their new skills.
Academic achievers	able to achieve in Maths; reach the expected standard for the end of each year proficiently.

Engineer

Game Designer

Investor

Actuary

Accountant