



Mathematics Intent

Why do children at Kneesall study Mathematics?

Our Vision for Mathematics is to support all children to become confident, skilled and resilient mathematicians who understand that mathematics is a fundamental part of everyday life and the world around us. We value to opportunities in maths to link learning to real life, engaging children in the practical applications of maths as well as the STEM opportunities and raising aspirations for all children. Through a mastery curriculum, we empower children to become fluency in arithmetic, eloquent in reasoning and inquisitive in problem solving due to their sound declarative, procedural and conditional knowledge of strategies and relationships.

What are the aims for the Mathematics curriculum?

Mathematics at Kneesall C of E Primary School is driven by a mastery pedagogical approach of teaching for mastery to give children the best chance to master maths. We want children to acquire a deep, long-term, secure and adaptable understanding of the subject to be able to use mathematical concept, facts and procedures appropriately, flexibly and fluency, and to use reasoning to both explain known mathematical concepts and procedures and use them to solve problems.

We have ambition for all children:

- to enjoy mathematics
- to develop a deep understanding in mathematics
- to demonstrate a growth mind set in maths – positivity, resilience and perseverance.
- to show independence and responsibility
- to be fascinated and inquiring of mathematics
- to be confident, competent and fluent in core facts, concepts and skills
- to develop a logical and methodical mind set to reason and problem solve
- to be able to work collaboratively
- to identify links with real life maths
- to be provided with the necessary maths skills needed for later life and career



Kneesall C of E Primary School Mathematics Overview



What are the local area / community links/ special historical features in the area?

Local school grounds – perimeter, area, counting, forest school add subtract multiply divide, geometry; St Bartholomew’s Church; Perlethorpe Activity Centre; residential trips e.g. Kingswood problem solving; farming; shopping e.g. Tesco supermarket; bus timetables.

What links to careers can be made through the Mathematics curriculum?

Money management and financial freedom are key concepts needed to prepare children for adulthood. Children can apply maths to many career paths including STEM careers, professional trade roles, financial sector as examples.

How are British Values taught through Mathematics?

Democracy- All children have opportunities to discuss and voice their opinions, whilst considering opinions of others, and make decisions. Maths talk is promoted to engage learners and explore pathways.

Mutual Respect and Tolerance- Respect opinions, beliefs, faiths and differences of others. Understand that everyone gets treated as an individual because life is different for everyone.

Individual Liberty- Expressing and exercising rights in an appropriate way, using appropriate vocabulary. Making the right choices and taking responsibility for my actions.

Rule of Law- Understanding that there are rules and laws to protect me and understanding when things are wrong, who to go to and how to ask for help

Mathematics Implementation

Mathematics at Kneesall C of E Primary School is driven by a mastery pedagogical approach of teaching for mastery to give children the best chance to master maths. Mastering maths means children acquiring a deep, long-term, secure and adaptable understanding of the subject to be able to use mathematical concept, facts and procedures appropriately, flexibly and fluency, and to use reasoning to both explain known mathematical concepts and procedures and use them to solve problems.

We provide a careful selection, sequencing and linking of declarative, procedural and conditional knowledge through a sequence of teaching and rehearsal opportunities to allow children time to commit concepts, rules and principles to store in their long-term memory.

A long-term plan, curriculum progression mapping of key skills and sticky knowledge, fluency non-negotiables and a clear and consistent calculation policy ensure the high quality of maths education for all young people through a consistent and sequenced curriculum.



Kneesall C of E Primary School Mathematics Overview



- Mathematics is taught daily to each year group. There is also additional time allocated to two additional fluency practice sessions to support automaticity and also to revisit previous learning.
- A CPA Concrete, Pictorial and Abstract approach supports learning, with use of manipulatives and resources as scaffolds to develop understanding and enable children to make connections
- Children develop knowledge with a focus on declarative knowledge of facts, formulae and relationships between facts, procedural knowledge of methodology, and conditional knowledge of strategies and relationships between information to enable children to reason and problem solve.
- Resources are carefully selected to teaching is mastery focussed and include resources from White Rose Maths and NCETM materials.
- Each lesson builds on prior learning, and includes modelling and skills led activities to focus on rehearsal of facts, methods and strategies, linked to progression in the calculation policy. Questioning is used to deepen learning to secure understanding. Continuous provision opportunities also provides children with the opportunity to master learning.
- Homework is used as an opportunity for extra rehearsal of core learning.
- The environment is used to support learning including working walls with key vocabulary and examples linked to current learning, resources and manipulatives such as base 10, place value counters, games, knowledge organisers, multiplication squares, quiet learning time and discussion time.
- Children are proud of the work they produce and present work neatly and legibly in books.
- Children are given a learning objective and success criteria to support self-assessment of learning.
- Teachers live mark children's work to support learning within the lesson to provide immediate feedback, support and challenge as needed.
- Children who need support to keep up are provided with additional time, pre-learning, overlearning and additional tasks tailored to their individual needs, including adaptation for children with SEND.
- There are opportunities for children to apply learning and make connections within maths and across the curriculum.
- Staff subject knowledge is developed through on-going training and development opportunities.



Monitoring, Progression and Assessment

We assess the impact of the mathematics curriculum through a range of assessment opportunities including:

- Subject monitoring through Pupil voice, observations and collaborative work
- Planning review of a sequence of lessons and opportunities to revisit prior learning - overlearning
- Book scrutiny
- Learning environment including vocabulary
- Children's reasoning
- Fluency automaticity including timed tests - Fast maths, Times Tables Rock Stars, and arithmetic tests
- Testing – end of unit testing and termly tests
- EYFS , KS1 and KS2 SATs, and MTC
- Assessment validation – triangulation of book work, test scores and children's explanations including when problem solving to inform judgements including gap analysis to inform next steps in learning.
- Assessment validation – track a strand of learning across school to assess curriculum progression, use of calculation policy and embedding of declarative, procedural and conditional knowledge.
- External moderation opportunities.