

Mathematics – Curriculum Design

National Curriculum

Purpose of study - Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. 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.

Aims - The national curriculum for mathematics aims to ensure that all pupils:

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

Mathematics at Rodbourne Cheney Primary School

At Rodbourne Cheney Primary School, we want Mathematics to be an important creative discipline that helps us to understand and change the World. We want all pupils at Rodbourne Cheney Primary School to experience the beauty, power and enjoyment of mathematics and develop a sense of curiosity about the subject.

At Rodbourne Cheney Primary School, we foster positive 'can do' attitudes, believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts. We use mistakes as an essential part of learning and provide challenge through rich and sophisticated problems before acceleration through new content.

Our timetable will allow for the delivery of two maths session per day. The main maths lesson will be around 45 minutes long and deliver the curriculum using specific key learning objects. The second session will be approximately 20 minutes and will allow pupils to review previous learning (particularly arithmetic skills and knowledge), keeping it alive for the children.

We endeavour to provide an exciting and stimulating environment for the children to learn maths, fostering positive, confident attitudes. A self-evaluation process is structured to enable pupils to reflect on their own learning, identify their own strengths and areas for improvement which will empower them.

Typical Lesson design:

- 1) Key learning point
- 2) Introduction, Hook, Modelling
- 3) Practice together
- 4) Do It: Up to 5 examples – 3 'Standard' and 2 'Non-standard'
- 5) Challenge It: 1 or 2 Misconceptions (True/false, Spot the mistake)
- 6) Super Challenge It: New problems, (Empty Box), Here's the answer, Always/Sometimes /Never
- 7) Lesson Recap

Typical Review coverage:

- Addition or subtraction focus
- Multiplication or Division focus
- Deliberate Practice and/or Same Day/Week 'Preventing the Gap' Intervention
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- Fact session (Friday): Y1 Bonds Y2 Multiplication and Division Facts 2,5,10 KS2 Multiplication and Division Facts