St Cleopas CE Primary Academy

Mathematics Policy

"As I have loved you, so you must love one another, then everyone will know that you are my disciples".

Our School Vision is inspired by this bible verse: John 13:34

Friendship ~ Respect ~ Joy ~ Compassion ~ Forgiveness ~ Courage

Rationale

At St Cleopas, we recognise mathematics as an essential life skill and an important part of children's intellectual development. We aim to develop confident, resilient and enthusiastic mathematicians who understand the relevance and importance of mathematics in everyday life.

Our mathematics curriculum is designed to provide all pupils with a secure understanding of mathematical concepts, enabling them to become fluent in fundamental skills, reason mathematically and solve increasingly complex problems.

We follow the White Rose Maths curriculum from Nursery through to Year 6. This provides a coherent and progressive approach to mathematics and supports our commitment to developing a secure understanding of mathematical concepts.

Alongside White Rose Maths, we use Number Sense Maths to strengthen pupils' fluency:

- **KS1:** Number Sense Maths is used to develop secure number sense and fluency with key number facts.
- **KS2:** Number Sense Maths is used to develop fluent recall and understanding of multiplication and division facts, including times tables.

Aims

Through our mathematics curriculum, we aim for all pupils to: develop a positive and confident attitude towards mathematics; enjoy mathematics and recognise its importance in everyday life; become fluent in the fundamentals of mathematics; develop secure number sense and automaticity with key number facts; develop conceptual understanding alongside procedural fluency; recall and apply mathematical knowledge quickly and accurately; reason mathematically using appropriate mathematical vocabulary; develop their ability to explain and justify their mathematical thinking; solve problems by applying their mathematics to a range of familiar and unfamiliar contexts; make connections between different areas of mathematics; develop resilience when faced with challenging mathematical problems; become increasingly independent mathematicians and acquire the mathematical knowledge and skills necessary for the next stage of their education.

Curriculum Intent

Our mathematics curriculum is ambitious for all pupils.

We believe that all children can make progress in mathematics. Pupils are supported to develop a deep and secure understanding of mathematical concepts rather than simply learning procedures.

Our curriculum is carefully sequenced so that pupils build upon previous knowledge and make connections between new and existing learning.

The curriculum develops three key areas:

Fluency

Pupils develop efficiency, accuracy and flexibility when working with numbers and mathematical procedures. Regular opportunities are provided to retrieve and practise previously learned number facts.

Reasoning

Pupils are encouraged to explain their thinking, identify patterns, make generalisations, compare methods and justify their answers using appropriate mathematical vocabulary.

Problem Solving

Pupils are taught to apply their knowledge to a wide range of problems. They learn to select appropriate strategies, persevere when solutions are not immediately obvious and evaluate their answers.

Curriculum Organisation

Early Years Foundation Stage

Mathematics begins in Nursery and Reception, where children develop a secure foundation of mathematical understanding through practical, engaging and meaningful experiences.

White Rose Maths supports the sequencing and development of mathematical learning within EYFS.

Children are provided with frequent opportunities to: develop a strong understanding of number; explore quantities and number relationships; recognise small quantities without counting; develop counting skills; compare numbers and quantities; explore patterns; investigate shape and space; explore measures; develop mathematical vocabulary and solve practical mathematical problems.

Mathematical learning takes place through a combination of adult-led teaching, focused activities and opportunities within continuous provision.

Adults make effective use of questioning and mathematical language to extend children's thinking.

Key Stage 1

In Years 1 and 2, mathematics is taught through the White Rose Maths curriculum.

Particular emphasis is placed on establishing strong foundations in number, place value and calculation.

We recognise the importance of fluent recall of basic number facts. Number Sense Maths is therefore taught alongside the White Rose curriculum to systematically develop children's number sense and fluency.

Pupils develop efficient strategies for recalling and applying number facts rather than relying on inefficient counting strategies.

Key Stage 2

From Years 3 to 6, pupils continue to follow the White Rose Maths curriculum, progressively developing their understanding of: number and place value; addition, subtraction, multiplication and division; fractions, decimals and percentages; ratio and proportion; algebra; measurement; geometry and statistics.

Appropriate areas are taught according to National Curriculum expectations for each year group.

In KS2, Number Sense Maths supports the systematic teaching of multiplication and division facts.

Children are taught to understand relationships between multiplication facts rather than viewing times tables as isolated facts. Regular practice and retrieval are used to develop increasingly rapid and accurate recall.

Teaching for Mastery

Our approach to mathematics is based upon the principle that all pupils should have opportunities to develop a deep understanding of mathematical concepts.

Teachers carefully consider the small steps required for pupils to understand a concept.

Key features of our approach include:

Small Steps

Learning is broken down into manageable steps, enabling pupils to build securely on prior understanding.

Mathematical Representation

Teachers use appropriate concrete resources, pictorial representations and abstract notation to support understanding.

This **concrete, pictorial and abstract (CPA)** approach may include: counters; cubes; bead strings; ten frames; rekenreks; number lines; Numicon; place-value counters; base-ten equipment; bar models; part-whole models and arrays.

Manipulatives are viewed as mathematical tools rather than resources solely for younger or lower-attaining pupils. They are used whenever they help to expose mathematical structure.

Assessment

Assessment is an integral part of mathematics teaching.

Formative Assessment

Teachers continually assess pupils' understanding through: questioning; mathematical discussions; observation; pupils' written work; mini whiteboards; retrieval activities; independent practice; and reasoning and problem-solving activities.

Information gained from formative assessment is used to adapt teaching and identify pupils requiring additional support or challenge.

Teachers identify and address misconceptions promptly.

Summative Assessment

NFER and pre/post assessments are used at identified points during the academic year to support teachers in making judgements about pupil attainment and progress.

Assessment information is considered alongside evidence from pupils' everyday mathematics work and teachers' professional judgement.

Assessment should inform teaching rather than simply measure performance.

Feedback

Feedback in mathematics should be purposeful, manageable and have a positive impact upon learning.

Feedback may be: verbal; written; whole-class; delivered during a lesson; addressed through subsequent teaching.

Where possible, misconceptions are identified and addressed promptly.

Pupils should be encouraged to recognise and correct their own errors and develop increasing responsibility for checking their work.

Monitoring and Evaluation

The quality of mathematics provision is monitored by the Mathematics Subject Leader and senior leadership team.

Monitoring may include: lesson visits and learning walks; book scrutiny; planning reviews; pupil voice; teacher discussions; assessment analysis; monitoring of interventions; review of SEND provision; scrutiny of curriculum coverage; monitoring of Number Sense Maths and evaluation of pupil progress and attainment.

Information gathered through monitoring is used to celebrate strengths, identify areas for development and determine priorities for future professional development and school improvement.