

Edenfield C of E Primary School



Mathematics Policy



WHERE **CHILDREN** COME FIRST

By living and learning through God, we strive to provide a secure and stimulating environment where the children enjoy school and demonstrate a desire to learn. Through the delivery of an exciting, engaging and broad curriculum, we strive to achieve the highest standards and seek to develop the full potential of every child.

As a Church of England School, we are committed to fostering Christian values and beliefs. Through God's love and guidance, our ethos is embedded in the vision of the school and underpinning all aspects of school life at Edenfield CE Primary School is the vision statement:-

Edenfield CE Primary School Vision

Guided by God, following in his footsteps

Our vision is theologically centred on Psalm 119:105

Your word is a lamp for my feet and a light on my path

The word of God is a light on our school pathway; it shows us how to follow the right way. Our pathway will open up horizons of hope and aspiration as we educate our children for wisdom, skills and knowledge and nurture their God given talent and individuality. We foster forgiveness and reconciliation so that all flourish and live well together, embracing difference and treating everyone with respect in our school and church community, and the wider world.

Intent and Aims of the Curriculum

By following the statutory National Curriculum, Edenfield C E Primary School 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
- 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 is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains through the use of the Red Rose Mastery programme (Y1-Y6 by September 2023), but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems (deeper learning tasks) broadening and deepening their knowledge. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice (intervention and support), before moving on.

Curriculum Organisation

From September, all year groups from Y1 to Y6 will use the Red Rose Mastery programme. This ensures that content is coherent, progressive and carefully sequenced. Every teacher ensures that links are made between topics and across subjects to ensure that mathematics has a purpose and is weaved between everything that we do in school.

The Red Rose Mastery programme is based on revisiting learning regularly and using knowledge and skills across the curriculum to help embed learning in children's memory. KS1 and KS2 curriculum satisfies the requirements within the National Curriculum – content and order in terms of year group expectations. Year group expectations are broken down into smaller manageable steps around which to build individual lessons.

EYFS Curriculum

The Early Learning Goals for Reception (EYFS) are split into two categories; number, plus numerical pattern. The curriculum covers all areas identified in 'Development Matters' including shape, space and measure. The Lancashire plans (LAPS) extend learning beyond what is required in the ELG. In the EYFS, Development Matters is followed alongside the Lancashire LAPS. 'Sequence of Learning' document is used.

Maths is taught in a purposeful, practical way and children use play and exploration to acquire mathematical skills. A large majority of mathematical work is practical and learning occurs in many different contexts around the classroom and outside.

Key Stage 1 - Years 1 and 2

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know numbers up to 100 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

At Edenfield School, pupils in year 1 and year 2 (aswell as Y3-6) now follow 'Red Rose Mastery'. This is a scheme written by Lancashire which leads the pupils through lessons but also makes them think carefully and deeply about what they are doing using the skills of variation, fluency, reasoning and problem solving.

Lower Key Stage 2 - Years 3 and 4

The principal focus of mathematics teaching in Lower Key Stage 2 is to ensure that pupils become increasingly fluent with whole numbers beyond 100 and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately, with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of Year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. They will complete the statutory 'Y4 Multiplication Check' in June of that year group.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

Upper Key Stage 2 - Years 5 and 6

The principal focus of mathematics teaching in Upper Key Stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient mental and written methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number.

Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of Year 6, pupils should be fluent in mental and written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Curriculum Adaptation and Differentiation

Adjustments are made to ensure equal access of the curriculum is offered to all children. This could mean that resources are used to support or extend, questioning is adapted, activities are changed to ensure that all pupils needs are accounted for whether that be the more able or those with special educational needs. Pupils working below expectations (within two years of their chronological age) use RRM. Those below this have specially adapted work following the topics and themes of their peers.

Enrichment opportunities within the curriculum are provided to ensure that mathematics is seen across the curriculum. For example, charts and graphs in science, tables in geography, shape in art. Theme days and weeks take place to ensure that pupils develop a love of mathematics as well as seeing mathematics in a range of real-life contexts.

Pupils with special educational needs are encouraged to use a variety of resources to support and extend their learning such as Base 10, bead strings, straws, counters, place value grids and charts and many more materials. Human resources are also used to guide them through their learning be it through guided teaching, support in lessons or following lessons in the form of intervention. A variety of strategies are implemented to cater for different teaching and learning styles such as visual aids, practical learning opportunities including the use of the outdoors, tactile resources and different ways of presenting information and tasks. Some pupils may benefit from a multi-sensory approach and use a variety of resources accompanied by a range of teaching and learning approaches.

Curriculum Implementation

A variety of approaches to learning are used at our school – we use practical, visual, kinaesthetic and auditory methods to ensure that every type of learning style is provided for.

Planning

The planning of the curriculum is organised in three phases:

- **long term planning** which shows the organisation of the mathematics topics across the year for each year group, and the coverage and progression of knowledge, skills and understanding;
- **medium term planning** which demonstrates the progression of knowledge, skills and understanding within each topic;
- **short term planning** which explains how children will build on their existing understanding with the new learning specified as focused learning objectives for each given lesson.

Professional Development of Staff and Use of Resources

Edenfield C E Primary School promotes a firm commitment to continuous professional development for all teaching and support staff and ensures staff are supported to provide the best quality teaching possible. Each year, the school improvement plan makes explicit the priorities to be addressed, clear objectives for improvement, timescales and measurable evidence of success and the subsequent impact. High quality training takes place to ensure that school staff, both teachers and teaching assistants, have the necessary skills and expertise to deliver the curriculum correctly, building on prior learning and providing well sequenced lessons. The subject leader keeps up to date with new developments and initiatives within mathematics and shares updates with school staff and governors. Resources are audited regularly and stored centrally so they can be accessed by all staff. A wide variety of day to day resources are also stored in classrooms so they be accessed easily during lessons to support daily teaching and learning.

Use of intervention

Intervention is used on a daily basis to address misconceptions promptly before the next lesson. Pupils are taken aside before the next lesson and are shown how to correct their work, ensuring full understanding before progressing to the next stage. They make their corrections in purple pen to highlight areas that have now been addressed.

Use of further challenge (deeper learning)

Pupils at all levels including those working above age-related expectations will be provided with higher-level work and opportunities for challenge to extend their learning. All pupils will be challenged so that they not only meet age-related expectations, they are encouraged to work at a higher level and to grapple with complex challenge appropriate to their ability. Deeper learning tasks accommodate these needs.

Development of subject specific vocabulary

All pupils will be exposed to and encouraged to use technical mathematical vocabulary suitable to the unit of work they are studying. This may be thorough teacher modelling, reference to working walls, language used within activities and games to be completed or in oral and written feedback.

Parental Involvement

At Edenfield CE Primary School, parents and carers are held in high regard. They are seen as partners in their child's learning so are encouraged to get actively involved with mathematics through:

- supporting homework;
- using the calculations policies published on the school website to understand how maths is taught in a progressive, well-sequenced way;
- attending parental workshops led by school staff;
- discussing their child's progress in maths at parent's evenings;

Parents and governors are also encouraged to attend maths themed enrichment events such as theme weeks.

Monitoring of the Implementation

All aspects of mathematics are monitored by the subject leader. This may sometimes be alongside the headteacher, school adviser or other members of staff. The mathematics governor is involved in the monitoring of teaching and learning in maths and is regularly invited to observe the subject leader monitoring mathematics. A report back to the governing body is then prepared and shared at governor meetings. Mathematics is monitored through regular and rigorous book scrutinies, planning scrutinies, learning walks, lesson observations, subject leader interviews and pupil interviews.

Curriculum Impact

Relevance of learning

Teachers ensure that all learning in mathematics is relevant and linked to real life situations. Links between themes, topics and units in mathematics are also made explicit so that pupils understand what they are learning and why.

Enjoyment of learning

At Edenfield School, enjoyment of learning is crucial and central to our belief of what makes outstanding provision for our pupils. If pupils enjoy learning they are more likely to remember what they have learnt – this ensures that they 'know more and remember more'.

Progression in knowledge, skills, understanding and ability to apply this

All lessons are well sequenced and progressive so that pupils' knowledge and understanding of the topic they are studying is enhanced and embedded. Pupils are then able to apply their knowledge and understanding to other areas of maths and indeed, across the curriculum. They do this by developing conceptual understanding, fluency, reasoning and problem-solving. Efficiency in mathematics is always encouraged and modelled by teachers - this can be achieved by using mental methods in the first instance and, following that, a formal written method only if appropriate.

Independence

All pupils at Edenfield C E Primary School are taught to become more independent in their thinking so that they 'grapple' with content and develop resilience with regards to mathematics. They try different approaches when solving problems and reasoning to ensure they reach the end goal which is to find the answer or solution.

Use of feedback to improve learning

Oral and written feedback is used both in the lesson and following the lesson to guide pupils with mathematics learning. This must be structured so that pupils are encouraged to work out the correct answer rather than just being told the correct answer. When feedback is effective, children will learn.

Outcomes: understanding, engagement, attitude to learning, attendance, data

At Edenfield C E Primary School, we aim to ensure that all pupils reach their full potential as a minimum and outcomes show this. A high-quality mathematics education 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.

By the time pupils leave Edenfield School, as a result of the maths curriculum taught, the vast majority of pupils will be able to reason mathematically about all topics taught, solve arithmetic questions with accuracy and understanding, show that they understand all concepts even when presented in different ways and apply their thinking to a wide variety of problems in all curriculum areas. Pupils will also be able to explain their reasoning succinctly and using appropriate mathematical knowledge and understanding. They will use the most efficient methods and calculate effectively in a range of contexts. Pupils will build on prior knowledge and understanding and will be able to make links between topics and other curriculum areas. They will be able to correct themselves and others by checking their answers and explaining where and how they went wrong.

Assessment: summative and formative including standards and moderation

Assessment is fundamental to the process of teaching and learning and forms an important part in the lives of pupils and teachers. It's therefore vitally important that we understand how assessment works and how to get it right. The way assessment is organised in a classroom plays a key role in creating the culture, attitudes and norms of behaviour and enables teachers to shape the positive conditions in which pupils' learning can flourish. At Edenfield C E Primary School, summative and formative assessment is used and termly moderations take place.

Formative Assessment

Use of formative assessment whereby new learning builds on children's existing knowledge and understanding is used daily. Decisions about what children need next (support, extension, next step) are made and applied.

Summative Assessment

Lancashire's RRM termly tests are used to inform teachers when assessing termly pupil progress meetings and end of year data drops. They are also used to inform teachers about gaps in learning to inform the planning of the next sequence of lessons. Termly tests are used by all year groups from Year 1 to Year 6.

Statutory end of key stage assessments are completed in the EYFS, Y2 and Y6. This process includes formal tests in arithmetic and mathematical reasoning for Y2 and Y6. These results are submitted to the DfE and local educational authority so that the performance of the school can be analysed and compared with other schools.

Reference to other policies that are relevant

Mathematics is not a stand-alone subject and links to many other curriculum areas such as geography, history, science, art and computing for example. In addition, links to the SEN policy make provision explicit for those children who require additional support in mathematics.

Charlotte Hartley

Date implemented: January 2025

To be reviewed September 2027