Mathematics Policy

Together We Believe, Aspire and Achieve

Equality Statement

As a school we welcome our duties under the Equality Act 2010. The general duties are to:

- eliminate discrimination, harassment and victimisation
- advance equality of opportunity
- foster good relations.

We review all policies and procedures we operate to ensure there are no negative equality impacts based on age, disability, gender, gender reassignment, marriage or civil partnership, pregnancy and maternity, race, religion or belief and sexual orientation as outlined in the Equality Act 2010. If you feel, on reading this policy that there may be a negative equality impact, please tell us about this. Please also let us know if you need to access this policy in a different format. You can do this by contacting the school office.

Subject Curriculum Intent

We view mathematics as a skill for life. A skill which equips pupils with a set of tools to understand and change the world we live in. 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 most forms of employment. A high-quality mathematics education provides a foundation for understanding the world, the ability to reason mathematically and a sense of enjoyment and curiosity about the subject.

Threads of the subject

At St Peter's we strive to enable all pupils to:

- become fluent in the basics of mathematics (+ - x and ÷), including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and can recall and apply their knowledge rapidly and accurately to problems
- reason mathematically by following a line of enquiry, develop an argument, justify their thinking and explain their reasons 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.

What a child experiences in this subject going through St Peter's

Maths is taught daily at St Peter's. As well as the daily lessons, each child takes part in an early morning maths activity which provides daily practise of arithmetic skills. Regardless of what the children strive to become in their future lives, Maths and particularly arithmetic will always play a large part; whether it be working out the household budget, planning and saving for future purchases, measuring for furniture and carpets or calculating discounts in stores.

Children are taught as a whole class, in small guided groups, independently, or in pairs. Wherever possible, lessons are made practical.

Misconceptions are picked up on in the lesson, during small group work or when marking books. These children are then focussed upon the following day through further guided group work or extra practise and consolidation of the concept.

Children are challenged in lessons through the activities that they are given. All children are given tasks that stretch them rather than one task fits all. Problems can be open-ended, and the children asked to apply the concepts that they have just been taught. Explaining their own thinking and ideas is encouraged rather than just doing what the teacher asks.

As a school, we aim to provide fun and engaging lessons and build up confidence in those less able children so that they will become resilient mathematicians. During the year, all children take part in a whole school STEM day where they participate in activities linked to science, technology, engineering and maths. Activities are practical and often demonstrate the link between what is taught in the classroom with the wider world.

The Aims of this Policy

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics' curriculum.

The National Curriculum (2014) for mathematics describes what must be taught in each key stage. The mathematics taught and the methods used reflect both

the statutory requirements and the non-statutory guidance and recommendations outlined in the following documents:

(A) The Revised Statutory Framework for the EYFS (2021)
(B) The Development Matters in the EYFS (Revised July 2021)
(C) Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013)
(D) Mathematics Planning National Curriculum documentation – Lancashire County Council (2013) We follow the Lancashire planning

This policy provides information and guidance for staff, governors and other interested persons.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013) and the Mathematics Planning National Curriculum documentation – Lancashire County Council (2014) as the basis for implementing the statutory requirements of the programme of study for mathematics.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the LCC medium term planning documentation. Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.
The headteacher and mathematics subject leader are responsible for monitoring the mathematics planning within our school.

Assessment

Assessment has two main purposes:

- assessment of learning (also known as summative assessment);
- assessment for learning (also known as formative assessment).

Assessment of learning (AoL) – summative assessment
Assessment of learning is any assessment that summarises where learners are at a given point in time – it provides a snapshot of what has been learned. Within .St Peter's CE Primary School AoL is used appropriately, e.g. to provide a Teacher Assessment judgement and grade at the end of KS1.

Assessment for learning (AfL) – formative assessment
"Assessment for learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to get to and how best to get there."

Assessment Reform Group, 2002

At St Peter's CE Primary School, we recognise that AfL lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AfL depends crucially on actually using the information gained.

The school supports teacher assessment through the use of the Lancashire Learning and Progression Steps. These documents set out a progression of learning for individual strands of the National Curriculum towards end of year age related expectations.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- Using knowledge of pupils drawn from ongoing pupil tracking records and the progression document to inform 'prior learning' at the beginning of each unit of work to guide our planning and teaching;
- Adjusting planning and teaching within units in response to pupils' performance. Weekly plans are flexible and change depending on the children's understanding in lessons;
- If necessary future planning is adapted in response to assessment outcomes;
- Use of ongoing teacher assessment in order to identify gaps in attainment and at the end of each full term using this information to judge each child's attainment against year group expectations;
- Use of information gained from statutory and internal school tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to identify the group's and individual's strengths and areas for improvement and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).

The Early Years Foundation Stage

Work undertaken within the Early Years Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2021), the Development Matters in the EYFS (revised July 2021). We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Mathematics Across the Curriculum

Computing/ICT

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- ICT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics;
- Any decision about using ICT in a particular lesson or sequence of lessons must be directly related to the teaching and learning objectives for those lessons;
- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it;
- Useful suggestions as to integrating ICT is given in the ICT section of the Lancashire Interactive Planning tool (National Curriculum 2014).

Science

Almost every scientific investigation or experiment is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will for example order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

Art, Design and Technology

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry. Designs may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared a great deal of measurement occurs, including working out times and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

History, Geography and Religious Education

In history and geography children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know.

Physical Education and Music

Athletic activities require measurement of height, distance and time, while ideas of counting, time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

Personal, Social and Health Education (PSHE) and Citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly

responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views.

Teaching Mathematics to Children with Special Needs

At St Peter's School we aim to provide a broad and balanced education to all pupils. Quality First Teaching is considered an entitlement for all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level, i.e. focussed guided groups.

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Resources

There is a range of resources to support the teaching of mathematics across the school. Staff are encouraged to use practical and visual models to support children's learning in mathematics. All classrooms have a wide range of appropriate practical apparatus. A range of audio visual aids are also available alongside a range of software to support mathematics learning.

Responses to Children's Work

We recognise the importance of responding to children's work, whether orally or in writing. We seek to encourage children by acknowledging positive achievements. This could include praise for use of a viable method even if the end results were incorrect. Children are frequently provided with next steps to support and enhance their understanding and make links between previous and future learning. Children are given opportunities, and actively encouraged, to explain their work to others and to display their work when it seems appropriate. They are encouraged to value and respect the work of others.

Monitoring and Review

Monitoring of the standards of children's work and of quality of teaching in mathematics is the responsibility of the headteacher and governors supported by the subject leader.

The work of the subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Reviewed – Autumn 2022

Signed - _____ (Chair of Governing Board)

Signed - _____ (Headteacher)