



St Mary's CE Primary School

MATHEMATICS POLICY

Our mission is to encourage all children, irrespective of background or ability, to fulfil their God-given potential and flourish academically, spiritually and creatively, so that-

Endeavour - We should endeavour to persevere, be resilient and work hard to be the best we can be.
Colossians 3:23

With God's strength we reach for the stars!

Maths curriculum statement

We strongly believe that all children can succeed at mathematics. Our staffing equation:
a positive mind-set + strong subject knowledge = a love of learning and a resilience that enables everyone to achieve.

Through our programme of study for Maths, we strive to develop learners to have a passion for Maths by enabling children to:

- Use and understand the four mathematical operations and see connections between them
- Perform written and mental calculations and mathematical techniques with fluency by using and applying their mathematical skills
- Know number facts by heart and use their knowledge of number facts and the number system when calculating and problem solving
- Show initiative in solving problems in a wide range of contexts, including real-life ones
- Think independently and to persevere when faced with challenges, tackling a problem by looking at what they 'do know' and to embrace the value of learning from mistakes and false starts, show resilience
- Reason, generalise and make sense of solutions
- Use a wide range of mathematical vocabulary
- Show a commitment to and passion for the subject

At our school, we use a broad range of resources to aid teachers in their planning and assessment of Maths. We feel the practical and visual nature of using a range of schemes such as the white rose and classroom secrets helps to move children from a concrete to an abstract understanding of number and mathematical concepts.

RATIONALE

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives and will contribute to the social, emotional, moral and educational development of each child. Children need to be numerate. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

AIMS

The school aims to develop each child so that they are confident and competent with numbers and measures. We will help children to acquire proficiency in maths by giving a sharp focus to the relevant aspects of the subject. The outcomes should be numerate pupils who have mathematical resilience and are confident enough to tackle mathematical problems through acquiring mathematical mastery without immediately going to teachers or friends for help. It is

our aim to facilitate the children in developing a true understanding of the importance of numeracy for life to enhance learning and life chances.

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. - DFE 2013

OBJECTIVES

These aims will be achieved by

- Promoting enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- Promoting confidence and competence with numbers and the number system;
- Developing the range of mental calculations skills the children have and encouraging their use in a range of settings;
- Developing the ability to solve problems through decision-making and reasoning in a range of contexts;
- Deepening and broadening mathematical understanding in order to develop resilience and mastery of maths skills.
- Allowing children to discuss and present their work using mathematical language, diagrams and charts;
- Exploring the features of shape and space and developing measuring in a range of contexts;
- Understanding the importance of mathematics in everyday life.
- Being aware of own strengths and areas for development in maths.

METHODS OF DELIVERY

The National Curriculum and White Rose Hub are the main guidance used throughout the school for the teaching of maths. Each class in both Key Stage 1 and Key Stage 2 will be provided with a daily lesson for mathematics, which will be up to an hour in duration. A 30-minute arithmetic lesson takes place 5 times a week, with a focus on consolidating and building upon children's mathematical key skills and fluency as well. The teaching of times tables should also be incorporated into lessons to ensure that these are known and revisited regularly to ensure quick-recall. In EYFS, the children receive a daily taught session with follow-up and application activities accessible throughout the day to reinforce taught concepts.

The structure of the lesson will be varied in each department but generally consists of a mental warm up, whole class teaching, related activities and a plenary linked to the learning. The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work.

In all classes there are children of differing mathematical ability even though the children are grouped into ability sets in each year group. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies - in some lessons through adapted or scaffolded group work and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals, whilst maintaining high expectations and working hard to ensure that children learn age-appropriate content.

In addition, mathematics will play a part in other subjects, where children will be able to develop and apply their mathematical skills. For example, collecting and presenting data in ICT and geography.

Substantive and disciplinary knowledge in mathematics: children need substantive knowledge in mathematics (eg. number facts, times tables) and disciplinary knowledge (how to work things about, reason and problem solve). They will be taught to make links across different mathematical components to build this knowledge in their long-term memory.

Assessment is used to both identify and address gaps in learning and children are made aware of their own individual strengths and areas for development.

Children's progress is recorded in mathematics books and children are aware through feedback what they need to do to secure their understanding. If the children are struggling with a concept, then over-teaching takes place to secure their knowledge (ideally the same day).

Times tables are a focus within school and these are taught through regular practice throughout the school week and progress is celebrated regularly. There is also a tracking and assessment approach taken towards times tables where children work through the *TT Rockstars* system which progresses their times tables knowledge.

Homework is set on a weekly basis in accordance with the homework policy.

PROGRESSION, BALANCE AND BREADTH

Planning using the National Curriculum will be consistent; this will ensure balance, coverage and progression throughout the school.

Early Years will work closely with Key Stage 1, Key Stage 1 with Key Stage 2 and Key Stage 2 with Key Stage 3 to ensure all pupils will receive a progressive curriculum.

MATHEMATICS CURRICULUM PLANNING

Teachers carry out the curriculum planning in mathematics in three phases (long-term, medium-term, and short-term). The New National Curriculum Framework for Teaching gives a detailed outline of what we teach in the long term, while short term planning identifies the key objectives in mathematics that we teach in each year.

It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans, and the class teacher and subject leader discuss them on an informal basis.

Maths books and planning are monitored on a half-termly cycle to ensure that progress, marking and presentation are evident. Evidence of planning into action is also checked alongside evidence of gaps in learning being addressed.

CALCULATION METHODS

There is a separate whole school calculations policy in place which is followed in each year group. This outlines the progression through methods used to teach children how to calculate. This policy is progressive. Calculation policy posters are displayed in each classroom, including the relevant year group plus the year above and below to allow for adequate differentiation. The policy is available for any parents who request a copy. The policy is reviewed and monitored annually.

FOUNDATION STAGE

In Early years the children will be engaged in mathematical activities each day. Mathematical aspects of the children's work are related to the objectives set out in the new EYFS framework and linked to the Early Learning Goals, which underpin the curriculum planning for children aged three to five. In reception, children will begin to work towards the New National Curriculum.

In the Foundation stage all the children are given ample opportunity to develop a strong grounding in number. Children will learn to count confidently, develop a deep understanding of numbers to 10 (including the relationships between them and patterns within), develop a secure base of knowledge and vocabulary and be provided with rich opportunities to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in maths, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

EQUAL OPPORTUNITIES

In accordance with the Equal Opportunities Policy, all pupils will have access to the National Curriculum for Mathematics as set out in the Framework for teaching. We work with due regard to the Equality Act 2010 to make sure that all our pupils regardless of ethnicity, ability, home language and special educational needs are included and are able to access maths lessons.

CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

For those children with Special Educational Needs (where progress falls significantly outside the expected range), the teacher will work alongside the SEN Co-ordinator to set specialised targets, which are taught and reviewed regularly. The assessment process looks at a range of factors - classroom organisation, teaching materials, teaching style, and adaptations - so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs. We also use a scaffolding triangle and our marking policy to acknowledge the amount and type of support given during a piece of work.

RAPID GRASPERS IN MATHEMATICS

For those children who are rapid graspers in mathematics, staff will cater for exceptionally high levels of achievement through adapted short-term planning. For these children, learning experiences which broaden and deepen will be accessed through investigative work or enrichment activities. Support from the co-ordinator can be sought to set specialised targets for achievement. Where appropriate, support is also accessed from local secondary schools.

ICT

Children will use and apply mathematics in a variety of ways when solving problems using ICT. Younger children will use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. Children access a range of computer and internet-based activities to enhance the mathematical curriculum.

ASSESSMENT

This is ongoing and continuous and informs future planning. It follows the guidelines established in the school's assessment policy.

There is assessment of children's work in mathematics from three aspects (long-term, short-term and medium-term). Short-term assessments are used to help adjust daily plans. These short-term assessments are closely matched to the teaching objectives.

Medium-term assessments are used to measure progress against the key objectives, and to help to plan the next unit of work.

Long-term assessments are made towards the end of the school year, and are used to assess progress against school and national targets. Targets for the next school year can be set and a summary of each child's progress can be made before discussing it with parents. Information is passed on to the next teacher at the end of the year, so that s/he can plan for the new school year. National tests for children in Year 6. Baseline assessments are also carried out in Reception.

RESOURCES

There are a range of resources to support the teaching of mathematics across the school.

Large Numeracy Resources for Key Stage 1 and Key Stage 2 are stored centrally in the maths cupboard.

In both Key Stage 1 and Key Stage 2 classrooms there is a variety of equipment kept to support children's learning.

Foundation stage equipment is stored in both Foundation stage classrooms.

Resources should be ready in the classroom at the start of a lesson so that children can choose the equipment they require rather than the teacher providing it.

All equipment must be returned to its correct place after use ready for the next class.

SAFETY

Teachers should make sure children take the necessary care when using equipment in mathematics to ensure their own safety. As outlined in the School's Health and Safety Policy.

Review

This policy is reviewed annually by staff and governors

Signed_____

Date_____