

# St Martin's Garden Primary School

## Mathematics Policy

(Sept 2017)



### Introduction

At St Martin's Garden Primary school we value every pupil and the contribution they have to make. We have high expectations of every child and aim to ensure that every child achieves success and that all are enabled to develop their skills in accordance with their level of ability.

**Mathematics is both a key skill within school, and a 'life skill' to be utilised throughout every person's day to day experiences.**

### Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

The 2014 Curriculum for mathematics describes in detail what pupils must learn in each year group. Combined with Abacus and our Calculation Policy, this ensures continuity, progression and high expectations for attainment in mathematics.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society.

At St Martin's Garden, we use Abacus as the basis of our mathematics curriculum, supplemented with examples from White Rose Maths. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving, the development of mathematical thinking, and development of teacher subject knowledge are therefore essential components of the St Martin's approach to this subject.

### Aims

- To have high expectations of all pupils and ensure they are challenged to fulfil their true potential.
- To foster a positive attitude to mathematics as an interesting and inspiring part of the curriculum.
- To develop the ability to think clearly and logically, with confidence, flexibility and independence of thought.
- To develop a deeper understanding of mathematics through a process of enquiry and investigation, using resources, pictures and words.
- To develop an understanding of the connectivity of patterns and relationships within mathematics.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of mathematics in the wider world.
- To develop the ability to use mathematics as a means of communicating ideas.
- To develop an ability and the motivation to work both alone and cooperatively to solve mathematical problems.
- To develop personal qualities such as perseverance, independent thinking, cooperation and self-confidence through a sense of achievement and success.

- To develop an appreciation of the creative aspects of mathematics and an awareness of how it fits in to other areas of the curriculum.

### **Principles of Teaching and Learning**

The school uses a variety of teaching and learning styles in mathematics lessons during each lesson.

#### **Our teachers strive to:**

- build children's confidence and self esteem
- develop children's independence
- allow all children to experience regular success
- contextualise mathematics using a range of 'hooks' to engage learners, outside learning and practical lessons which are active and fun
- use practical approaches to mathematics (including a wide range of resources, pictures, words models and images)
- encourage children to select independently resources to help them
- challenge children of all abilities.
- encourage children to enjoy mathematics
- develop a child's understanding of mathematical language
- learn from teachers, other adults, peers and their own mistakes.
- allow children to ask questions as well as answer them.
- encourage children to take risks with their learning.

#### **Our pupils should:**

- have a well-developed sense of the size of a number and where it fits into the number system (place value)
- know by heart number facts such as number bonds, multiplication tables by the end of Y4, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper,
- drawing on a range of resources, pictures/models and calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

To provide adequate time for developing mathematics, maths is taught daily and discretely. However, application of skills are linked across the creative curriculum where appropriate.

## **Maths Curriculum Planning**

Mathematics is a core subject in the 2014 Curriculum and we use Abacus to support planning, supplemented with ideas and activities from a variety of other areas such as White Rose, Testbase and Twinkl.

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, which they annotate according to the success of the lesson.

## **Assessment**

This section details the various assessment methods and practices used at St Martin's Garden through which we ensure that children are making appropriate progress and that the activities they take part in are suitably matched to their ability and level of development.

### **Formative Assessment (AfL) - (monitoring children's learning)**

Assessment is an integral and continuous part of the teaching and learning process at St Martin's Garden and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to establish current attainment, and to inform future planning. On-going assessment is recorded on SPTO (School Pupil Tracker On-line).

### **Summative Assessment – (evaluating children's learning)**

More formal methods are used to determine the levels of achievement of children at various times during the school year:

We use termly PUMA assessments as a way of tracking and recording children's progress in objectives covered across that specific term. PUMA Test results are recorded on SPTO (School Pupil Tracker On-line). There are milestones to be achieved by the end of Y2, Y4 and Y6.

## **Early Years Foundation Stage (EYFS)**

In the EYFS, the teaching of Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measures. Pupils have a practical, hands-on experience in mathematics and are encouraged to use and develop mathematics through play and resources, in all areas of the curriculum. This approach is coupled with the discrete teaching of mathematical concepts on a daily basis. Teachers plan from the EYFS Framework and differentiate activities to stimulate and challenge the pupils according to their ability. Introducing mathematical language is key at this early stage and this is explicitly taught. Informal assessment is evidenced in pupils' individual Learning Diaries, and progress is tracked against the Early Learning Goals. Floor books are also used to record activities and progress of pupils.

## **Information and Communication Technology**

The use of ICT in lessons is encouraged; both for whole class teaching and during individual or group activities. Teachers should use their judgement about when ICT tools should be used, including the use of calculators.

## **Role of the Subject Leader**

- Ensures teachers understand the requirements of the 2014 Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENCO and SLT.
- Observes colleagues with a view to identifying the strengths and any areas for development they need to address.
- Discusses regularly with the Headteacher and the mathematics governor the progress of implementing 2014 Curriculum for Mathematics in school.
- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.
- Reports to Governors on the progress of mathematics across the school.

## **Monitoring and review**

Monitoring of the standards of children's work and of the quality teaching in mathematics is the responsibility of the mathematics subject leader alongside members of the senior leadership team.

The work of the mathematics 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.

The mathematics subject leader gives the Headteacher a termly report in which s/he evaluates strengths and areas to develop in the subject and indicates areas for further improvement.

A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress, carry out work scrutinies and learning walks, and analyses ASP/school data.