

# St Margaret's CE Primary School



## Mathematics Policy

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## **Contents:**

### **1. INTENT**

#### Aims

We aim for all children to become fluent and accurate with number facts and relationships, reason mathematically about their work and problem solve through a Mastery approach. Through fostering a growth mindset, all children will develop curiosity about number, be inspired to solve tasks and challenge themselves to deepen their understanding.

#### Principles

Mathematics is taught across the Primary age phase in a structure which is age appropriate. The children engage in daily fluency sessions that provide opportunities for retrieval and rehearsal of previously learnt number facts. Work is differentiated through support and scaffolding to ensure that **all** learners can progress with their knowledge, skill and understanding of mathematical concepts at the same pace to their peers. We recognise that ability is not fixed, and so same day interventions are provided for children to consolidate their understanding before moving on, whilst challenge through rich and sophisticated activities is provided for children who have grasped a concept quickly, rather than being accelerated through content. Live marking and other AfL strategies enable teaching staff to be responsive to children's current needs and provide appropriate, correctly pitched support and challenge against each objective.

### **2. IMPLEMENTATION**

#### Roles, Responsibilities and Resources

The subject leaders, Alison Spears, Ruth Wilson and Nerys Howes, oversee and manage mathematics. They have an overview of how the mathematics curriculum is taught across the school, advise and support staff with their understanding whilst ensuring that the subject is sufficiently resourced. They are responsible for monitoring standards in the subject, both with the children's learning and knowledge and how the subject is taught in the classroom, keeping up to date with both National and County priorities.

#### Organisation

Mathematics lessons are taught in the most appropriate way for the age of the child. Fluency, reasoning and problem solving is taught and rehearsed in every sequence of learning.

In Early Years, the children have two or more mornings a week devoted to maths learning. There are a variety of maths-based activities for the children to access both inside and outside of the classroom. Adults develop the children's understanding through discussion and make observations of their progress.

In Year one, the children have two or more mornings a week devoted to maths learning. During these times, children work with adults to engage in focused activities and participate in a range of independent maths tasks also. Children access their maths learning using both the classroom and outside area, in a carefully planned and enhanced environment that enables independent, child-initiated learning that meets Y1 maths objectives. There are daily maths fluency sessions focusing on counting and developing the children's mental agility.

In Years two to six, the children have a daily maths lesson which incorporates counting, mental fluency tasks and activities which cover the objectives set out by the National Curriculum for their age range.

Children, across the school, work in a variety of different ways during the lesson including adult led groups, mixed ability groups, paired work and independent learning.

As a school we follow the CPA (Concrete, Pictorial and Abstract) approach when teaching mathematics, so the children have access to a wide range of concrete manipulatives when starting to understand a new concept. By using CPA representations simultaneously and regularly interchanging between representations children make connections and gain a deeper understanding, in such a way that can provide both support *and* challenge.

### Planning and content

Please refer to the EYFS policy for more detail on their curriculum. Teachers in Early Years use the Revised Statutory Framework for the Early Years Foundation Stage (September 2021) to plan a unique curriculum that covers all aspects of learning including opportunities to develop their skills in mathematics. The Educational Programmes in the framework set out the activities and experiences for children under the 7 areas of learning. Teachers use the Development Matters Non-statutory curriculum guidance to set out the pathways of children's development and provide checkpoints throughout the year to assess progress through these stages.

We follow the White Rose scheme of work when planning our maths lessons, supplementing this with resources from other educational providers like Deepening Understanding and Primary stars. Our activities focus on developing the children's skills with fluency, reasoning and problem solving which are at the heart of all our mathematical work. We adapt and blend the White Rose scheme according to the needs of the children, but our approach is based on revisiting key concepts and making connections between all areas of mathematical learning.

### Links with other subjects

Mathematics is at the heart of our curriculum and feeds into the rest of the curriculum. The children's learning is linked to current topics, events and real-life situations, making lessons relevant and engaging for example, covering line graphs in geography, measuring and weighing accurately during design and technology lessons. In Early Years and Year 1, these opportunities are being continually offered through continuous and enhanced provision, whereby children apply their maths skills in a range of self-initiated contexts, in turn developing a love of learning.

### Knowledge and skills

The intent part of the EYS policy details the skills and knowledge at three checkpoints in the year e.g. by the Autumn 1, Spring 1 and Summer 1 and this is what the children will be able to do in the area of mathematics. By the end of the year, the children need to reach the Early Learning Goal for this area of learning.

Our maths lessons follow the objectives laid out in Early Years Foundation Stage Profile and the National Curriculum. There is a focus on developing the children's mental fluency with counting activities, number and times table tasks so they become quick and accurate, being able to choose a range of strategies to assist with mental calculations.

The White Rose scheme breaks down objectives into smaller steps which the children will cover using the CPA approach, leading to being able to select a range of written methods to confidently calculate with larger numbers; solving problems; explaining and justifying their answers. Please see the calculation guide for written methods for more details.

#### Wider opportunities

Mathematics is such a broad subject so it is used frequently outside of the classroom environment. As part of our Forest Schools programme, children consolidate their mathematical skills whilst working outside in our nature area.

#### Inclusion and Extension

Following a range of Assessment for Learning strategies, such as observations and questioning, teachers are able to plan work to challenge the children with their learning. Depending on the nature of the task, children will work in a variety of groups, with a partner or on their own. We are able to use teacher expertise to provide classes and groups for extending more able children such as in year six where the children are divided into three classes.

#### Homework

Children in Early Years and Key Stage One have a variety of practical-based mathematical activities as part of their home learning which consolidate the work covered in school. The children regularly use a number-based computer program called NumBots. NumBots is also available for use in school during 'Discovery time'.

In Key Stage Two, children are required to learn number and times table facts to encourage them to become quick and accurate. The children in years three and four use a website called Times Table Rockstars to help aid their quick recall and the children in years five and six use a website called Sumdog. Both can be used to provide personalised, targeted work. Children have access to these online resources at school during timetabled sessions during the week.

#### Health and Safety

Teachers expect the children to work safely when handling concrete manipulatives and act appropriately to their age range.

### **3. IMPACT**

#### Marking and assessment

Work is marked regularly according to the marking policy, providing pupils with valuable feedback. Children's work is monitored and marked according to the task. In Early Years and Key Stage One, children are given verbal feedback and work marked alongside the child so their progress with an objective is clear. Occasionally, it is more appropriate for an adult to mark the work away from the lesson and give feedback the next day via pupil conferencing.

In Key Stage Two, where possible, children are involved in the process through peer-marking or self-marking. It provides them with immediate feedback to allow them to see their progress during the lesson.

Adults are continually monitoring the children's progress and understanding through formative assessment (observations, discussions, whiteboard tasks, practical and written work) and summative assessment (using the WR assessment materials and investigations).

Based on the assessment gained from live marking, same day or next day interventions are provided for children to rehearse and consolidate skills taught within the lesson.

Children in years two and six are required to take Statutory Assessment Tests (SATs) which are administered in line with government guidelines. Moderation meetings, with a strong focus on analysing children's work, take place regularly. In KS1 and KS2, Children are assessed termly as Working towards (WTS), Expected (EXS) or Greater Depth (GD) against the end of year or Key Stage expectations. In EYFS, 'Tapestry' online learning journal is used to document 'Wow moments'. The school's judgements are moderated externally, within the locality, every term.

For children who are not on-track, additional support is put in place after discussion with Leaders of Learning and the Inclusion Manager.

Formative assessment, with a whole school focus on Assessment for Learning, is integral to this process. Summative assessment takes place at the end of each unit; Y1-Y6 use the WR booklets to assess pupils understanding. We use child voice to assess reasoning, mathematical language and confidence. The data obtained from this assessment is uploaded to a whole school spreadsheet which tracks children's progress across the year. Staff are required to complete a windscreen each term showing the attainment of the children in their class in maths. This windscreen clearly shows which children are working at ARE, below or above. This document is then used to show progress on a whole school assessment spreadsheet.

From June 2022, pupils in year four will complete the Multiplication Tables Check (MTC) which is designed to see how fluent the children are with their times table knowledge. The score will be reported to parents in the annual report.

### Monitoring and evaluation

The subject leaders, along with the SLT, are responsible for monitoring the standards of mathematics across the school by looking at planning, children's books, learning walks and observations of classroom practice. Results of the National Curriculum SATs are monitored and reviewed by the subject leaders and SLT.

### Reporting to parents and governors

All teachers are required to discuss the children's progress in mathematics with parents as part of the consultation evenings (twice a year) and through an annual report which outlines the children's effort and attainment with mental calculations, mathematics knowledge and problem-solving ability.

Subject leaders are required to feedback to the curriculum governors every year.