



# The Federation of Sacred Heart & St Mary's RC Primary School, Battersea

## **MATHEMATICS POLICY**

<b>Approved By</b>	Governors
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## Vision Statement

Our aim is for all children to enjoy and feel confident in mathematics, gaining the necessary skills for everyday life. In line with Government policy and best practice, the children are taught to become **fluent** in the fundamentals of mathematics (including calculation strategies); **reason** mathematically using **mathematical language** and apply their knowledge and understanding to **problem solving** tasks.

At Sacred Heart and St Mary's, we aim to provide a mathematics curriculum which **inspires a real interest in the subject** and its **applications to the wider world, encourages true depth of understanding** and equips our pupils with **mathematical life skills**.

Through our engagement with the ethos and principles of teaching mathematics for mastery, we aim to instil a **positive mind-set** towards the subject, a **culture of collaboration** and **learning from mistakes and misconceptions** and opportunities to develop **resilience in the face of a challenge**. We encourage pupils to **make connections** and **build on their prior learning in coherent steps**.

In keeping with the principles of mastery and the National Curriculum, our intention is for the majority of pupils to move through the programmes of study at **broadly the same pace, including children with SEND**.

With a focus on **quality-whole-class-teaching** first, which breaks learning points down into **carefully planned small steps** and exposes pupils to a **variety of representations and contexts**, we aim to develop **confidence and fluency in key mathematical concepts, structures and strategies**.

Pupils who grasp concepts quickly are provided with questions to **think more deeply** about the specific learning point being taught. Those who are not yet secure in a concept should **consolidate their understanding** through additional adult support and additional practice where appropriate.

Key to our curriculum offer is the focus placed on developing pupils' abilities to **apply their understanding, reason mathematically and problem solve**. We want our pupils to **think logically, systematically** and be the **problem solvers** of tomorrow.

We are proud of the **commitment** we have made to improve **the quality of maths provision** through our mastery approach in recent years and can see the benefits in pupils' ability to explain their **mathematical thinking** and **make connections**.

## Statement of Intent

At Sacred Heart and St Mary's, we believe that through high quality teaching and learning in mathematics, all children can achieve and make progress no matter what their starting point. All pupils are encouraged to believe that if they work hard at Maths they can succeed, and we aim to provide children with opportunities to learn and love Maths every day.

This is done through a mastery approach, such that children are taught in a way that builds deep conceptual understanding of their learning by taking small steps and making connections to prior learning.

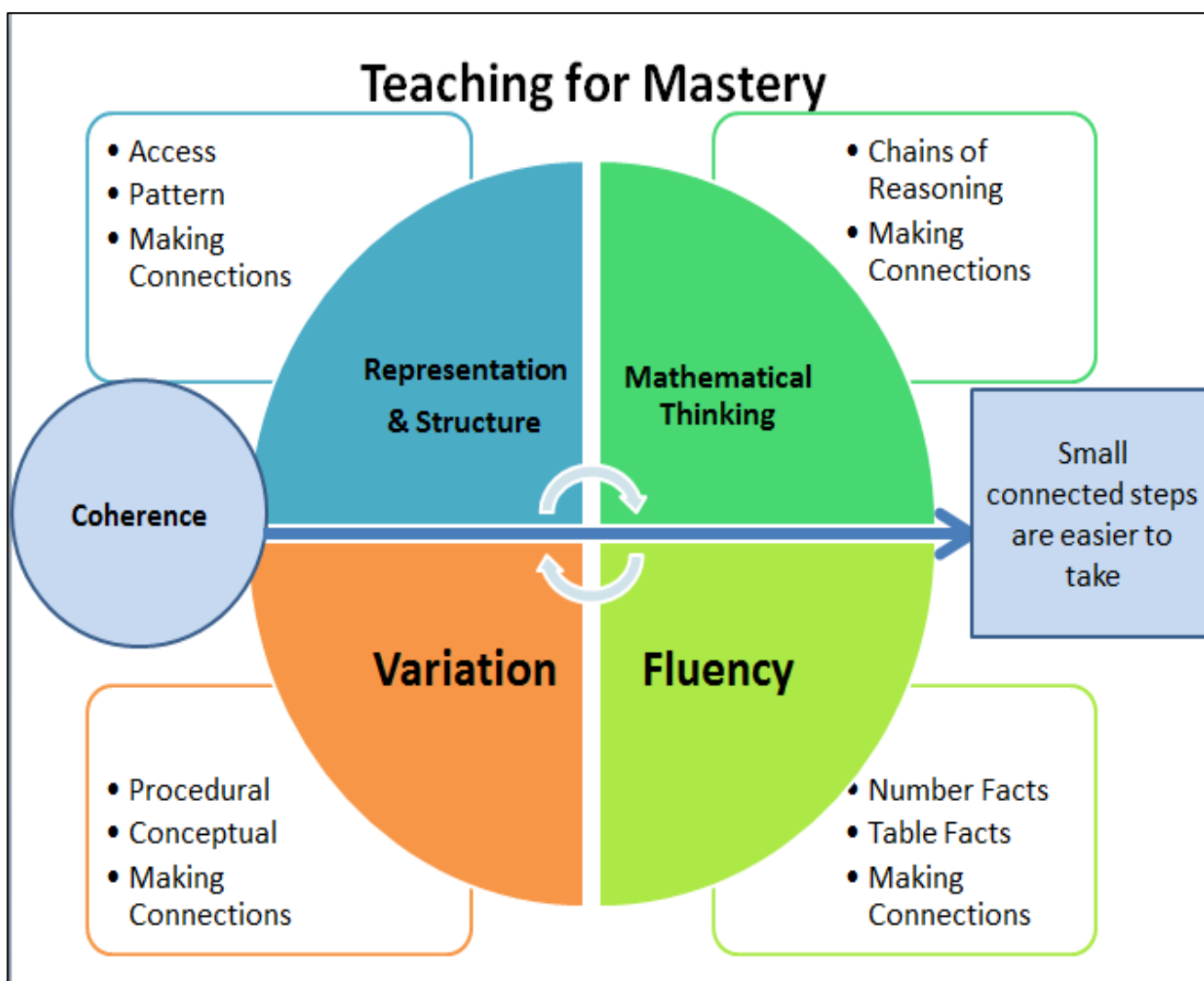
Each lesson will focus on a small step within the curriculum in depth, with lessons carefully sequenced together as part of a journey towards a greater depth of understanding. The aim is that all children in the class will move broadly at the same pace, and that no child will be left behind.

## The National Curriculum – Teaching for Mastery

### The National Curriculum for Mathematics 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
- Can **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.

The following diagram illustrates the continual process involved in developing and teaching for Maths Mastery



### **We aim for all pupils to:**

- develop a positive attitude towards the subject,
- become confident and proficient with number, including fluency with mental calculation and looking for connections between numbers,
- be problem solvers, who can reason, think logically, work systematically and apply their knowledge of mathematics,
- develop mathematical language and use it appropriately,
- become independent learners and to work cooperatively with others,
- understand a real-life context to learning in Mathematics.
  
- believe that they are able of achieving high standards
- progress through the curriculum content at the same pace.

### **We aim for teachers to:**

- underpin teaching with methodical curriculum design, supported by carefully crafted lessons and resources to foster deep conceptual knowledge.
- Differentiate the learning by emphasising deep knowledge and through individual support and intervention.
- avoid teaching a procedural method but to provide opportunities for children to investigate and explore concepts, using concrete resources before moving to pictorial and abstract methods of calculating answers.
- use precise questioning in class to test conceptual and procedural knowledge and assess pupils regularly to identify those requiring intervention so that all pupils keep up.

## **Teaching and Learning**

### **Features of a Federation Maths Lesson (EYFS)**

- Maths learning is play based and practical as possible.
- Pupils have opportunities to use and explore a variety of manipulatives, counting and measurement resources both independently and during teacher led activities.
- Direct teaching of mathematics will usually be carried out daily, either as a whole class or in small groups.
- Medium term planning is informed by Development Matters Guidance published by the government.
- Evidence of the children's learning is collected in the form of photos, observations and some book work.

### **Features of a typical federation Maths lesson (Year 1-6)**

- The class working together on the same small step of their learning, while pupils are challenged and supported as required to develop their understanding.
- A range of fluency, reasoning tasks and problem-solving activities (though not necessarily in this order).
- Pupils working in mixed ability groups where appropriate.
- Connections made to relevant prior learning

- Pupils who grasp concepts rapidly being stretched with Diving Deeper challenges with a focus on depth of understanding rather than accelerating onto new content.
- Concrete resources (manipulatives) and pictorial representations to support pupils' progress towards understanding the abstract form of a concept.
- Correct mathematical vocabulary should be used and promoted in all lessons in order to develop pupils' knowledge.
- Stem sentences should be used where appropriate.
- Classrooms should have helpful, appropriate display materials, including current Maths vocabulary. There should be a clearly defined Maths area/working wall, with resources available to be used by the children.
- Additional adults should be used effectively in order to develop the children's knowledge, and they should be aware of the focus children in the class where appropriate.

## **Planning**

**Teachers plan using the White Rose schemes of learning as a starting point, but supplement their planning using other high-quality resources including but not limited to:**

- NCETM PD Materials
- Dfe Ready to Progress criteria

## **Marking**

- Opportunities for self and peer assessment should be incorporated into lessons where appropriate.
- All children should be given time to respond to written feedback
- All work should be assessed in accordance with the formative feedback policy

## **Assessment and Data**

- In years 2 and 6, pupils will sit practice SATs papers each half term to prepare for end of Key Stage assessments, with scaled scores tracked on Insight.
- In years 3-5, pupils sit NFER assessments each term, with scaled scores tracked on Insight.
- Teachers should use the results of these summative assessments alongside teacher judgment when inputting data onto Insight.
- Teachers may also assess their pupils using White Rose, NCETM or other assessment materials.
- Times tables should be assessed at the start of each month in years 2-6 (Gig mode on Times Tables Rockstars), with additional half-termly assessments for year 4 (Soundcheck mode on TTRS) in preparation for the MTC.
- Children have the opportunity to join the '144 Club' by demonstrating mastery of their times tables up to 12x.

Formative assessment is continuous and ongoing – through precise questioning in class, teachers can assess pupils' conceptual and procedural knowledge and provide appropriate intervention where it is required.

## **Special Educational Needs and Inclusion**

The intention of Maths lessons which are well-planned and resourced is to meet the needs of all the diverse learners in the classroom.

### **This is achieved by:**

- Setting suitable learning challenges
- Respond to pupils' diverse learning needs
- Overcome potential barriers to learning and assessment for particular individuals and groups of pupils.

These principles allow you to: choose objectives for pupils with SEN and/or disabilities that are different from those of the rest of the group, or modify the curriculum to remove barriers so all pupils meet the same objectives.

The nine elements below (defined by Natalie Packer - SEN specialist) strengthen teaching, catering for the diverse learning needs of all children.

### **The elements of an inclusive lesson are:**

1. High expectations
2. Developing relationships and knowing pupils well
3. Inclusive learning environment
4. Age, interest, and ability appropriate curriculum
5. Quality feedback
6. Engagement through hands-on approach
7. Questioning and modelling for challenge
8. Scaffolding learning
9. Developing independence

## **Role of Maths leader**

### **The subject leader will be responsible for improving standards of teaching and learning in Mathematics through:**

- Pupil progress,
- The quality of the learning environment,
- Taking the lead in policy development,
- Auditing and supporting colleagues in their CPD,
- Purchasing and organising resources,
- Keeping up to date with mastery maths developments.
- Monitoring and evaluation of Mathematics teaching and learning in the school is carried out by the Maths Lead, Phase Leads and SLT. When possible, discussion with children will take place alongside book-looks.

## **Online platforms**

### **Times Tables Rockstars**

To support the learning and recall of times tables, we subscribe to Times Tables Rockstars, an online platform designed to support and motivate children on their journey to mastering their times tables. Children in Years 2-6 have their own individual logins where they can access the platform, including personalised training schedules set by the class teacher where appropriate. Further details can be found by clicking on the TTRS.

### **Numbots**

To help children to achieve the “triple win” of understanding, recall and fluency in mental addition and subtraction, so that they move from counting to being able to solve more complex problems as well as developing conceptual understanding.

### **Mathletics**

To build Mathematical skills and knowledge using fun, motivating “Activities” which build Maths fluency and understanding, before moving onto deepening the pupils’ Mathematical reasoning and problem solving with the “Quests”.

## **Other Resources**

**Marking NCETM Guidance** <https://www.ncetm.org.uk/media/wuch3xua/ncetm-primary-marking-guidance-april-2016.pdf>