# Star of the Sea Catholic Primary School

# Mathematics Policy

# 2023 – 2024

**Coordinator: Mr L Hall**

**Updated: January, 2024**

**To be reviewed: January, 2025**

At Star of the Sea primary school we want all pupils to think like mathematicians. We know that Maths is essential to everyday life. Maths is celebrated and enjoyed by pupils and teachers and we want all children to believe that they can achieve highly in Maths. At Star of the Sea, we want our children to be fluent, demonstrate number sense and to possess the ability to reason and problem solve. Links are made across the maths curriculum and children are guided to spot patterns and make connections**.** Our curriculum follows the mastery principles and is ambitious, inclusive and enjoyable.

At Star of the Sea school, we have agreed Drivers for our curriculum, which impact all our subjects:

**S**piritual - *living out the Gospel Values*

**T**ogetherness - *as a Rights Respecting school*

**A**mbitious and Aspirational -*to reach our full potential*

**R**esilient - *we never give up*

**S**elf-belief - *striving to succeed with a Growth Mindset*

**Intent**

We follow the Maths National Curriculum supported by the White Rose resources as a guide to support teachers to plan coherent sequences of learning. The overviews we use allow pupils to spend longer on key areas which enable them to overlearn and deepen understanding. The sequence is intentional as there are links between these key areas of learning. Teachers make these links explicit and use recall prior learning to create firm foundations.

Within the maths lesson, 10-15 mins are spent in KS1 following the Mastering Number programme and in KS2 either Number Talks or times tables practice and retention.

**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.

## Implementation

### Organisation of curriculum content

We follow the Maths National Curriculum supported by the White Rose resources as a guide to support teachers to plan coherent sequences of learning. Other resources are also used in order to effectively teach and engage pupils. Our calculation policy is used within school to provide a consistent approach to the teaching of the four operations.

### Our approach – teaching for mastery

Coherence-Lessons are broken down into small sequential steps that gradually unfold the concept. These steps are planned in each lesson to allow all pupils to feel success and to secure understanding before moving on. Teachers think carefully about what it is that they want pupils to learn and remember in the lesson. Teachers use 'I do, you do, we do' to support pupils to before engaging in independent activity. Independent tasks are carefully planned to ensure intelligent practice takes place and pupils are thinking about the key learning from the lesson.

### Representation and Structure

Representations are used in lessons to expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation (Learning develops through the concrete, pictorial and abstract).

### Mathematical Thinking

Ideas are to be understood deeply by being thought about, reasoned with and discussed with others. Teachers use questioning effectively to ascertain current understanding, to prompt deeper thinking and to guide pupils to make connections. Questions such as 'What is the same and what is different? Are there any other ways?' are regularly used in lessons. Mathematical language is used throughout school to allow pupils to engage in reasoning and problem solving. Stem sentences are used to scaffold and generalise mathematical thinking.

### Fluency

There are regular activities for quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics. Daily fluency activitiies, provide opportunity for repeated practice. In Early Years and at Key Stage 1 this is through the Mastering Number programme. At Key Stage 2 this is through times table practise 2 or 3 times per week. Also APPS including Times table Rockstars and Purple Mash are used to support the recall of multiplication and their corresponding division facts.

### Retrieval:

Regular opportunities are given to enable pupils to think about and consider previous learning. This occurs on a regular basis, for example through the use of retrieval quizzes such as flash back 4 as well during lessons where teachers consider links to prior learning.

### Variation

1. We ensure concepts are shown, taught and practised in a variety of ways to develop deep understanding (different models, representation, orientation, and context).

2. Lessons, activities, exercises are sequenced to develop thinking.

3. Children are encouraged to consider what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

**Profile of Maths**

Teachers engage in regular CPD and professional discussions to ensure they are delivering the highest quality maths curriculum possible.

Strong links between school and home ensure parents and carers have a strong understanding of how we teach Maths and how they can help their child improve.

Children get the opportunity to use and apply their maths skills across all subjects.

**Impact**

The Maths curriculum at Star of the Sea allows the children develop:

Their understanding of the important concepts and an ability to make connections within mathematics. A broad range of skills in using and applying mathematics. Fluent knowledge and recall of number facts and the number system. The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.

The ability to think independently and to persevere when faced with challenges, showing a confidence of success.

The ability to embrace the value of learning from mistakes and false starts.

The ability to reason, generalise and make sense of solutions.

Fluency in performing written and mental calculations and mathematical techniques.

A wide range of mathematical vocabulary.

A commitment to and passion for the subject.

We aim that children will leave Star of the Sea with a love for maths and broadened aspirations.

Impact is measured in a variety of ways. These include:

- EYFS through the use of the Early Learning Goals specific to the area of Mathematics
- Key Stage 1 Mathematics SATs
- Year 4 Multiplication Check
- Key Stage 2 Mathematics SAT
- Summative assessments, e.g. PUMA end of term assessments; Sandwell Maths Test.
- Formative teacher assessment through effective questioning and feedback
- Staff meetings

- Learning walks
- Peer to Peer coaching
- Book monitoring
- Governor meetings
- Pupil voice