

**St. Edmund’s Catholic Primary School**

**Mathematics Intent Document**

**Intent**

At St Edmund’s Catholic Primary School, we believe that all children can achieve in their Maths learning. All staff are committed to the teaching of mathematics, promoting it as an enjoyable and fundamental part of life. It is taught as a creative and highly inter-connected subject, underpinned by the three statutory aims of the National Curriculum: **fluency, reasoning and problem solving.**

Our intent is for all children to become fluent mathematicians, who are able to confidently recall and apply mathematical knowledge and demonstrate conceptual understanding. We aim for all of our children to be proficient users of mathematical language, which will support them in their mathematical reasoning in different contexts. Our ambition is for children to become competent problem solvers, through applying their mathematical knowledge to wide range of problems, in maths lessons, other subjects and in ‘real life’.

**Implementation**

At St Edmund’s our staff deliver two maths sessions per day. A 45 min maths lesson and a 15 min fluency lesson. Our fluency lessons follow the Mastering Number Programme in EYFS and KS1 and the Number Sense Programme in KS2. Our maths lessons are planned using the mixed age White Rose Maths Schemes of Learning in order to develop a coherent and comprehensive conceptual pathway through Mathematics. The focus is on all of the children progressing together in line with the Teaching for Mastery approach. Learning is broken down into small, connected steps, building from what pupils already know. Contexts and representations are carefully chosen to develop reasoning skills and to help pupils link concrete ideas to abstract mathematical concepts. The use of high quality materials and tasks to support learning and provide access to the Mathematics is integrated into lessons. These may include White Rose Maths Schemes of Learning and Assessment Materials, NCETM Mastery Assessment materials, Twinkl Mastery, NRICH and visual images and concrete resources. Maths lessons are taught daily to introduce, consolidate and strengthen either new or previously taught concepts. Teachers plan for and address misconceptions arising from White Rose sessions to ensure that all children are developing their mathematical understanding. All areas of Maths are taught in line with the National curriculum with each year group given sufficient time to embed the mathematical concept.

White Rose has a clear focus on Fluency, Reasoning and Problem Solving. This is supported by conceptual and procedural variation and Mathematical thinking.

The National Curriculum states that pupils should become fluent in the fundamentals of mathematics through varied and frequent practice. We believe fluency in maths is about developing number sense and being able to use the most appropriate method for the task at hand; to be able to apply a skill to multiple contexts. We use the Mastering Number and Number Facts Fluency Programmes, supplemented by various other fluency materials.

Children become confident in the two types of fluency:

**Conceptual fluency,**e.g. exploring the five strands of place value, (counting, recognition of cardinal numbers, knowing what each digit in a number represents, understanding our base-10 structure and exchanging), what an equivalent fraction is and identifying key features of different representations of data.

**Procedural fluency,**e.g. +- x ÷ calculation methods linked to whole numbers, fractions and decimals and exploring step by step mental and written methods.

Children are given regular opportunities to recall known facts, develop number sense, know why they are doing what they are doing and know when it is appropriate and efficient to choose different methods and will apply skills to multiple contexts e.g. multiplying and dividing by 10 to convert units of measurements.

**Reasoning and problem solving** is planned and interwoven into the mathematics curriculum. All our mathematics lessons finish with a whole class reasoning or problem solving question.

**Structure of Maths lesson**

1. **‘Review and Do’**activity related to previous learning, to strengthen children’s retention of knowledge.
2. **Teach, Model & Scaffold-**Explicit teaching and modelling (Examples: Use of interactive C Touch board, whiteboard, concrete resources, pictorial representations and abstract as appropriate)
3. **Practise –**this could be independent on whiteboards or jotters, partner talk, and may include using resources.
4. **Apply-**Independent activity including fluency, reasoning and problem solving.
5. **Consolidate-**Reasoning or problem-solving question to end every maths lesson (whole class).

 **Fluency lessons**

Our daily fluency lessons last 15 mins and follow the Mastering Number Programme in EYFS and KS1 and the Number Sense Programme in KS2.

Mastering Number is aimed at strengthening the understanding of number, and fluency with number facts, among children in the first three years of school and through the number Sense Programme, lessons are taught systematically alongside 12 calculation strategies that can be used to solve them.

We also follow a systematic, whole class approach suggested by the NCETM to teaching times tables in KS2.

**Impact**

Our well-planned Maths curriculum ensures that children are fluent and confident mathematicians, who exude an enjoyment and curiosity about the subject. Our children are enthusiastic and competent mathematical problem solvers, within maths lessons and across the curriculum. Children perform well in Mathematics and are very well prepared for the next stage in their education.

 In order to ensure our aims have been met, we scrutinise learning through:

* In KS1 and KS2 a pre assessment is completed with children prior to them starting a new topic. Teachers use the White Rose end of topic assessment from the previous year group to assess children’s prior knowledge and highlight and gaps or misconceptions that need to be addressed before the topic begins. This may include, additional whole class lessons to address gaps or group/individual interventions – Assessment for learning.
* Assessment of the children’s understanding of mathematics through the White Rose Maths assessment checks for their current year group both at the end of each topic and also termly – Assessment for learning.
* Talking to children during the lesson to ensure they have understood the learning objective – Assessment for learning.
* Mark completed work – Assessment for learning

The above enables the teacher to make an informed judgement on the children’s understanding and record their mathematics ability on the school tracking tool ‘itrack’.