# St. Oswald's Maths Curriculum

## Curriculum Intent

At St Oswald's Primary school we follow The National Curriculum. The National Curriculum for mathematics intends to ensure that all pupils:

1. 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.

2. Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

3. 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas.

The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Our curriculum ensures children apply mastery skills. We follow the White Rose maths scheme and use Numicon to extend fluency, reasoning and problem solving. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich mastery and sophisticated problems before any acceleration through new content.

Those who are not sufficiently fluent with earlier material should consolidate their understanding including through additional practice, before moving on.

When teaching mathematics at St Oswald's, we intend to provide a curriculum which caters for the needs of all individuals and sets them up with the necessary skills and knowledge for them to become successful in their future adventures. We aim to prepare them for a successful working life. We incorporate sustained levels of challenge through varied and high quality activities with a focus on fluency, reasoning and problem solving. Mastery Pupils are required to explore maths in depth, using mathematical vocabulary to reason and explain their workings. A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete, pictorial and abstract form wherever suitable. They are taught to explain their choice of methods and develop their mathematical reasoning skills. We encourage resilience, adaptability and acceptance that struggle is often a necessary step in learning. Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life.

## Curriculum Implementation

Our long term map, using White Rose Maths, outlines in year groups / phases when mathematical knowledge, in unit blocks of work, will be taught and revisited. This is the basis for our well sequenced and progressive curriculum.

- Our Calculation Policy outlines in more detail which concepts and procedures / strategies will be introduced and then developed. Links are also closely made the CPA approach, which has been woven into our school approach
- Our weekly planning is based on white Rose Maths which is tailored to the needs of our children. We use many concrete resources e.g Numicon and dienes throughout the school to ensure children are exposed to multiple representations of a concept. This is part of our CPA (Concrete, Pictorial and Abstract) approach.

Whilst we teach Maths in progressive distinct domains (units of work) we recognise that Maths is an interconnected subject. Therefore, we encourage children to make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Children also apply their mathematical knowledge across the curriculum, and particularly in Science, where relevant. We regard talk in Maths as important and introduce mathematical vocabulary in an age appropriate way. We encourage children to verbalise their thinking; our teachers ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions. We make time to teach Maths: Children in EYFS have a daily mathematical focus based on acquiring knowledge of basic mathematical facts and concepts within the EYFS Curriculum.

Mathematical concepts are also woven throughout their continuous provision. Children in KS1 and 2 have a daily Maths session lasting 1 hour.

Daily assessment is incorporated throughout the lesson through live and verbal feedback. Where children require additional support intervention e.g First Class @ Number is used to support children ensuring that they are ready for the next 'small step'.

Termly assessments are used as a diagnostic tool to ensure that teachers are adapting learning to meet the needs of all children and ensure that any necessary interventions are targeted specifically to meet the needs of children.

Times tables play an important part in our maths learning, with children developing their fluency in rapid recall of tables up to 12 x 12 by the end of year 4. While the rapid recall of times tables are being developed, children are also learning how to apply and manipulate their understanding of this to reason and solve problems.

## **Maths Impact**

By the end of Year 6, transitioning to secondary school, we aspire that a St Oswald's mathematician will have developed a bank of efficient and accurate skills that can be used to calculate effectively. These will have been underpinned by the C-P-A process so children understand rather than just do, which ultimately will allow children to identify when answers do not make mathematical sense. Children will be able to apply these calculation skills and understanding of other areas to become confident and resilient problem-solvers with the ability to reason and articulate their ideas mathematically. Due to the embedding of fact sentences, children will have the language to be able to justify, reason and explain their answers.