**Maths Curriculum Statement**

**Intent**

What is the philosophy for delivering a broad and balanced approach to the subject?

At St Anne’s Primary School, we aim to provide children with a mastery curriculum where all children develop a deep understanding of mathematics. Teaching for mastery involves knowing ‘why’ as well as knowing ‘that’ and knowing ‘how’. It means being able to use one’s knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations.

Mastery of the curriculum requires that all pupils:

* use mathematical concepts, facts and procedures appropriately, flexibly and fluently;
* recall key number facts with speed and accuracy and use them to calculate and work out unknown facts;
* have sufficient depth of knowledge and understanding to reason and explain mathematical concepts and procedures and use them to solve a variety of problems.

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

What are the key strands of the subject that the pupils will learn?

We aim to build high levels of competence in the subject specific skills of:

* becoming **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.
* **reasoning** mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
* **solving** **problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of smaller steps and persevering to seek solutions.

**Implementation**

How is learning in the subject organised, structured and resourced?

Mathematics is taught through the framework of the 2014 National Curriculum using the White Rose Maths resources. Year 3-6 teach mathematics for one hour each day using the White Rose Maths resources. Lessons begin with daily counting and flashback Four questions to revisit previous learning. Additional arithmetic and revision sessions take place for 10 mins three times per week. The arithmetic sessions focus on place value, the four operations and fractions. (Plus, decimals and percentages for Y4 onwards.) The children are provided with time to build fluency with their times tables using Times table Rockstars. This can also be accessed at home.

In Key Stage One maths lessons are 1 hour using the White Rose Maths resources . Lessons begin with daily counting and flashback four questions to revisit previous learning. Additional Number Sense sessions are taught three times per week for 10-15 mins in the afternoon. The children are provided with time to practise fluency with addition and subtraction facts using Numbots. This can also be accessed at home.

The programs of study are organised into distinct domains but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

The topics covered are:

* Number and place value
* Addition & subtraction
* Multiplication & division
* Fractions
* Measurement
* Properties of shape
* Position & direction
* Statistics

With the addition of the following topics at Key stage 2 (from Year 4 onwards):

* Fractions (including decimals & percentages)
* Ratio & proportion
* Algebra

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 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.

Planning involves annotating the White Rose Maths teacher guide with evaluations, next steps & identifying children who need to consolidate or deepen their learning.

Pupils who need to consolidate learning are identified and targeted in the afternoon sessions with teaching assistants where possible. Y1-3 may use the 1stClass@Number catch-up intervention to target those pupils who have been identified as having gaps in their learning and / or need further consolidation of basic number skills. Selected Y4-6 pupils who need extra support are targeted through specific arithmetic intervention and 1:1 tutoring of gaps in their knowledge.

Number resources (i.e. place value counters / cards, base ten, tens frames, Numicon, Cuisenaire, Rekenreks) are allocated to each class or year group and are used in lessons daily as part of the CPA (concrete, pictorial, abstract) approach. Measure and shape resources are kept in central storage.

How is pupils’ learning and progress assessed?

Assessment of pupil progress is undertaken through end of term NTS assessments, arithmetic scores, class work, end of unit checks and observations of pupil’s ability to explain their mathematical thinking in lessons. The outcomes of these assessments are used by class teachers to target specific children to reach age-related expectations and those achieving the high level in maths.

**Impact**

What knowledge, skills and concepts do pupils gain from their learning in the subject?

As a result of providing the children with a mastery curriculum and frequent arithmetic lessons, we expect that the children can:

* instantly recall times table facts and number bonds (including the inverse)
* use the correct vocabulary to explain their methods or reasoning
* apply their skills to other areas of the curriculum e.g. science, Geography, Design Technology
* use different methods to approach a problem-solving task
* choose efficient and appropriate methods for answering questions
* use their prior knowledge to approach unfamiliar questions or problems
* make links between the topics they have studied and build knowledge, skills and critical thinking that help them prepare for the next stage
* apply their skills in their daily lives e.g. money, cooking, following directions
* accept that making mistakes is a part of the learning process