

## **Charles Saer Primary School - Maths Curriculum Statement 2020**

### **INTENT**

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It 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.

(National Curriculum 2014)

At Charles Saer we aim to ensure that all children:

- Become fluent in the fundamentals of mathematics
- Are able to reason mathematically
- Can solve problems by applying their mathematical skills.

The mathematics teaching at Charles Saer Primary School provides rich and enjoyable experiences to help children develop a positive and confident attitude towards mathematics in order for each child to achieve their full mathematical potential.

**We recognise that many of our pupils begin their journey in mathematics at a starting point below national expectations** and so we strive to enable each pupil to develop within their capabilities, harbouring an enthusiasm and fascination about Maths itself. We are committed to ensuring that pupils recognise the importance of Maths in the wider world and giving pupils confidence in key mathematical skills, concepts and processes so that they are able to express themselves and their ideas, including the use of mathematical language, with assurance.

### **IMPLEMENTATION**

At Charles Saer, we follow the White Rose scheme of learning in Early Years, Key Stage One and Key Stage Two to guide our journey towards mastery in mathematics. We pride ourselves in a flexible approach to teaching and grouping children. Where possible, children are grouped and taught within their year group. However, we recognise that there are several factors which can impact a child's learning, and we aim to consider these in our groupings.

Within our mathematics planning and teaching, teachers reinforce the expectation that all children are capable of achieving high standards of mathematics. Differentiation is encouraged by emphasising deep knowledge and giving individual support and intervention where appropriate. It is expected that all children will follow the progression set out within the White Rose scheme, with block planning of objectives enabling children time to consolidate the skills and work towards mastery. Practice and consolidation underpin our curriculum in order to ensure that all pupils are fluent in the key mathematical concepts - this is further supported and monitored through the implementation of our "non-negotiable" mathematical statements. These statements outline the key arithmetic knowledge, facts and strategies all children use as a key to all mathematical

understanding, and so we have supplemented and adapted the White Rose curriculum where appropriate, to ensure that children have increased opportunity to consolidate their learning and master essential skills. Teachers use targeted and open-ended questioning to assess children's understanding and ensure that they are able to reason and explain their mathematical thinking.

In **Early Years and Nursery**, continuous provision is carefully planned to ensure a variety of mathematical activities are available for children to access freely. These activities encourage the learning of Maths in a child led environment, where teachers and teaching assistants model and use questioning to encourage children to explore mathematical concepts. Mathematical language is modelled to children in order to encourage discussion during play and through the use of books and rhymes. In Reception, children are also taught in small groups each day, where the White Rose planning is used to support the Early Learning Goals, to ensure that children are given the opportunity to master the fundamental mathematical skills.

In **KS1 and KS2**, lessons give children ample opportunity to explore and embed their mathematical skills, using practical resources to support a concrete - pictorial - abstract (CPA) learning pathway. All teaching staff and teaching assistants have received training on how to implement the curriculum within their classroom, with a focus on using CPA to support the understanding of new concepts and how to use open ended mathematical questioning to support learners.

Where possible, new concepts are shared within the context of an initial related problem, which children are able to discuss. This initial problem-solving activity prompts discussion and reasoning, as well as promoting an awareness of Maths in relatable real-life contexts that link to other areas of learning. As a result, all children are exposed to challenging questions which are modelled by the teacher. This allows children to be exposed to the process of reasoning and problem solving in a 'safe' environment, where staff explain their thinking and strategies used to solve problems. We encourage teachers to model making mistakes and to explore mistakes that children may make, both to ensure that children are engaged and thinking critically about the problem solving process, and also to show that making mistakes are part of the learning journey thus encouraging resilient learners.

Teachers use careful questions to draw out children's discussions and their reasoning. The class teacher then leads children through strategies for solving the problem, including those already discussed. Independent work provides the means for all children to develop their fluency further, before progressing to more complex related problems. Each lesson phase provides the means to achieve greater depth, with more able children being offered rich and sophisticated problems, as well as exploratory, investigative tasks, within the lesson as appropriate.

Within lessons, teachers use a variety of strategies to allow learners to explore and consolidate their skills, promoting discussion and questioning. These include:

- Using concrete manipulatives
- Creating pictorial representations
- Teacher modelling
- Collaborative group work
- Talk Partners
- Independent work
- Problem solving and open-ended investigations

## Arithmetic

From Year 2 upwards, lessons include a daily arithmetic starter to help children consolidate their learning and become fluent in the recall and application of basic arithmetic and number facts. The weekly teaching sequence also includes a session specifically to focus on arithmetic skills and strategies, using the non-negotiable statements as a basis for planning. These sessions are fast paced using a variety of strategies and games and also include a short arithmetic test. The emphasis of these sessions is to build children's confidence and fluency, allowing them to easily recall key facts and manipulate mental strategies in order to quickly solve arithmetic based questions. This is further outlined in the Arithmetic Teaching Overview and Times Tables Teaching Progression.

## IMPACT

As a school, we strive to ensure our children's attainment is in line with or exceeds their potential, whatever their starting point in primary education.

Using the mastery White Rose curriculum supported by our non-negotiable key skills will ensure our pupils are academically prepared for life beyond primary school and throughout their educational journey.

Our teaching objectives are taken from the small steps of progression, linked to the National Curriculum.

We aim to ensure that all pupils, on leaving Charles Saer Community primary School will:

- Have a love and enjoyment of the subject
- Be fluent in arithmetic skills
- Approach reasoning and problem solving tasks with resilience, and be able to draw on a variety of strategies to help solve these problems
- Use mathematical language accurately and confidently to express their ideas
- Understand the importance of Maths and its links to other subjects and the wider world