Maths Intent: 2022-23

At the Holme C of E Primary School we intend to provide our pupils with a mathematics curriculum that is rich in opportunities to develop fluency, reasoning and problem solving. We develop **wisdom** through a mastery approach in order help each pupil to achieve their potential. We build **courage** and resilience through challenge, opportunities to take risks and a shared understanding that struggle is a necessary step to learning. We aim to develop a **love** and curiosity about the subject through an appreciation of maths as a creative and inter-connected discipline through which we can solve problems and better understand the world around us. We aim to prepare our pupils to successfully meet their next steps in education and develop a life long successful relationship with mathematics.

Underpinned by:

- **High expectations** - All children are expected to succeed and make progress from their starting points.
- **Modelling** - Teachers teach the skills needed to succeed in mathematics providing examples of good practice and metacognition.
- **Vocabulary rich lessons** - We intend to create a vocabulary rich environment, where talk for maths is a key learning tool for all pupils. Pre-teaching key vocabulary is a driver for pupil understanding and develops the confidence of pupils to explain mathematically.
- **Pattern and connection** - All children will have opportunities to identify patterns or connections in their maths; they can use this to predict and reason and to also develop their own patterns or links in maths and other subjects.
- **Fluency** - We intend for all pupils to 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.
- **Reasoning** - We intend for all pupils to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- **Problem Solving** - We intend for all pupils to solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering to seek solutions.
- **Mastery** - All children secure longterm, deep and adaptable understanding of maths which they can apply in different contexts.

Implementation

- **White Rose & NCETM Mastering Number -** Every class from Year 1 to Y6 follows the White Rose scheme of learning which is based on the National Curriculum. Lessons may be personalised to address the individual needs and requirements for a class but coverage is maintained. In order to further develop the children's fluency, reasoning and problem-solving with number in EYFS and KS1, we use the NCETM Mastering Number programme. We also use a range of planning resources including those provided by the NCETM and NRICH to enrich our children's maths diet.
- **Pre-Teaching** - We pre-teach vocabulary or key knowledge, ensuring pupils are confident with skills required for the upcoming session.

- **Daily fluency practise -** Our children will become fluent mathematicians, with advanced number sense through daily fluency practise. They will develop a toolbelt of skills including number bonds, times table recall and related facts, This will help them attack more difficult mathematical conundrums as they advance through the school.
- **Assessment** - Through our teaching we continuously monitor pupils' progress against expected attainment for their age, making formative assessment notes where appropriate and using these to inform our teaching. Summative assessments are completed each half term; the results form discussions in termly Pupil Progress Meetings and update our summative school tracker. The main purpose of all assessment is to always ensure that we are providing excellent provision for every child.
- **CPA Approach** - Concrete Pictorial Abstract (CPA) We implement our approach through high quality teaching delivering appropriately challenging work for all individuals. To support us, we have a range of mathematical resources in classrooms including Numicon, Base10 and counters (concrete equipment). When children have grasped a concept using concrete equipment, images and diagrams are used (pictorial) prior to moving to abstract questions. Abstract maths relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve maths without equipment or images.
- **Online Tools** - In order to advance individual children's maths skills in school and at home, we utilise Times Tables Rock Stars for multiplication practise, application and consolidation. Numbots and Mathletics.
- **CPD -** Continuing Professional Development. We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective. We take part in training opportunities and GST networking events and other opportunities such as the NCETM work groups.
- **Cross Curricular** - Maths is taught across the curriculum ensuring that skills taught in these lessons are applied in other subjects.

Impact

We will monitor and know we are successful through:

- **Outcomes -** At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children who have gaps in their knowledge receive appropriate support and intervention and will have made progress from their starting points.
- **Mastery -** All children will demonstrate secure long-term, deep and adaptable understanding of maths which they can apply in different contexts.
- **Evidence in skills -** Pupils use acquired vocabulary in maths lessons. They have the skills to use methods independently and show resilience when tackling problems. The flexibility and fluidity to move between different contexts and representations of maths. Children show a high level of pride in the presentation and understanding of the work. The chance to develop the ability to recognise relationships and make connections in maths lessons. Teachers plan a range of opportunities to use maths inside and outside school.
- **Evidence in knowledge** - Pupils know how and why maths is used in the outside world and in the workplace. They know about different ways that maths can be used

to support their future potential. Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. Children demonstrate a quick recall of facts and procedures. This includes the recollection of the times table.

- **Pupil Voice -** Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. They can articulate the context in which maths is being taught and relate this to real life purposes. Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have.