Maths at Holdbrook

Intent

Our mathematics curriculum is to design a curriculum that is accessible to all and will maximize the development of every child's ability and academic achievement.

We aim to help children realise that mathematics has been developed over centuries, providing solutions to some of history's most intriguing problems. We want them to understand that mathematics is essential in everyday life, critical in science, technology, engineering, and necessary for financial literacy and most forms of employment.

As our pupils progress, we intend for them to:

- Understand the world through mathematics.
- Develop the ability to reason mathematically.
- Cultivate an appreciation of the beauty and power of mathematics.
- Foster a sense of enjoyment and curiosity about the subject.

Implementation	***Impact***
We follow the 'Maths No Problem' scheme, which spans from Year 1 to Year 6 and provides opportunities for mastery to all students. We dedicate one hour to daily maths lessons across the school. In line with the statutory requirements of the maths national curriculum for KS1 and KS2, our goal is for children to develop their conceptual understanding, fluency, reasoning, and problem-solving skills. To support this, we have invested heavily in manipulatives that enable all children to explore and explain the abstract nature of maths. We also encourage drawings, including the use of bar models. This concrete, pictorial, and abstract approach, underpinned by Bruner's research (Enactive, Iconic & Symbolic), is proven to be a very effective way of supporting mastery and helping children know and understand more, and remember more in the long term. A mastery approach encourages all children to make links within mathematics (through perceptual variation); and also to see and explain patterns (supported by systematic variation). These elements are woven into the Maths No Problem programme. A mastery approach encourages all children to:	• Through discussion and feedback, children enthusiastically discuss their maths lessons and express their love for learning about maths. They can articulate the context in which maths is being taught and relate it to real-life purposes. Children display confidence and believe they can learn about new maths areas and apply the knowledge and skills they already possess. • Pupils understand how and why maths is used in the outside world and in the workplace. They are aware of different ways maths can support their future potential. Mathematical concepts or skills are considered mastered when a child can demonstrate them in multiple ways, using mathematical language to explain their ideas and independently applying the concept to new problems in unfamiliar situations. Children demonstrate quick recall of facts and procedures, including times tables. • Pupils use acquired vocabulary in maths lessons and possess the skills to use methods independently. They exhibit resilience when

• Respond and speak in full sentences using accurate mathematical vocabulary when explaining their understanding and modeling their methods. • Teach and support their peers. • Ask and answer questions using precise mathematical vocabulary. • Develop visualisation skills. • Develop their metacognition. • Develop resilience. • Cultivate positive mindsets and not be afraid to make mistakes. We deliver creative and engaging lessons using the Concrete, Pictorial, Abstract (CPA) approach. We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning, and competence in solving increasingly sophisticated problems. Our intention is for our pupils to be able to apply their mathematical knowledge to science and other subjects. In addition to mental maths skills being reinforced in lessons, additional time is dedicated to helping children become fluent in mental arithmetic skills through regular practice.	tackling problems and the flexibility to move between different contexts and representations of maths. Children take pride in the presentation and understanding of their work. They have the opportunity 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 of school. • At the end of each year, we expect children to have achieved Age-Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children with gaps in their knowledge receive appropriate support and intervention. • Our goal is for all children to have a secure, long-term, deep, and adaptable understanding of maths that they can apply in different contexts.

Assessment

Twice yearly tests assess pupils' mathematical fluency, reasoning and problem-solving skills. The papers follow the format and conditions of the SATs papers so that they feel familiar and provide the same rigour as the national tests.

Summative assessment tests for Years 1 to 6 – These happen twice yearly (arithmetic and problem-solving papers) at the end of a textbook A or B. The papers follow the format and conditions of the SATs papers, so that they feel familiar and provide the same rigour as the national tests.

EYFS baseline assessments, statutory testing at the end of Year 6, and times tables testing in Year 4 provide additional information about the impact of our maths curriculum. These assessments are considered when reviewing our priorities as we strive for excellence.

Monitoring

The Subject Leader is responsible for improving the standards of teaching and learning in Maths

They are responsible for:

- The curriculum content and progression within Maths
- Monitoring and evaluating Maths:
    - pupil progress
    - marking and planning
    - curriculum coverage
    - provision of Literacy
    - the quality of the Learning Environment.
- Supporting colleagues with the planning, implementation and assessment in Maths.
- Auditing and supporting colleagues in their CPD
- Purchasing and the deployment of central resources.

Marking & Feedback

Short Term Planning and evaluation is carried out by the class teacher on a weekly basis. Maths planning is followed using Maths No problem scheme. Evaluation is carried out on an ongoing basis and any necessary adjustments made in order to update planning for future learning. This is referenced in more detail in our teaching and learning policy.

Feedback is ongoing and can be verbal or through next steps marking. Teachers use the codes as specified on the Marking Policy.

▪ Monitoring and evaluating the progress in Maths and take action to drive improvement in Maths. ▪ Policy development ▪ Keeping up to date with recent Maths developments. ▪ Ensure a range of enrichment opportunities are provided to inspire children's learning. E.g. Trips, workshops, after school clubs, themed weeks, special projects etc… ▪ Liaising with appropriate bodies such as: local schools, governors, the local authority with matters to do with Maths.	

EYFS

In EYFS we use the White Rose Maths scheme to inform our lesson planning. There is a strong emphasis on developing mathematical language through activities such as sorting, matching, comparing, exploring patterns, and the ability to subitize objects and images.

At Holdbrook we want all of the children in EYFS to develop a secure basis for their mathematical learning, which will stand them in good stead as they move through the school. Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically.

Outcomes:

• Mathematics introduces children to concepts, skills and thinking strategies that are essential in everyday life and support learning across the curriculum.

• By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

• It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a

go', talk to adults and peers about what they notice and not be afraid to make mistakes. Personal Outcomes:

- Understanding the link between numbers and quantities.
- Count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- Subitise (recognise quantities without counting) up to 5.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5, (including subtraction facts) and some number bonds to 10, including double facts.
- Have a deep understanding of number to 10, including the composition of each number.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
- Verbally count beyond 20, recognising the pattern of the counting system