



For every child to meet their potential and 'live life in all its fullness.' John 10:10.

Name of Policy: Maths

Subject Leader: Mrs Pridding

Rationale:

Mathematics is a creative and highly interconnected 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.

Intent:

Hindsford C of E supports the national curriculum in its aims to ensure that all pupils:

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

Implementation:

Teachers follow the sequence of lessons as set out by White Rose. Although the sequence of objectives should broadly be followed, teachers are encouraged to react to their class' needs by spending an appropriate amount of time on and objective, and possibly rearranging objectives to suit the needs of the children. Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. Teachers are therefore encouraged to make links between the objective and other areas of the mathematics curriculum.

As well as lessons differentiated in the traditional way of High, Middle, Low, and SEN ability groups, teachers may employ a range of lesson styles in order to maximise the learning opportunities of the class. These lessons include, but are not limited to:

- Destination question lessons- the teacher has selected a question that they would expect the children to be able to answer by the end of the lesson. The question is given to the children at the start of the lesson so that the children who can already answer the question can be challenged to deepen their learning rather than being exposed to teacher input that will not move them on. The children who could not answer the question the first time will try again at the end of the lesson, or if required, a future lesson. If they are still unable to answer it, they have an extra catch up session out of the maths lesson in order to be on-track for the next lesson (Keep Up Catch Up).

Destination questions rely heavily on the regrouping of children to form, fluid, reactive groups of differentiation for each specific objective. Due to COVID-19, groups can not be moved and therefore, destination lessons are on hold until further notice in the majority of classrooms.

- Challenge lessons- a progression of difficulty is set out by the teacher. These often, but not always begin with fluency and progress to reasoning and problem solving. The children work though this continuum in order to consolidate and stretch their learning at the own pace. Children who are identified as having a good understanding of the area may start at a more challenging question.
- Manipulatives lessons- to support our dedication to the Concrete, Pictorial, Abstract methodology of teaching, many of our lessons give the opportunity for children to use manipulatives such as place value counters, tens frame, dienes rods and cubes in order to understand the learning. These may not be evident in books but should either form part of the working wall, be displayed on the blog.
- Conceptual lessons- give the children the opportunity to explore maths. They are particularly important when children are being introduced to a new concept. For example, by building shapes with a specified volume using cubes, or pouring liquids into different sized containers. These may not be evident in books but should either form part of the working wall, be displayed on the blog.
- Reactive lessons- when teaching a lesson, the teacher may uncover a misconception held with the majority of class. Although not strictly part of the objective, the teacher may plan and deliver a lesson in order to address the misconception. These lessons are not expected to occur often.
- Arithmetic fluency lessons- a chance for children to focus heavily on one particular fluency skill in order to become confident and apply the skill to future lessons.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, pupils who grasp concepts rapidly are challenged through being offered rich and sophisticated problems before any acceleration through new content.

Resources

Hindsford C of E does not follow a scheme of work, but rather selects the most appropriate material from a range of resources: Collins Busy Ant, Abacus, TeeJay, Classroom Secrets and the White Rose Material.

Evidence:

Evidence will be collected in the form of:

- Scrutiny of children's work
- Floorbooks which show groupwork
- Teacher assessments made against the Maths National Curriculum objectives at the end of each term - Photographic evidence highlighting areas covered and shown on Hindsford Blogs.
- Pupil voice
- Regular lesson observations
- Learning walks

Assessment

Assessment is a vital part of planning, teaching and learning in mathematics. It is both formative and summative.

Formative

Formative assessment, which is carried out by the class teacher, is an integral part of their role and is used to decide when a child has mastered an objective and is ready to move on.

Formative assessments include:

- Daily observations of children
- Marking (in-line with marking policy)
- Conversations with Teaching Assistants and other involved adults

Summative

This provides end of year information on pupils' progress.

- Statutory Teacher Assessment in Year 2.
- Completing the SATs tests in accordance with legal requirements at the end of KS2.
- All children sit Rising Stars papers at the end of the autumn and summer terms.

Additional Provision

Big Maths Beat That

Children in all classes sit a daily Big Maths Beat That rapid recall test. These are adapted in line with the 2014 curriculum to include more missing number problems. The class teacher selects a focus: preparing the children for the upcoming unit (e.g. multiplication of three numbers before teaching a unit on volume); rehearsing a previously taught skill; continuing to rehearse skills such as times tables and arithmetic.

Times Tables

Each child has a TT Rock Stars account, used to rehearse recall of times tables on an engaging platform. Children in Year 2 upwards also sit a weekly Times Tables test where teachers ask a mixture of multiplication and division facts.

Flasback4

Children independently complete four questions which recap previously – taught either this academic year or a previous year. This keep's children's basic skills up to date and also provides formative assessment for the class teacher who can identify gaps in learning.

Keep Up Catch Up

If a child needs some extra input on a particular objective, the class teacher or teaching assistant will work with that child before the next lesson so ensure that they can keep up with the rest of the class before the next lesson.

Impact

Our Maths Curriculum is high quality, well thought out and is planned to build on prior learning. If children are mastering objectives, they are deemed to be making good or better progress.

It is the intended impact of our Maths Curriculum that children:

- become fluent in the fundamentals of mathematics
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems

This can be judged daily though informal teacher reflections of the child. Teachers may take into consideration facts such as, but not limited to, the amount of times the child does not get a destination question correct on the first or second attempt; conversations they have with the child in lessons (floor-book lessons can be an excellent source of pupil- knowledge); the amount of support given to a child during the lesson from themselves or the teaching assistant; formal assessment scores.

In addition to this, the subject leader and SLT monitor impact through:

- Regular book scrutiny which focuses on the progression of skills, knowledge and understanding throughout the curriculum
- Pupil discussions about their learning
- Formal assessment scores
- Regular learning walks

Children who are not experiencing the desired impact of our maths curriculum may access Keep Up Catch Up sessions to address particular weaknesses and may be also invited to an after school tuition group in order to catch up. They are monitored in class and may be the focus of more adult-led intervention throughout the lesson.

Policy Updated: March 2021

Policy Review: February 2022