

Maths



Intent

At Harbinger, our aim is for children to develop a deep and interconnected understanding of mathematical concepts. Our curriculum ensures children:

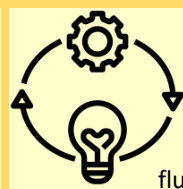
- use models and representations to expose the mathematical structure and support the development from concrete to abstract understanding.
- develop their fluency, problem-solving and reasoning skills. use precise mathematical language and demonstrate fluency, reasoning and problem-solving in a wide variety of contexts.
- know and use the mathematics which they will use in real-life everyday contexts.
- be creative and inquisitive about Maths.
- be prepared for the next stage of their education with a confident, positive and enthusiastic attitude towards Maths and problem-solving.

Our aim is to develop a culture of deep understanding, confidence and competence in Maths across the whole of our school – a culture that produces strong, secure mathematics within each year group. By building confidence, resilience and a passion for Maths, we show all children that Maths is an exciting adventure that everyone can enjoy, value and master!



SEND Provision

Inclusion is central to our practice at Harbinger and while the expectation in a mastery approach is that the majority of pupils will move through the programme of study at broadly the same pace, teachers will plan strategies to overcome any barriers to participating and learning. Support for children is provided in line with our whole school commitment to inclusion and some modifications or adjustments will be made to include everyone. Teachers will plan according to targets relating to an individual's EHCP and differentiation through adult support, task and content, or resources will be available. Children that are not secure are then given additional activities to provide them with further opportunities to show that they are secure, possibly gathering evidence in a different way, for example, verbally in a small group context. If children are still not secure in the knowledge and skills, further opportunities will be provided, later for them to revisit.



Implementation

Mastering Maths means acquiring a deep, secure and adaptable understanding of the subject. Central to the development of mastery in our classrooms at Harbinger are the “five big ideas” - coherence, variation, fluency, representations and structure and mathematical thinking. These have been drawn from research evidence (NCETM), underpinning teaching for mastery. Maths is taught as a single lesson on a daily basis, generally one hour per day, and as a cross-curricular subject as appropriate. We follow the teaching sequence outlined by the White Rose Maths schemes of learning. This ensures that a coherent, consistent approach is adopted in all year groups. The curriculum is broken down into small manageable steps in order to ensure that each lesson has a clear focus and helps children understand concepts by following a carefully planned sequence of lessons. This avoids the cognitive overload that can occur when too many concepts are covered at once and ensures that each lesson contributes to the long-term goal. Within each lesson, children have the opportunity to acquire, practice, apply and deepen their knowledge and skills as appropriate.

We use the Concrete, Pictorial, Abstract approach (CPA) to help pupils understand mathematics and to make connections between different representations. CPA is a highly effective approach to teaching that develops a deep and sustainable understanding of Maths. The CPA approach builds on children's existing knowledge by introducing abstract concepts in a concrete and tangible way. It involves moving from concrete materials to pictorial representations, to abstract symbols and problems.

The expectation is that the majority of pupils will move through the programme 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 mastery 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. Concepts are revisited over time so that children can reinforce them and embed them into their long-term memory. Teachers have the flexibility to spend longer on specific skills or concepts if they feel it is necessary. Teachers will also use their professional judgement to supplement the White Rose programme of study with NRich activities, a range of other resources, take advantage of incidental learning opportunities and make explicit links with other areas of the curriculum.

Assessment

Children are tested on the content they have been taught after each half term and the gap analysis data informs future planning. Teacher judgements are supported by the use of White Rose Maths Hub planning and assessment materials and guidance from NCETM 'Ready to Progress' criteria. Children who do not make expected progress are identified and intervention programmes are put in place to support these children. For those children who are working outside of the year group curriculum, individual learning activities are provided to ensure their progress.

Impact



The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. It is vital that the children have a secure understanding of each mathematical concept before moving on. We ensure that the children have mastered the Maths in every lesson, by teachers expertly using assessment for learning and identifying and addressing any misconceptions as and when they arise. Teaching assistants deliver targeted Maths interventions and boosters based on assessment work produced to ensure that all children are ready to move on.

Enrichment



We recognise the benefits wider experiences have for our children and arrange visits and make links with local and national organisations where children can learn more about the practical application of this subject. We also work with parents who have expertise in Maths to provide access to wider opportunities and raise aspirations.

Monitoring

The Maths Leader, SLT and Maths Curriculum Advisor from the Local Authority will monitor the teaching and learning of Maths in line with the school development plan and the expectations of our curriculum intent. Monitoring will take place in the following ways, including: work scrutinies, planning scrutinies, lesson observations and pupil conferencing. In-school moderation of learning outcomes is conducted by colleagues within the same year group and across school, by the Maths subject leaders and by the Senior Leadership Team.

CPD

The Maths Lead will lead on the dissemination of good practice in the subject through leading INSET, staff meetings and team-teaching lessons to support teacher's subject knowledge. The school is part of the local Maths Hub and access ongoing CPD as part of the Mastery programme.