

Mathematics Framework



Intent

At Hemingbrough Primary School we want children to explore, question, trial, spot patterns, generalise and solve problems in Maths. We aim to deliver lessons that are creative and engaging, using real life contexts, as this helps children develop skills they can use in their everyday lives. It gives Maths meaning. It makes Maths more fun! We want children to make rich connections across mathematical ideas to develop fluency, reasoning and competence in solving increasingly sophisticated problems.

We teach maths following the White Rose scheme, chosen because it ensures progression throughout school through its use of resources, vocabulary, methods of recording, and incorporates fluency, reasoning and problem solving at all levels. The focus is not on rote learning but on making connections across mathematical ideas to deepen understanding. Pupils are introduced to new concepts using the Concrete, Pictorial and Abstract (CPA) approach. We ensure that children have the chance to grapple with numbers, shapes and statistics, and believe that there is as much (if not more) to be gained from making mistakes and addressing them, as in getting it right first time. We encourage mixed ability grouping to encourage peer support and explanations which serve to deepen understanding.

We ensure that all learners are supported in their learning by continual teacher assessments within lessons, and then follow up with support, interventions (either same-day, pre-teaching, or extra tuition) and with extra challenge for those who have grasped the objectives. These include the use of low threshold, high ceiling activities which are mathematically accessible for all, and have built-in extension opportunities.

We intend for our pupils to be able to apply their mathematical knowledge to science and other subjects. We want them to know that it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

We can link mathematical understanding to our school values:

Community – To support others when they are in need of help, working in pairs and groups

Aspirations – To challenge themselves to attempt trickier problems and to explain reasons and patterns

Resilience – To keep on grappling with problems encountered, that mistakes are inevitable and valuable

Empathy – To understand that not everyone enjoys maths or finds it easy, and that we can support them

Implementation

At HCPS, children are taught in an environment centred around the balanced mix of independent work, partner tasks and whole class tuition. Teachers work to support and guide their children through the following stages of development:

- Talking mathematically; using appropriate vocabulary and examples.
- Developing the use of concrete, pictorial and abstract means of recording.
- Using and applying flexible mental strategies to solve calculations.
- Explain and justify their use of strategies or resources to solve problems and calculations.
- In Key Stage 2, using an expanded method which leads into a standard written method for each of the four main operations.
- Understanding when to apply either written or mental methods when completing calculations.
- To develop skills of reasoning and problem solving, embedding these skills through regular opportunities.

We believe all children can succeed mathematically, and as such all children should follow the same curriculum and expectations.

We ensure, through our informed planning and preparation process, that all children are given opportunities 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.
- 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.

Scheme

All class teachers are responsible for weekly planning, based on the yearly overviews produced by White Rose Maths. Class teachers are supported to adapt materials for their own classroom.

Teachers will:

- Identify the appropriate teaching and learning strategies required.
- Plan lessons with a balanced and engaging range of activities.
- Plan for the specific needs of children within their own class – adapting lessons appropriately and facilitating interventions where appropriate.
- Assess children routinely using formative and summative approaches – adapting and revisiting the areas of learning where necessary.

Impact

Assessment

The teaching and assessing of mathematics at HCPS follows the Assessment for Learning cycle of; plan, teach, review, assess. Children's work is marked regularly, and assessed against national curriculum objectives. Children in EYFS are assessed regularly using the Early Learning Goals. Formal tests are administered to children from Year 1 to 6, to assist teachers with their assessment of individual achievement and progress in mathematics.

The following test formats are used within this process:

- PUMA Progress Tests: The results are analysed and used to identify gaps in children's knowledge, which in turn informs the future planning. They are also used to monitor progress in maths.
- White Rose – end of unit assessments: These are used in some classes as a more informal way to assess the children's understanding at the end of each block.
- SATs Preparation Assessments: Year 6 undertake a range of preparation assessments over the course of the year. These tests are used to track progress and attainment, encourage children's confidence, and support the identification of gaps in knowledge and understanding.

All data is entered into Otrack and then analysed for the mini sef which is produced for each class every term. The maths lead uses this information to produce a subject summary which highlights areas of concern. Information gathered is used to inform the implementation of intervention programmes for those children who require additional support to catch up to their peers.

Provision for Inclusion

All children have equal access to the Mathematics curriculum, regardless of race or gender. Children access the curriculum at the level appropriate to them, ensuring rapid measurable progress. Resources and learning environments are planned and designed to enable all children access to the learning required. Differentiated activities are provided to support struggling learners and challenge rapid graspers so they are able to work at greater depth in mathematics.

We aim to provide for all children so that they achieve as highly as they can in Maths according to their individual abilities. We will identify which pupils or groups of pupils are under-achieving and take steps to improve their progress in order to close the gap. This will be done in discussion with the class teacher at pupil progress meetings. This information will then be shared with the SLT, SENCO and parents if required. More able children will be identified, and suitable learning challenges provided to deepen and strengthen their skills in Maths. Hemingbrough school has high expectations for every child, whatever their background or circumstances. Children learn and thrive when they are healthy, safe and engaged. In order to engage all children, cultural diversity, home languages, gender and religious beliefs are all celebrated. Our maths curriculum includes a wide range of questions and problem-solving scenarios which represent the diversity and backgrounds of different children. We recognise that parents play a large part in the education of their children. At Hemingbrough Primary School parents and staff work together in partnership to encourage the qualities, attitudes, knowledge, understanding and competences which are necessary to equip children for adult life.

Health and Safety/Safeguarding

Health and Safety issues in Maths include the safe teaching of appropriate procedures when dealing with e.g. manipulatives, rulers, compasses etc. The children are taught to be aware of their own and others' safety. Children also learn about e.g. what constitutes appropriate scenarios for problem-solving questions. They are expected to display appropriate behaviour at all times. Any safeguarding concerns are noted down and reported to the safeguarding lead.

SMSC

SMSC takes a high priority at Hemingbrough CP School, embedded into our broad curriculum as well as through extra-curricular activities, trips, and clubs and theme days. It is not a 'standalone' subject.

Spiritual Education

Hemingbrough CP School has strong community links with both St Mary's Church and the Methodist Church. We make regular visits to St Mary's and the 'Open the Book' group visit each month to lead assembly. Our RE curriculum covers a range of faiths, whilst celebrating the Christian ethos of the school. Spirituality is explored through assemblies led by school staff. The majority of children have a sense of enjoyment in their learning which is achieved through our schools aims, values and school motto 'Learn, Laugh, Succeed'

Moral Education

Children have an understanding of right and wrong. This is reinforced through a well understood behaviour policy. Children and staff agree a whole school Charter and 'Say No to Bullying' at the start of each academic year. These are regularly referred to.

Children are given opportunities to offer views on moral and ethical issues through curriculum work and the introduction of the Global Learning Programme has also played a part in this area.

Social Education

The school is part of a supportive and social community. Children are encouraged to use a range of social skills through the provision of clubs, fairs, discos, events, trips (including residential) and cluster events (e.g. sports). The children have a great understanding of inclusion and help and support others regardless of faith, beliefs, race or disability.

Cultural Education

Children have opportunities to participate in a range of artistic, musical, sporting and cultural activities. Achievements are celebrated both within class and during whole school 'Wall Assembly' and during House assemblies where children can show and discuss certificates, trophies and awards.

British Values

British Values are actively practised at Hemingbrough CP School.

Democracy

Children have many opportunities for their voices to be heard through regular discussions with subject leaders and school council. Council members are voted for by their peers. We also hold mock 'general' elections when appropriate in order that children gain further first-hand experience of the electoral process.

'Lolly sticks' are used across school to ensure all children have equal opportunities to 'have their say' and children are encouraged to express their own views in lesson.

Further up the school texts which explore democracy and freedom of speech are used to develop children's understanding.

The rule of Law

The importance of Laws (or rules) is embedded in the schools ethos. Our behaviour policy, school charter and stop the bullies reinforces this.

There are a variety of rewards for appropriate behaviour, kindness, thoughtfulness, good manners etc. as well as sanctions for inappropriate behaviour. We also have a clear uniform policy which is adhered to well.

Children are taught the value of and reasons for laws throughout the curriculum. Our school council is visiting the Houses of Parliament to further support their understanding. They will share their experience across the school.

Individual Liberty

Children are actively encouraged to make their own choices in a safe and supportive environment.

Appropriate differentiation allows our children to achieve and progress, they are able to choose from a variety of reward time activities and make simple choices about where they sit at lunch time etc.

Mutual respect and tolerance of those with differing faiths and beliefs

We have high expectations for all parties involved with the school. Children are taught to respect each other, to cooperate with and support others, to understand and accept difference. As a highly inclusive school children have many opportunities to develop these skills / ideas.

As our school is situated in a mainly mono cultural area, we ensure children experience diversity through RE, PSHCE, assemblies, the variety of texts that we read and share and theme days as well as the introduction of the Global Learning Programme.