



September 2023

Mathematics Policy

At Hurst Hill we aim to give children the best possible start in life to become independent problem solvers. We believe that rich, practical and exciting exploratory learning develops curiosity and builds solid foundations for maths taught later in the curriculum. We strive to build resilience through inclusive, engaging and challenging experiences of maths by making it an enjoyable subject. This prepares children for mathematics at secondary school and in everyday life.

We strive to teach our children that, *“Sometimes the questions are complicated, and the answers are simple.”* - Dr Seuss.

Every lesson encompasses challenge for all children through the I do, We do, You do model, where all children are engaged with reasoning and problem-solving questions. We follow a concrete, pictorial and abstract (CPA) approach. This is facilitated by our reactive and reflective practitioners using a combination of White Rose and NCETM resources.

At Hurst Hill, Maths is not just about learning new skills; it is about building a long-term memory bank consisting of a range of fluent maths strategies to reason and problem solve. We help children to develop so that they learn more and remember through:

- Play: Encouraging children to investigate their own questions with practical concrete resources from EYFS to Upper Key Stage 2.
- Creativity: Creating awe and wonder about the world of maths around us so as to develop a positive attitude and passion for problem solving.
- Verbal reasoning: Giving opportunities for pupils to explain and share their ideas and findings. Reciprocal children will share their ideas by listening, questioning and explaining.
- Challenge: Inspire and deepen thinking through a wide variation of real life mathematical problems, which encourage high aspirations for our pupils' future careers.

Our objectives in the teaching of mathematics are:

- to ensure children become fluent in the fundamentals of mathematics so that they are efficient in using and selecting the appropriate written algorithms and mental methods, underpinned by mathematical concepts

- to develop a child's ability to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real life scenarios
- to develop a child's ability to be able to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- to promote enjoyment of learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to help children understand the importance of mathematics in everyday life;
- to develop the cross-curricular use of mathematics in other subjects especially in science and design technology;
- to encourage children to make connections across mathematical procedures and concepts
- and ensuring that pupils build secure foundations in their knowledge and use of mathematical language through discussion, developing both the quality and variety of language used to make their mathematical thinking clear.

Presentation:

- Mathematics work will be set out in accordance to the school's presentation policy.

Mathematic curriculum planning:

- It is the class teacher who completes the weekly plans for the teaching of mathematics based on the year group objectives and the notes and guidance issued for these. These weekly plans are based on the small step objectives detailed on the White Rose programme of study.
- We plan the activities in Mathematics so that they build on the children's prior learning. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.
- Attainment and progress will be tracked and monitored in line with Hurst Hill's assessment procedures, using Scholar.

Early Years Foundation Stage:

We teach mathematics in our reception classes. As the part of the Early Years Foundation Stage Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children opportunity to develop their understanding of number, measurement, pattern, shape and

space, through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics, both through play and during more formalised group learning.

Mathematics and inclusion:

- Teachers will set high expectations for all pupils and be aware of the requirements of the equal opportunities legislation that covers gender, race and disability. A minority of pupils will have particular requirements due to Special Educational Needs, disability or learning English as an additional language. We will take account of these requirements and make provision, where necessary, to support this diverse group of pupils.
- During end of key stage assessments, the school will utilise any special arrangements available to support individual pupils where these are necessary as judged by class teachers in consultation with the school leadership team and parents.
- We teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this.
- Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected outcomes. This ensures that our teaching is matched to the child's needs.
- Intervention may lead to the creation of an EHCP (Education Health and Care Plan) for children with special educational needs. The EHCP and/or IBP may include, as appropriate, specific targets relating to mathematics. Children requiring specific support may be entered onto the schools Special Educational Needs register in consultation with SEND, SLT members and class teachers. Parents will be fully consulted during this process.
- Teaching Assistants will take a full and active role in supporting the class teacher during wave one teaching or any interventions as required.

Assessment:

- Using assessment for learning (AfL) teachers will assess children's work in Mathematics from three aspects (long-term, medium-term and short-term).
- We use White Rose short-term end of block assessments to help us adjust our daily plans. These short-term assessments are matched to the teaching objectives set out by the White Rose program of study. These inform teachers of children's additional needs to be targeted outside of the maths lesson (i.e booster sessions or tutorials).
- We make medium-term assessments to measure progress against the end of term key objectives. These inform the planning for sequential lessons.
- We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6. We use White Rose assessment tools in all year groups alongside teacher assessment based on observational activities and evidence from books. We then set targets for the next school year and make a summary of each child's progress before discussing it with parents and carers. We pass this

information on to the next teacher at the end of the year, so that they can plan for the new school year.

- The mathematics subject leader, the SLT and class teachers monitor books and assessment data at regular intervals and matches these to the attainment targets in the National Curriculum 2014 and to the programme of study for each year group. This demonstrates the expected level of achievement in mathematics in each year of the school and / or expected outcomes achieved.
- Teachers meet regularly, with other teachers from across the MAT schools, to review individual examples of work against any national exemplification material produced by the DfE during moderation meetings twice a year.
- Children in Year 2 and Year 6 will take part in formal statutory SATs tests during the summer term if they are able to access the tests (judgements on this will be on-going through assessment procedures and in accordance with the SEND and Inclusion policies). Children needing specialised access arrangements for the SATs, due to physical or learning needs, will be identified and the correct access arrangements will be submitted in line with statutory requirements. These access arrangements will be the responsibility of the maths leader and phase leader in conjunction with the Deputy and the Head Teacher of school. Parents will be consulted about any decisions affecting their child and contacted by their child's class teacher in the first instance.

Resources:

- Working walls will be used to help the children develop their understanding of different concepts. Teachers will model methods, develop appropriate language, place into context and show next steps for the learning objective being taught. C.P.A is a non-negotiable expectation in every classroom.
- Additional displays (those always found in all classrooms to aid the development of the children's learning) will include resources agreed by the whole school and appropriate to each key stage phase e.g. 4 operations symbols and vocabulary; calendar days, months, years and seasons; times table squares and number lines. Displays within the school will be progressive throughout.
- All classrooms have a wide range of appropriate small apparatus. Mathematical dictionaries are available in all KS2 classes.

Monitoring and review:

- The coordination and planning of the mathematics curriculum are the responsibility of the subject leader, who also:
- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
- gives the Head Teacher an annual summary report in which s/he evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement;
- uses specially allocated regular management time to review evidence of the children's work, conduct pupil interviews and to observe mathematics lessons across the school;
- Moderation of maths will take place once every half term;
- quality of teaching and learning in mathematics is monitored and evaluated by the SLT and maths leader as part of the school's agreed cycle of Self-evaluation.
- The maths leader will analyse the SAT results from Years 2 and 6 and the assessment results from Years 1, 3, 4, 5 and report findings and action plan changes based on those findings of strengths and weaknesses.

Progress and intervention:

- Intervention will take place based upon assessment procedures where the children are struggling to meet their targets and/or where progress is slow and will be shared with parents.
- Progress is monitored every half term. Senior leaders will monitor the progress for every child and this information will be shared with the class teacher at a pupil progress review meetings. Children who are not making the expected progress will be highlighted and intervention strategies will be put in place for that child. These will then be reviewed at the next data input point.
- Interventions will take the form of group work with Teaching Assistants and teachers, small group work in class settings, morning book work, one to one sessions and withdrawal groups e.g. 1stClass@Number1 and 1stClass@Number2, if applicable.

As a school, we follow the White Rose calculation policies, as they promote the use of concrete, pictorial, abstract learning and show clearly modelled examples to support all learners. Please find the relevant documents on the following links:

<https://assets.whiterosemaths.com/new-schemes/Addition%20and%20subtraction%20calculation%20policy%20July%202022.pdf>

<https://assets.whiterosemaths.com/new-schemes/Multiplication%20and%20Division%20calculation%20policy%20July%202022.pdf>

