Horton Park Primary School

Mathematics Policy

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Mathematics Policy

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To Be Reviewed: Annually in September

Mission Statement: We learn to succeed

Mathematics is a creative and highly inter-connected 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.
(National Curriculum 2014)

The purpose of mathematics in our school is to develop:

- A positive attitude towards mathematics and an awareness of the relevance of mathematics in the real world

- Competence and confidence in mathematical knowledge, concepts and skills

- An ability to solve problems, to reason, to think logically and to work systematically and accurately.

- Initiative and an ability to work both independently and in cooperation with others

- An ability to communicate mathematics

- An ability to use and apply mathematics across the curriculum and in real life

- An understanding of mathematics through a process of enquiry and experiment

WHY IS MATHEMATICS IMPORTANT?

The teaching of Maths is based on the National Curriculum and is supported by our mental maths and calculation policies. We provide children with the ability to reason in a logical way and to apply mathematics through problem solving in order to deepen their understanding.

The mathematics curriculum promotes the British values of tolerance and resilience on a daily basis through problem solving and understanding of complex concepts, encouraging students to persevere and try different methods to arrive at a correct solution. Children are encouraged to builds on and learn from their mistakes in maths lessons.

Values such as respect, tolerance of other opinions and positive criticism are embedded in Maths. An underpinning drive to develop students who are resilient, respectful, determined and respectful creates a positive set of values to apply to all areas of life and help develop children's character.

BREADTH OF STUDY

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- Practical activities and mathematical games
- Problem solving
- Individual, group and whole class discussions and activities
- Open and closed tasks
- A range of methods of calculating eg. Mental and formal written methods
- Working with computers as a mathematical tool using a range of programmes

Through our creative curriculum approach we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas.

In the Early Years we follow the EY curriculum, encouraging all children to be active learners. Children are encouraged through play and exploration to develop the skills that form a strong foundation for their future learning. This is supported with the provision of a range of real life experiences through educational visits and visitors in school. Focused activities, along with carefully planned and resourced continuous provision, provide our youngest children with a range of experiences.

PLANNING AND ORGANISATION

Each class teacher is responsible for the mathematics in their class / year group in consultation with and with guidance from the mathematics subject leader. All planning follows the 5 Phase structure from Year 1 – Year 6.

The approach to the teaching of mathematics within the school is based on three key principles:

• A mathematics lesson every day

• A clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups

• An emphasis on mental calculation strategies

Each class organises a daily lesson of 60 minutes for mathematics. Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom.

MEDIUM TERM AND SHORT TERM PLANNING

Lessons are planned using the 5 Phase Planning format under three main strands:

- Fluency
- Reasoning
- Problem Solving

Mathematics is planned as a unit of work and is collected and monitored by the mathematics subject leaders weekly.

EYFS planning is based on the medium term plans and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next.

INCLUSION

The daily mathematics lessons are inclusive to pupils with special educational needs. Where required, children's Personalised Provision Plans will address targets. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the Mathematics lesson.
Maths focused intervention programmes such as the 20:20 Maths programme, are available in school to help children with gaps in their learning and mathematical understanding. These are delivered on a 1:1 basis by trained support staff and overseen by the class teacher. Before and after school boosters are also taking place with identified targeted children throughout the year.

Within the daily mathematics lesson teachers must not only provide differentiated activities to support children with special educational needs but also activities that provide appropriate challenges for children who are more able/exceptionally able in mathematics. It is vital that all children are challenged at a level appropriate to their ability. This is through the use of:

- Rich questioning
- Higher order and abstract thinking (e.g. handling ambiguity and paradox)
- Problem solving and enquiry
- Development of advanced language skills, to include accuracy, precision and fluency
- Independent work and self-study
- Development of metacognition
- Transfer of knowledge across disciplines
- Provision of leadership opportunities
- Curriculum enrichment

EQUAL OPPORTUNITIES

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics. We ensure that all children are able to fulfil their potential regardless of race, religion, disability or gender.

PUPILS' RECORDS OF WORK

Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording. Children are encouraged to use mental strategies before resorting to a written method. All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit.

EYFS record informally within the setting. For example:
- On the playground
- On whiteboards
- Using jigsaws
- Physically ordering numbers

Staff in EYFS use photos to ensure records of each child's achievements are maintained.

MARKING

Marking of children's work is essential to ensure they make further progress. All work is marked against success criteria, in line with the school marking policy, and includes 'NOW' steps. Work is to be marked once completed before a child starts the next piece of work in accordance with the school marking policy. Children are encouraged to self-evaluate their work and given time to respond to the 'NOW' steps. Children in KS2 are encouraged to self-evaluate their work after every lesson by either completing a Top Tip, Peer evaluation or a Self-evaluation.

ASSESSMENT

Teachers make regular assessments of each child's progress and record these systematically. A record of each child's attainment against the key objectives for the appropriate year group is recorded at the back of the books where children will have targets each half term.

Short term
Children's class work is assessed frequently through:
-regular marking
-analysing errors
-questioning
-discussion
-plenaries

This is used to inform future planning and teaching. Lessons are adapted readily and short term planning is evaluated and annotated in light of these assessments. The teachers update their findings regularly using Classroom Monitor and this will be used to monitor progress during half termly pupil progress meetings.

Long term
Y2 and Y6 to complete SATs assessments every May. Y3, 4 and 5 to complete optional SATs papers during summer term.

REPORTING

The annual report to parents will include information re: progress and attainment and future targets in the subject.

Monitoring and Evaluation

Monitoring will be carried out by the maths subject leaders as follows:

1. **Auditing Planning**: Access to all planning, relating planning to the National Curriculum and evaluating appropriateness. Also through formal and informal classroom observations when prioritised on the School Improvement plan.
2. **Monitoring of work:** Analysis of pupil's work in work scrutiny and discussions with pupils and class teachers.
3. **Monitor the Quality of teaching**: Analysis of planning related to the Framework and classroom observations re. Effectiveness of planning in practice.
4. **Auditing Resources**: Annual risk assessment and ongoing evaluation of resources. Monitor use of resources.

The subject leader will:

- Lead by example showing a thorough understanding of the subject
- Offer support to teachers in assessment, planning, teaching and delivery
- Work alongside the 'Maths team' to monitor and evaluate teaching and progress
- Identify training and development needs, plan and deliver training.
- Resource Mathematics throughout school, prioritising spending in consultation with staff and in accordance with the subject action plan and SIP.

Children will be encouraged to:

- Enjoy mathematics and see its relevance for life.
- Understand what their next steps are and be able to evaluate their progress towards them.
- Develop mental calculation strategies so that their first reaction to a question is: 'Can I do that in my head?'
- Use mathematical vocabulary with confidence.
- Use their knowledge to solve problems, see patterns, make predictions, present information clearly and interpret data
- Provide clear explanations of their methods.

Parents will:

- Be encouraged to develop positive attitudes to mathematics and actively support their children when homework is given
- Be well informed of their children's progress through annual reports and parents meetings.

Review Process

Headteacher reports outcomes of monitoring and evaluations to the Governing body half termly. Headteacher, Maths subject leaders monitor delivery in practice and related planning; feeding back outcomes and development points to staff as appropriate.

See the Maths Calculation Policy and the Mental Calculation Policy for more information.