



Hampton Hargate Primary School

Mathematics Policy

Date: September 2020

Review date:

Hampton Hargate Primary School believes that all children, regardless of ability and behaviour are valued equally. Groups of pupils (eg. SEND pupils, Looked After Children, EAL pupils, Ever6 pupils etc) are not viewed as separate but are part of the whole school approach. Different children's needs are identified and met through varied and flexible provision and the use of different styles of teaching and learning throughout the curriculum. Every Child Matters (ECM) is an important part of the school ethos and we encourage all staff, governors, visitors, helpers etc to play their part in promoting this. This policy therefore applies to all our children, regardless of their gender, faith, race, culture, family circumstances or sexuality.

This school is committed to safeguarding and promoting the welfare and safety of all children and expects all staff to share in this commitment. All staff must follow the guidelines set out in the Child Protection folder which is in each classroom and key locations around the school.

1. Aims and objectives

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. We aim to put our children at the centre of their own learning and place great emphasis on nurturing skills and attitudes such as resourcefulness, resilience and co-operation. At Hampton Hargate we aim to foster the national curriculum's main aims which are 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.

The overall purpose of the policy is to ensure that all children are given opportunities in order to reach their full potential. We want our children to be prepared for applying their skills effectively in everyday life situations, in their future learning and in the work place and to have the building blocks in place to provide a solid foundation to lead onto secondary, further and higher education.

2. Teaching and learning styles

The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through daily lessons and the application and development of key skills across other curriculum areas. In EYFS the environment is language rich and the provisions and resources enable children to explore mathematical concepts. Long and medium term planning is driven by a thematic curriculum which ensures coverage of all areas in the EYFS curriculum framework. In Key Stage 1 children are taught in classes which follow a concrete, pictorial and abstract approach to support learning and engage the children in their maths

lessons. Key Stage 2 are usually taught in sets and continue to follow a CPA approach. Setting is used when appropriate in discussion with the HT and Key Stage leaders across the school. There are 3 sets in each year group and extra support is allocated where needed in discussion with class teachers. All classes have the opportunity to use a wide range of resources such as part whole models, tens frames, bar models, number squares, place value cards and counter, base ten and other equipment to support their work. Children and teachers use ICT in mathematics lessons where appropriate, knowing it will enhance their learning, and to assist with modelling ideas and methods. During our daily lessons, we encourage children to ask as well as answer mathematical questions. Wherever possible, we encourage the children to use and apply their learning in everyday situations and across the curriculum. Use of resources will be adapted to suit Covid government guidelines whilst supporting classroom teaching.

In order to support and extend learning within school, children receive weekly mathematical homework to practise fluency of facts, skills and challenges.

3 Mathematics curriculum planning

At Hampton Hargate Primary School teachers are required to plan their lessons using the National Curriculum for mathematics, to ensure that we fulfil the statutory requirements of the programmes of study for mathematics. We have a whole school NC skills progression document, Year Group Key Skills and Essential Knowledge documents and Hamilton Trust Year Group Coverage Documents (Medium term planning) which outline the areas of mathematics that will be taught during each term. This ensures coverage of the National Curriculum and teachers add to this from a bespoke and evolving quality assured list of resources and websites to provide extra challenge and greater depth "going the extra mile" rather than mere progression to the next set of content, for example using White Rose Maths. In order to ensure consistency of methods taught and a deeper understanding of progression in mathematics across the whole school, all teachers are expected to consult the school's calculation guidance documents.

Our bespoke lesson planning format ensures that planning begins with; main learning objectives (arithmetic and fluency), key mathematical vocabulary, misconceptions and difficult points, stem sentences, key questions and cross-curricular links.

Planning reflects different learning styles and teachers ensure that activities provide challenge for all children's needs while delivering their lessons in an engaging manner at an appropriate pace. Planning shows a progressive

journey to develop skills, knowledge and understanding. We encourage children to take responsibility for their own learning and promote positive mathematical mindsets and a “can do” approach. Through maths talk, reasoning discussions, opportunities for feedback and reflection, children are encouraged to review way they learn.

3.3

4 The Foundation Stage

4.1 At Hampton Hargate Primary School we follow the Early Years Foundation Stage (EYFS) statutory framework. We plan and teach mathematics through a range of child initiated, adult initiated and adult led activities. We are currently early adopters for the EYFS reforms.

4.2 In the Early Years Foundation Stage, children are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching sessions. We also offer a range of planned structured play situations and continuous provision, both inside and outside, where there is plenty of scope for exploration.

4.3 Children will become very competent ‘counters’ so that their fluency with the number system provides a foundation for mathematical understanding. Counting forwards and backwards in many different sized steps as well as from different starting and ending points is essential.

4.4 Maths learning builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented pictorially. Children are then ready for abstract representation before being able to apply their knowledge to different situations as they go up the school.

5 Contribution of mathematics to teaching in other curriculum areas

5.1 We endeavour, where possible, to link mathematical concepts, skills, knowledge and understanding to other areas of the curriculum and to provide cross-curricular problem-solving activities.

5.2 Global Dimensions

In accordance with the school ethos of embedding a global dimension to enrich the curriculum, planning for the teaching of mathematics will incorporate opportunities for the children to understand the challenges facing them and appreciate their responsibilities as members of a global community.

6 Mathematics and ICT

- 6.1 Information and communication technology (ICT) enhances the teaching of mathematics significantly, because of the powerful mathematical models and images which can be demonstrated to children through the use of the IWB, Ipads and Chromebooks. It is expected that all teachers will incorporate ICT into their teaching and learning, where it is applicable to enhance the lesson, and that this will be included in their planning.

7 Mathematics and inclusion

- 7.1 At our school, 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, including those learning English as an additional language and we take all reasonable steps to achieve this. Provision is also made for gifted and talented children. Some children are provided with additional support from our Pupil Premium T.A.s who may support children with individual mathematics targets which have been set by their teachers, if appropriate.
- 7.2 In all classes, children have a wide range of mathematical abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies, through differentiated group work, by organising the children to work in pairs on open-ended problems or games or by using our teaching skills and our teaching assistants to ensure that work is matched to the needs of individuals.

8 Assessment for learning

- 8.1 We use formative teacher assessment to help us adjust our daily plans. This short-term assessment is closely matched to the teaching objectives and noted on the planning where appropriate to inform teaching to the children's next steps.
- 8.2 We make formal assessments to measure progress against the key objectives, and to help us plan the next unit of work. These results, alongside teacher assessments help us to record data and track pupil progress and school standards.
- 8.3 We make long-term assessments towards the end of the school year in the form of end of year assessments. Year 2 and Year 6 children will sit the national SATs tests and Year 4, the online multiplication testing.

9 Resources

- 9.1 All classrooms have a wide range of appropriate mathematical apparatus. The maths co-ordinator updates resources to ensure that teachers have what they need to provide effective teaching to deepen children's mathematical understanding. A range of ICT software and devices are available to support teaching and learning in school and at home. They have the opportunity to use a wide range of resources, such as number lines, 100 and 200 squares, digit cards, Numicon, place value counters and small apparatus to support their work. The use of correct mathematical vocabulary is encouraged. ICT is used in mathematics lessons for modelling ideas and methods on the interactive whiteboards (IWBs), and for learning activities on the I pads and Chromebooks, which are used by the children. Wherever possible, we encourage the children to apply their learning to everyday situations in order to give mathematics a real purpose.
- 9.2 All classrooms should have a mathematics learning wall where children have visual access to appropriate models and images as well as relevant vocabulary and sentence structures. Class teachers should also ensure that a number line to 100 and beyond is displayed where the children can easily see it.

This policy will be reviewed every two years.

Review date

This policy was adopted by the Strategic/Finance & Personnel/H&S Committee* on but is subject to final approval by the Full Governing Body on

(*delete as appropriate)

Signed on behalf of the Governing Body

Date