



Mission Statement: Valuing Potential; Creating Opportunities

MATHEMATICS POLICY

This policy to be read in conjunction with Assessment and Marking Policies, Calculation Policy, Equal Opportunities Policy, Planning, Teaching and Learning Policies, Racial Equality Policy, Inclusion and SEND Policies

POLICY REVIEW

This policy has been agreed by staff and Governors and will be regularly reviewed.

DATE OF POLICY:	SEPTEMBER 2019	DATE OF NEXT REVIEW:	SEPTEMBER 2021
MONITORED BY:	SUBJECT LEADER AND SENIOR LEADERSHIP TEAM	TEACHING & LEARNING COMMITTEE	

VISION

Hartsbourne Primary School is an inclusive learning community where we are:

Building a strong school **community**; inspiring pupils to gain the **confidence**, resilience and independence to become **life-long learners**, making the best **progress** possible and creating happy memories.

RATIONALE

We believe that children will acquire mathematical understanding in many different ways. Our objective is to assist the children to develop and refine their thinking and deepen their understanding in order to give them the ability to use mathematics fluently and efficiently.

We believe that mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the real world. Mathematics can be used to describe, to illustrate, to interpret, to predict and to explain. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating and exploring new, imaginative worlds. The utility of mathematics is unquestioned, but the skills and knowledge should be embedded in purposeful activities.

AIMS AND OBJECTIVES

We aim for our pupils to develop the ability to adapt their mathematical techniques and strategies to a variety of situations, problems and challenges with growing fluency, mathematical knowledge and enjoyment. They will be able to articulate their ideas and thoughts using a range of mathematical language, in a reasoned and logical manner.

We will achieve this by providing a rich and diverse mathematical curriculum that makes links across mathematical concepts and other curriculum subjects where possible. Children will have the opportunity to learn maths in a range of contexts and environments.

Our vision is to ensure all children will leave Hartsbourne with an enthusiastic, excited and confident approach to maths - enabled with the skills to achieve well throughout their life time.

At Hartsbourne School we aim to ensure that all children:

- Become mathematically fluent, can reason and explain mathematically and solve problems.

Our Objectives

In order to develop in children a positive attitude towards mathematics (a growth mindset), involving enjoyment, satisfaction and confidence in application of skills and knowledge, we will:

- Emphasise the importance of understanding when teaching (abstract) maths concepts.
- Recognise the importance of maths in everyday life, related to real life situations wherever possible, and used as a means of communication.
- Recognise the relevance of maths in other areas of the curriculum and teach in a cross-curricular rather than an isolated way.
- Provide broad guidelines, a sense of common purpose, continuity of approach, method, language and content within the school.
- Provide every child with the opportunity of developing to the full his/her mathematical potential, irrespective of sex, race or social factors, whilst recognising the wide range of abilities and progress that will be encountered.
- Involve the children fully in all aspects of their learning, including the recognition and assessments of their achievements.
- Provide an environment that supports and encourages learning through a variety of resources and positive attitudes.
- Encourage the children to see a progression in their acquisition of knowledge and skills, and to appreciate and express the logical principles involved in mathematics.

TEACHING AND LEARNING

Our children will be regularly exposed to increasingly complex problems to solve, which allow them to apply their maths knowledge. In doing so they are encouraged to develop an argument and line of enquiry which they can prove and both define and use appropriate mathematical vocabulary.

This includes the ability to break down both routine and non-routine problems into a series of steps. At Hartsbourne Primary School we promote the concept that acquiring maths knowledge and skills provides the foundation for understanding the world around us.

We will use the National Curriculum Programmes of Study and the HertsforLearning Schemes of Work to plan high quality lessons. We will provide children with the appropriate manipulatives to tackle problem solving. Our Calculation Policy details the methods used to teach calculation and progression in addition, subtraction, multiplication and division. (This can be found on the school website).

EYFS

Maths is one of the four specific Areas of Learning within the EYFS and is a vital subject during a child's early years. Each of the Areas of Learning work through the age bands from birth to the Early Learning Goals. Learning about Maths in the early years includes both number where children will learn skills such as recognising numbers, counting and calculating and shape, space and measure where children will begin to gain better knowledge about shape, size, weight, position, distance, money and time.

Maths will also be promoted in both adult-led and child initiated situations, for example through stories, songs, games and imaginative play, both inside and outside.

KEY STAGE 1 AND 2

We will ensure children in Key Stage 1 are secure in their understanding of number and number relationships and deliver maths in line with National Curriculum guidelines.

From Year 1, all pupils will have a daily mathematics lesson that demonstrates a good balance between whole-class learning, group teaching and individual practice. A typical structure will be:

- **Oral work and mental calculation:** This is generally whole-class work to rehearse, sharpen and develop mental and oral skills.
- **The main teaching activity:** This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work.

- **Plenary:** This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.

It is important that children are allowed to explore maths and present their findings not only in a written form but also visually; to that end the school will adopt the 'CPA approach' to teaching mathematics: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers. There are manipulatives available in every classroom to help facilitate this process.

To deliver the curriculum we offer the children a variety of learning experiences including:

- Directing, instructing and demonstrating
- Explaining and illustrating
- Questioning and discussing
- Consolidating and revising
- Problem solving, investigations and games
- Evaluating pupils' responses and summarising
- Access to practical equipment and technology, including calculators and computers.

We believe that effective learning will take place in an atmosphere that encourages exploration and experimentation, and recognise that uncertainty and mistakes are frequent and necessary components of learning. We will encourage a climate where thoughts and ideas are valued and provide children with a variety of opportunities for learning, including:

- Development of mental strategies, consolidation of basic skills and number facts.
- Mathematical discussion and opportunities for problem solving
- Different written methods and recording
- Practical activities
- Investigational work

RECORDING

All children are encouraged to work tidily and neatly when recording their work. Pencil is used in all year groups. Children are taught a variety of methods for written calculations and they are encouraged to use the most appropriate and convenient method of recording. Opportunities will be offered to record investigations on plain paper.

PLANNING AND ASSESSMENT

In order to inform planning and to assess children's progress, teachers will carry out a range of summative and formative assessments and keep a record of the achievement of the end of year objectives.

Assessment is regarded as an integral part of teaching and learning and is a continuous process. Assessment for learning lies at the heart of successful teaching and in raising standards of attainment. It is the responsibility of the class teacher to assess all children in his/her class. Information for assessment is gathered in various ways, including talking to the children, observing, testing and marking their work in accordance with our current Marking Policy.

Mental maths activities will be carried out regularly throughout KS1 and 2 to improve children's mental agility. Children will be regularly tested on multiplication tables and prepared for the DfE test in Year 4. Children are provided with feedback either verbally or through written marking in line with the school's marking policy. Same day intervention may take place in lessons enabling all

children to make progress. Often, in order to clarify understanding of a concept, children will be asked to respond to feedback, this is completed by the children at the beginning of the next lesson.

Teaching Assistants are recognised as a vital resource in the support of learning at Hartsbourne School. They will be involved at individual and group level in delivering the curriculum and are an important part of the teacher's planning and assessment process.

RESOURCES

We use a variety of curriculum and practical resources, including online resources, appropriate text books, pupil books, games, problem solving activities and assessment material. These are used in each classroom together with many other resources: practical apparatus, calculators, computers and additional worksheets and activities provided by the teacher.

INCLUSION

Tasks and activities are selected by the teacher, in a differentiated way according to the particular needs of the individual child, and material of various levels will be found in each class, in order that each child is challenged and stimulated at an appropriate level. Please refer also to the SEND Policy.

More able pupils will be taught with their own class and stretched through the use of Mastery questions, differentiated work and appropriate challenges. Staff will ensure that oral questions are differentiated to maintain the involvement of **all** abilities. Occasionally special arrangements will be made for an exceptionally gifted pupil.

CROSS CURRICULAR OPPORTUNITIES

Throughout the whole curriculum, opportunities exist to extend and promote mathematics. All teachers and Teaching Assistants will take advantage of cross-curricular opportunities as and when it is appropriate to do so.