



## ***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 SEN Policies

#### **RATIONALE**

We believe that learning is a very personal process and 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 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**

At Hartsbourne School we aim to:

- Develop in children a positive attitude towards mathematics, involving enjoyment, satisfaction, achievement and confidence in application of skills and knowledge learned.
- 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 METHODS AND APPROACH TO LEARNING**

To provide adequate time for developing numeracy skills each class teacher will provide a daily mathematics lesson. This may vary in length but will usually last for about 50 minutes in Key Stage 1 and 60 minutes in Key Stage 2. Links will also be made to mathematics within other subjects so pupils can develop and apply their mathematical skills.

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** (approximately 10 – 15 minutes): 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** (Approximately 10 to 15 minutes): 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.

## **KNOWLEDGE, SKILLS AND UNDERSTANDING**

The Renewed Framework illustrates the intended range and balance of work in primary mathematics to make sure that pupils become properly numerate. The objectives in the Framework cover all aspects of the National Curriculum for mathematics in Key Stages 1 and 2. The objectives for Reception are based on the 'Problem Solving, Reasoning and Number' strand of the Renewed Framework and 'Mathematical Development' strand of the Early Years Foundation Stage. Work in Reception provides a bridge from the EYFS to the National Curriculum.

### **Early Years Foundation Stage**

In the Early Years Foundation Stage (EYFS), problem solving, reasoning and numeracy (PSRN) focuses on developing confidence and competence with numbers, calculation and shape, space and measure. PSRN is 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 Key Stage 2**

In Key Stages 1 and 2, teachers currently follow the Renewed Primary Mathematics Framework to ensure that all parts of the National Curriculum Programme of Study are taught. 'Using and Applying' permeates the whole curriculum and involves: applications of maths to practical tasks; making and monitoring decisions to solve problems; developing mathematical language and communications; and developing mathematical reasoning.

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.

## **RESOURCES**

The school is resourced with 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.

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. Where resources allow, the teacher should try to ensure they use ICT to support the lesson in respect of delivery and as a support for the learning.

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.

Additional practical resources are stored in the area outside Year 4 classroom and shared by all year groups.

## **INCLUSION**

Where possible more able pupils will be taught with their own class and stretched through differentiated group work and extra challenges. Staff will ensure that oral questions are differentiated to maintain the involvement of **all** abilities. Very occasionally special arrangements will be made for an exceptionally gifted pupil. Please refer also to the Special Needs Policy.

## **ASSESSMENT**

Assessment is regarded as an integral part of teaching and learning and is a continuous process. 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 and marking their work in accordance with our current Marking Policy.

Assessment for learning lies at the heart of successful teaching and in raising standards of attainment. Other information is covered in the Assessment and Marking Policies and is under regular review in the light of experience.

## **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.

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