



# Policy for Mathematics

- THIS DOCUMENT IS the Policy for Mathematics at Hockley Primary School
- The Policy was reviewed and adopted during the Summer Term 2015 after consultation with Staff and Governors
- IT WAS APPROVED by the Governing Body in the Summer Term 2015.
- THE DOCUMENT WILL BE REVIEWED bi-annually
- Next review Spring 2017.

## **Hockley Primary Mathematics Policy 2015**

This policy reflects the values and philosophy of Hockley Primary School in relation to the teaching and learning of mathematics.

### **Rationale**

Mathematics helps children to make sense of the world around them by developing their ability to calculate, reason and solve problems. It enables children to understand and appreciate relationships and patterns in number, geometry, measurement and statistics in their everyday lives. It can be used to analyse and communicate ideas and information effectively, and to tackle a range of practical tasks and real life problems. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of Mathematics.

### **Aims**

At Hockley Primary School we aim to:

- Present Mathematics as a challenging, exciting and creative subject in order to promote positive and confident attitudes towards learning.
- Promote enjoyment and enthusiasm for Mathematics by getting children to use and apply maths in different contexts, providing opportunities for exploration and discussion, and encouraging them to take part in a range of practical activities.
- Develop mathematical understanding through the teaching of appropriate learning objectives, including skills, knowledge and a quick recall of basic facts.
- Provide opportunities for children to develop the ability to express themselves fluently, using correct mathematical language and vocabulary.
- Develop children's ability to be flexible, creative, accurate and to use their initiative and systematic logical thinking.
- Encourage the effective use of maths as a tool in a wide range of activities within school and in everyday life.
- Involve parents and carers in their child's learning.

### **Statutory Requirements**

Mathematics is a core subject in the National Curriculum and we use the National Numeracy Strategy as the basis for implementing the statutory requirements of the programme of study for Mathematics. We carry out the curriculum planning in Mathematics in line with the structures and recommendations outlined in the Renewed Primary Framework for Mathematics (2013). Within the framework Mathematics is divided into the following strands of learning:

**Number-** number and place value

**Number-** addition and subtraction

**Number-** multiplication and division

**Number-** fractions (including decimals and percentages)

**Measurement**

**Geometry-** properties of shape

**Geometry-** position and direction

**Statistics**

### **The Governing Body**

An annual report on the provision and progress related to mathematics is submitted to the governors in the summer term.

### **Monitoring, Evaluation and Review**

Monitoring and evaluation will be carried out by the:

- Headteacher
- Mathematics Coordinator
- Numeracy governor
- Class teachers

Monitoring will entail:

- scrutiny of medium and short-term planning and feedback by the Subject Leader (SL), Headteacher (HT) and Senior Leadership Team (SLT) (usually termly).
- classroom observation and feedback by the HT, SL or SLT (usually once a year depending on performance management focus)
- reviewing of children's work by the SL, HT and SLT, as well as Class teachers in termly Phase Group Pupil Progress meetings.
- analysis of test data and papers by Class teachers, SL, Assessment Leader (AL) and HT in termly pupil progress meetings.
- monitoring of assessment and record-keeping, marking by SL, HT and AL (usually termly)

This policy will be reviewed every three years or in the light of the changes to legal requirements.

### **Subject Organisation and Approaches**

Mathematics lessons normally take place each morning. Each lesson lasts between 45 and 60 minutes and consists of the oral and mental starter, the main teaching activity, and the plenary. Teachers spend as much time as possible in direct teaching and questioning of the whole class, a group of pupils, or individuals. For a large proportion of the lesson children will be taught as a whole class with the teacher using a range of questions to develop mathematical thinking. Teaching strategies will be varied and will encourage a high level of interaction. Teachers place strong emphasis on the development of written and mental calculation skills. Children are asked to explain their methods and to check for reasonableness. There is also strong emphasis on the development of mathematical vocabulary. Key words are displayed and teachers ensure that they model the correct use of mathematical words. Teachers value pupils' oral contributions and create an ethos in which all children feel they can contribute. Activities are planned to encourage the full and active participation of all pupils and teachers differentiate tasks during the main part of the lesson in order to meet the needs of all abilities. Children normally sit in ability groups to enable focused teaching to one group during pupil activities.

### **Early Years Foundation Stage**

Learning undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Early Years Foundation Stage document. We give all children ample opportunity to develop their understanding of Mathematics and we aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about different aspects of Mathematics

### **Differentiation**

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the work to

the ability of the child. Within each year group there may be sets for Mathematics and there will be opportunities for children to work with different year groups if appropriate, including extension groups for gifted and talented pupils.

In general, teachers plan a core activity for the majority of pupils and adjust the activity to make it appropriate for more able and less able pupils by the use of:

- teaching assistants
- additional resources and extension activities
- targeted questioning
- open questions
- open ended investigation activities

### **Special Educational Needs**

- All pupils take part in the daily numeracy lesson.
- Teachers plan lessons so that all pupils can be included and can make progress in the lesson.
- In oral work teachers plan a range of differentiated questions, with some targeted at specific pupils.
- Teachers also ask open questions that allow all children to take part.
- Teachers use a wide range of visual resources to illuminate meaning.
- During whole class teaching, discreet help is given to particular children by teaching assistants where available.
- During activities, children are supported by teaching assistants where available.

### **Marking of written work**

Work is marked in a variety of ways including correction, comment and evaluation by teachers, LSAs, the children themselves and their peers. Children are encouraged to be critical of the quality of their own work and to evaluate its worth against shared success criteria. Where written feedback is provided, comments celebrate success and aim to give pupils guidance on how to improve their work in future (adopting green and pink highlighting- found in the marking policy). Children will also be given the opportunity to respond to teachers marking and answer 'try me' challenges.

### **Environment**

The school aims to provide a mathematically stimulating environment:

- through displays that promote mathematical thinking and discussion
- through displays of pupils' work that model appropriate methods and high achievement
- by providing a wide range of resources for teacher and pupil use.

In every classroom, resources such as number lines, hundred square, place value charts and multiplication squares are displayed as appropriate and used as resources for whole class or individual work, for children to become confident in their use and understanding of the number system.

### **Curriculum Planning**

The school uses the Framework for Teaching Mathematics as the basis for planning. Teachers' planning ensures that the yearly teaching programme/s for the age group/s in the class is/are taught. Teaching objectives are drawn from the year below and/or above where appropriate.

### **Termly planning**

- Teachers teaching the same year group plan and evaluate together
- Teachers' medium-term planning is informed by the previous term's annotated planning sheet and pupils' prior attainment recorded on tracking grids.
- Teachers adapt the Primary Framework strands and create medium-term plans to meet the needs of their pupils

### **Weekly planning**

- Using the agreed format for weekly planning, teachers write plans for their numeracy lessons.
- Teachers use a wide variety of resources as well as material from the Framework when planning their lessons to meet the identified learning objectives.
- Teachers teaching the same year group plan and evaluate together at a weekly meeting.
- Teachers make amendments to plans according to their assessments of pupil progress.
- Teachers evaluate their weekly planning, making notes on pupils who have exceeded or not achieved expectations on pupil progress tracking grids.
- Planning clearly shows which group the teacher will be focusing on each day and which group will be supported by the teaching assistant.

### **Extended Learning Opportunities**

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics. Homework tasks provide opportunities for children:

- to practise and consolidate their skills and knowledge,
- to develop and extend their techniques and strategies, and
- to share their mathematical work with their family
- to prepare for their future learning.

### **Cross Curricular Opportunities**

#### **The Use of Computing**

Teachers incorporate the use of computer science in their mathematics lessons when appropriate.

- Computers are used during whole class work to provide a starting point as well as to demonstrate concepts and encourage problem solving.
- Computers/ Ipads are used by groups of children working independently within the classroom on programs relating to the mathematical objectives being addressed that day.
- Classes have mathematics lessons in the computer suite where particular programs are used to consolidate number skills, explore patterns in data, etc.
- Calculators are used in mathematics for a range of purposes depending on the age of the children:
  - pupils at Key Stage 1 are introduced to calculators and the patterns generated by them
  - pupils at Key Stage 2 are taught the basic functions of a calculator and the skills needed to use them efficiently

- calculators are not used for basic calculation where a mental or written method is more appropriate but are used for calculations where numbers are long and difficult and where it enables children to concentrate on the problem even though this is not a requirement in the national curriculum.

### **Assessment**

Assessment is carried out:

- Orally through questioning
- By observation of children at work
- Marking of children's work
- Through planned assessment activities linked to the key objectives
- Informal assessment takes place continuously and teachers record on statement tracking grids the achievement of each individual child from their class in the learning objectives, to inform planning.
- Teachers and teaching assistants use checklists of children's names and objectives to record attainment observed in lessons.
- Headstart maths assessment tests are used in each key stage and in the build up to SATs to assist with teacher assessment.
- Moderation takes place to ensure consistency of teacher assessments.
- Teachers use statement tracking grids and test data to make and record an end-of-year assessment of each child's 'best fit' against the national curriculum statements.

### **Record-keeping**

- Children's attainment in the key strands is recorded on progress tracking grids (target tracker) and the class teacher's tracking grids.
- Teachers record the dates when key objectives are achieved.
- Tracking grids are reviewed half termly and annotated or highlighted to indicate coverage of the curriculum and the attainment of target individuals, the whole class or groups.

### **Target setting**

- Analysis of children's performance in tests and in each strand of work helps teachers to identify and set individual curricular targets for all pupils.
- School targets are set for pupil attainment for the end of Key Stage.
- Headstart maths tests are used to help set end of Key Stage targets.

### **Reporting Procedures**

Annual reports to parents include comments on:

- pupil progress (and statements of attainment at the end of each Key Stage)
- pupil effort and attitude
- pupil strengths and weaknesses.

### **Inclusion , Equal Opportunities and Disability Equality Scheme.**

All children are provided with equal access to the Mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background.

Equal opportunities are considered under the Equal Opportunity Policy.

Reasonable adjustments will be made to take into consideration the needs of children and adults with disabilities to ensure they are not discriminated against on the grounds of that disability.

Hockley Primary School is an inclusive learning community committed to removing barriers to learning welcoming pupils, staff and families, regardless of ability, race or social background.

### **Intervention Programme**

Where children's attainment in Mathematics is slower than expected, progress is supported through the targeted use of intervention programmes outside of the normal daily maths lesson. These will generally utilise resources from the curriculum including the Springboard and Wave 3 'Catch-up' programmes, which target specific areas of weakness and aim to address gaps in knowledge and understanding in small group sessions of up to 40 minutes duration. These sessions are generally led by Learning Support Assistants, suitably trained in the delivery of these programmes. Occasionally teachers and LSAs will design and deliver other sessions aimed specifically to meet the identified needs of a group of children, which are not part of a published programme, but which support the teaching received in the daily maths lesson by rehearsing and consolidating the skills taught.

### **Information and Involvement of Parents and the Community**

At Hockley Primary School we believe that parental involvement and interest is essential to every child's success. Therefore we provide meetings, workshops and information leaflets for parents about helping their children with learning in Mathematics. Parents receive a written annual report containing information about their child's learning in Mathematics as well as a National Curriculum level and effort grade. Children's progress in Mathematics is discussed at parents' consultation meetings which are held termly. We also welcome parents and visitors into school to support learning and teaching in Mathematics.

Home learning in Mathematics is provided for all children on a weekly basis in accordance with the school's home learning policy.

### **Role of the Subject Leader**

The subject leader will:

- Produce the Mathematics Policy and ensure that this meets statutory requirements;
- Produce the Mathematics development plan with realistic and developmental targets;
- Provide advice to teachers or seek information to help to support teachers with appropriate resources and approaches to teaching and assessment;
- Purchase and organise suitable mathematics resources for use across the school;
- Attend relevant in-service courses and feedback to staff new information and ideas to support teaching and learning;
- Monitor Teaching and Learning and Assessment procedures.