



Mathematics Policy  
2019

# Holmleigh Primary School

## Mathematics Policy

1. Introduction
2. Rationale
3. Equal Opportunities
4. Principles
5. Aims                    5.1 General  
                                  5.2 Specific
6. Provision
7. Organisation of Teaching and Learning
- 8. Homework**
9. The Environment
- 10.
  
6. Provision                6.1 Early Years  
                                  6.2 Key Stage 1  
                                  6.3 Key Stage 2
7. Assessment
8. Role of Manager
9. Role of Class Teacher
10. Performance Indicators
11. Equal Opportunities
12. Parental Involvement
13. Governing Body

## **MATHEMATICS POLICY**

### **1. INTRODUCTION**

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

The National Curriculum order for mathematics describes what must be taught in each key stage. Holmleigh Primary School follows the National Numeracy Strategy Framework, which provides detailed guidance for the implementation of the National Curriculum for mathematics. This ensures continuity and progression in the teaching of mathematics. In early years the curriculum is guided by the Early Learning Goals, which mirror the reception Learning Objectives in the NNS Framework.

This policy follows a whole school format and rationale.

### **2. RATIONALE**

All school policies form a corporate, public and accountable statement of intent. As a primary school it is very important to create an agreed whole school approach of which staff, children, parents, governors and other agencies have a clear understanding. This policy is the formal statement of intent for mathematics. It reflects the essential part that mathematics plays in the education of our pupils. It is important that a positive attitude towards mathematics is encouraged amongst all our pupils in order to foster self-confidence and a sense of achievement. The policy also facilitates how we, as a school, meet the legal requirements of recent Education Acts and National Curriculum Requirements.

### **3. EQUAL OPPORTUNITIES**

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multicultural aspects of mathematics eg. Islamic patterns in RE.

All children have equal access to the curriculum regardless of their gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

## **4. PRINCIPLES**

The principles of Holmleigh Primary School for mathematics are:

- policy and provision are evaluated and reviewed regularly
- resources of time, people and equipment are planned, budgeted for and detailed when appropriate.
- the governing body of Primary School discharge their statutory responsibility with regard to mathematics
- cross curricular links will be highlighted where appropriate
- planning of mathematics ensures continuity and progression across all year groups and key stages

## **5. AIMS**

### **5.1 General**

We aim to provide the pupils with a mathematics curriculum, which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

### **5.2 Specific**

Our pupils should

- have a sense of the size of a number and where it fits into the number system
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies
- recognise when it is appropriate to use a calculator and be able to do so effectively
- make sense of number problems, including non routine problems, and recognise the operations needed to solve them
- explain their methods and reasoning using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2d and 3d shapes

## 6. PROVISION

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills in and across each phase of education.

Lessons follow the NNS format with a mental/oral starter, a main teaching activity and a plenary session. The teaching of mathematics at Holmleigh Primary School provides opportunities for:

- group work
- paired work
- whole class teaching
- individual work

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts

At Holmleigh Primary School we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use the Mathematical Vocabulary Book when planning to help determine the appropriate terminology to use in our teaching and children are expected to use it in their verbal and written explanations.

Mathematics contributes to many subjects within the primary framework and opportunities will be sought to draw mathematical experience out of a wide range of activities. This will give children the opportunities to apply and use Mathematics in real contexts.

'It is important that time is found in other subjects for pupils to develop their Numeracy Skills, eg. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography' (NNS).

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to talk about what they have been doing.

## **7. ORGANISATION OF TEACHING AND LEARNING**

- The Early Learning Goals have been adopted for children at the foundation stage. At this stage pupils experience some mathematics on a daily basis. This early introduction to mathematics will generally be undertaken orally and often in the context of a class theme, e.g. a particular story. Wherever possible, opportunities for mathematics are exploited such as when taking the register.
- The school has adopted the National Numeracy Strategy and in key stages 1 and 2 every child takes part in a daily numeracy lesson.
- The skills acquired in the numeracy lesson are applied across the curriculum.

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 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.

## **8. HOMEWORK**

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics parents evening, maths evenings and workshops and assemblies.

Homework provides 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.

Homework activities will be short and focused and may help to form the basis of assessment.

Frequency for maths homework:

KS1: as appropriate to link with class work

KS2: Year 3 and Year 4: once a week

Year 5 and Year 6: at least once a week

## **9. THE ENVIRONMENT**

The school aims to provide a mathematically stimulating environment:

- through displays that promote mathematical thinking and discussion
- through displays of pupils' work that celebrate achievement
- by providing a good 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.

## **10. CURRICULUM PLANNING**

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

### **10.1 Medium Term plans**

- Teachers adapt the NNS sample medium-term plans to meet the needs of their pupils
- Using the sample medium-term plans as a guide, and using information from assessment of pupil progress, teachers draw up plans using the medium-term planning grid
- When concepts are covered, dates are recorded.
- Teachers date and highlight concepts that are understood

### **10.2 Weekly planning**

- Using the agreed format for weekly planning, teachers write plans for their numeracy lessons
- They use the supplements of examples at the back of the Framework when planning their lessons.
- 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
- Planning clearly shows which group the teacher will be focusing on each day and which group will be supported by the teaching assistant.

### **10.3 Differentiation**

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.

### **10.4 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.

See **SEN** policy for further details.

### **10.5 Booster and Springboard “catch-up” programmes**

Springboard takes place Years 3, 4, 5 and 6 twice a week in addition to the daily mathematics lessons. Maths tutorials take place in Year 6 alongside booster groups.

### **10.6 Marking of written work**

All work is marked

Written feedback provides pupils with guidance on how to improve their work.

Written feedback sets need challenges.

See **Marking Policy for Mathematics** for further details.

## **11. INFORMATION AND COMMUNICATION TECHNOLOGY**

ICT will be used in various ways to support teaching and motivate children’s learning. ICT will involve the computer, calculators, and audio-visual aids. They will however only be used in a daily mathematics lesson when it is the most efficient and effective way of meeting the lesson objectives.

## 12. ASSESSMENT

Assessment is regarded as an integral part of teaching and learning and is a continuous process.

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 the back of weekly planning sheets names of children who have exceeded/not achieved expectations, to inform planning.
- Teachers and teaching assistants use checklists of children's names and objectives to record attainment observed in lessons.
- Two days are set aside each half term for planned assessment of attainment in the key objectives.
- QCA optional tests are used in years 3, 4 and 5
- Teachers compare children's work with the examples in QCA/ NNS booklet "Standards in Mathematics exemplification of key learning objectives from reception to year 6"
- Teachers make and record an end-of-year assessment of each child's 'best fit' against the NC level descriptions.

### 12.1 Record-keeping

- Children's attainment in the key objectives is recorded on *class/individual* record sheets.
- Teachers record the dates when key objectives are achieved.
- Half termly or/and yearly teaching programmes are highlighted to indicate coverage and attainment of whole class or groups.

### 12.2 Target setting

- Analysis of children's performance in tests helps the school to identify and set curricular targets for groups of pupils.
- School targets are set for pupil attainment for the end of Key Stage.
- QCA optional tests are used to help set end of Key Stage targets.

### 12.3 Reporting Procedures

Annual reports to parents include comments on:

- Pupil progress
- Pupil effort and attitude
- Pupil strengths and weaknesses.

## **13. MANAGEMENT OF MATHEMATICS**

### **13.1 Role of the Headteacher**

- Lead, manage and monitor the implementation of the Strategy, including monitoring teaching plans and the quality of teaching in classrooms
- With the governor, keep the governing body informed about the progress of the Strategy
- Ensure that mathematics remains a high profile in the school's development work
- Deploy support staff to maximise support for the Strategy

### **13.2 Role of the co-ordinator**

The mathematics manager is responsible for co-ordinating mathematics through the school. Co-ordinators are expected to:

- Teach demonstration lessons
- Ensure teachers are familiar with the Framework and help them to plan lessons
- Lead by example in the way they teach in their own classrooms
- Prepare, organise and lead INSET, with the support of the headteacher
- Support the headteacher in carrying out an annual audit and action plan with staff and governors
- Work co-operatively with the SENCO in providing advice and support for staff
- Observe colleagues teaching from time to time, with a view to identifying the support they need
- Attend INSET provided by LEA maths consultants and advisors
- Work alongside the headteacher in planning, organising and leading events for parents about the Strategy and mathematics
- Discuss regularly with the headteacher and maths governor the progress of implementing the Strategy in the school.

### **13.3 Role of the class teacher**

- To ensure progression in the acquisition of mathematical skills with due regard to the NNS Framework and consequently the National Curriculum for mathematics
- To develop and update skills, knowledge and understanding of mathematics
- To identify inset needs in mathematics and take advantage of training opportunities
- To keep appropriate on-going records
- To plan effectively for mathematics (with year group partners), liaising with manager when necessary. See NNS for details of short, medium and long term planning procedures
- To inform parents of pupils' progress, achievements and attainment

### **13.4 Role of Governing Body**

- To support staff in NNS training
- To attend relevant school INSET.
- To visits the school termly to talk with the headteacher and subject coordinator.
- When possible, observes some daily mathematics lessons.
- To report back to the curriculum committee on a regular basis.

### **13.4 PERFORMANCE INDICATORS**

Performance Indicators, which are the criteria for success of the school's mathematics policy at Holmleigh Primary School are:

- At KS2 (74%)
- At KS1 (80%)
- children enjoy mathematics
- children talk confidently about what they are doing in mathematics

## **14. PARENTAL INVOLVEMENT**

At Holmleigh Primary school we encourage parents to be involved by:

- Visiting them into school twice yearly to discuss the progress of their child
- Inviting parents into school in the summer term to discuss the yearly report
- Inviting parents to curriculum evenings or circulating information via newsletters when significant changes have been/are made to the mathematics curriculum
- Holding workshops for parents focusing on areas of mathematics

\_\_\_\_\_ **PRIMARY SCHOOL**

Curriculum Monitoring

Focus of Observation:

Subject Manager:

Date:

Year:

context of observation		
	Strengths	Developments
<b>Planning</b> 1. Short		
2. Medium		
<b>Teaching and Learning Styles</b>  1. Range		
2. Response		
<b>Pupil Progress</b>  1. Marking		
2. Progress		
<b>Differentiation</b>  1. Set		
2. Task		
<b>Resources</b>  1. Use of		
2. Short fall		
<b>Pupil Discussion</b>		
<b>Any other comments</b>		



Curriculum Monitoring Procedure

Year Group Curriculum Feedback Sheet

Year Group:

Date:

Subject:

	Strengths	Developments	Manager Action
Points for Discussion:			
Pupil Response:			
Lesson			
Subject			
INSET Implications			
Resources			

Please provide a copy for the curriculum manager