



**Leamington Federation**  
**Sydenham Primary School and Lighthorne Heath Primary School**  
**Mathematics Policy Statement**

At Sydenham and Lighthorne Heath Primary Schools, we believe that mathematics provides a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. Mathematics has the capacity not just to describe and explain but also to predict. By providing children with rich mathematical experiences appropriate to their individual stages of development, learning is encouraged and their appreciation of the wide range of strategies available for problem solving is increased. At the same time, awareness of their environment and the activities taking place within it, is heightened and developed.

**Aims and purposes:**

The purpose of the Calculations Policy is to develop a consistent approach to the way in which pupils record Mathematical calculations. Through this, a clear progression in their recording will become evident.

It aims to inform teaching staff, non-teaching staff, parents and governors as to how the school have chosen to record written calculations. It is to supplement the existing Mathematics policy and to support planning using the Primary Numeracy Framework.

This policy is designed to aid planning and to be used as a working document to ensure consistency throughout the school.

The Numeracy co-ordinator will support all staff with their planning and understanding of this policy.

**Our aims:**

- To develop in all children an appreciation and enjoyment of maths in a positive learning environment
- To encourage children to have confidence in their ability to do maths and provide them with adequate concrete experiences to allow the secure formation of concepts
- To encourage children to see maths as meaningful and relevant to real life situations
- To encourage children to work independently and to develop clear, logical thinking
- To develop a flexible attitude towards number work, particularly mental calculation
- To develop an appreciation of mathematical patterns and relationships
- To provide sufficient opportunities for children to use their mathematical knowledge to solve genuine problems which they will encounter in their own environment, both now and in the future
- To provide challenging tasks for pupils of all abilities, ensuring however that the standards are chosen such that each pupil is able to experience success
- To provide opportunities for children to work in collaboration with each other and to talk confidently about their work using appropriate mathematical terms and language
- To give children equal opportunities for learning and developing their mathematical skills, irrespective of ability race and gender
- To encourage children to record their work clearly and to be able to choose the method of recording that is most suited to the task in hand
- To link mathematics to other areas of the curriculum

### **Organisation:**

In line with the National Curriculum we teach mathematics through units of work. These units last between one and two weeks. There will be a mathematics lesson every day. In Key Stage 1 we expect mathematics to take up about four hours each week, and in Key Stage 2 about five hours.

### **Teaching and Learning:**

Sydenham and Lighthorne Heath Primary Schools follow the National Curriculum 2014 and draw upon a variety of commercial maths schemes to consolidate. The teacher works with the whole class, with groups of pupils and, at times, with individual pupils.

Each week, every pupil will receive some whole-class or group teaching. We lay great stress on pupils talking about their mathematics so that they learn by: articulating their thoughts; listening to the views of others; and from the teacher discussing their thinking.

In each unit of work every pupil should experience mathematics through the full mix of approaches, eg. games, puzzles, investigations, problem-solving activities, appropriate use of computers and calculators, as well as working from published schemes following whole class or group teaching.

### **Formal Written Calculation Methods:**

Children need to be able to understand and use one formal written method for each operation. They should be working towards a method that helps them to calculate efficiently and one that can be understood by other people.

Some children will not need to progress through all the methods within this policy

Written methods should complement mental methods, but children should be able to choose the most efficient method for a problem, be it mental, written or using a calculator (if possible).

Children should be taught written methods so that they can represent practical work and so they can record and explain mental calculations. It also helps them to keep track of procedures in longer problems and lay the foundations for calculations in algebra.

**Children should be encouraged to approximate answers using mental methods for every operation before carrying out the formal written calculation. They should be able to explain their estimates.**

The written strategies will be used for straightforward algorithms i.e.  $68 + 127 =$ , but they will also be used when working with different units, fractions, decimals, percentages and word problems.

At Sydenham and Lighthorne Heath Primary Schools, we have agreed that the following methods in the 'frameworks for mathematics' are appropriate: (Please see separate Addition and subtraction, Multiplication and Division policies)

### **Using and Applying Mathematics:**

There needs to be a large emphasis on using and applying in maths lessons. Giving our children the chance to make their own decisions on what operations to use can also inform our judgements of attainment.

The formal written methods for the four operations should be taught before children are presented with problems that requires their application in a real life context. Problem solving should be introduced as part of the sequence of teaching the formal written method.

Each new method should be practised within a real life context including working with money and measure where appropriate.

### **Resources:**

A whole range of resources is available - in the KS2 maths resource area, located beside the year 5 classroom and in the KS1 maths resource area, located outside the Year 1 classrooms at Sydenham, or the resource cupboard at Lighthorne Heath. Every classroom is equipped with relevant mathematical resources for the children to access independently.

### **Planning:**

Long term, medium term and short term planning is in line with the National Curriculum. Differentiation at three or more 'chilli pepper' levels is recorded on a weekly planning grid. Pupil progress is evaluated and assessed regularly. This is used to inform short term planning for the following week and, on completion of a unit of work, informs medium term planning for the next half term (KS1) or the next term (KS2).

### **Recording work:**

Children will record their work for a variety of purposes. These include:

- Helping pupils to clarify their own thinking
- Communicating with others
- Providing evidence of their work in mathematics

In the early stages it is more important for children to talk about their mathematics than to record what they are doing in writing. It is essential that the children are encouraged on a regular basis to express in words what they have done and to compare their methods with those of other children. Language needs to be developed so that children can think and communicate freely.

Recording will take different forms; symbolic, graphical, diagrammatic, pictorial, written, constructed and verbal. Children will work in mathematics exercise books, on the computer or on paper where appropriate.

All recorded number operations should be presented to children horizontally, not vertically, so that children can apply their own mental strategies to solving problems. The average child will meet the standard algorithm in year 4 but should still make decisions over which method to use.

### **Record-Keeping and Assessment:**

We currently follow the assessment guidelines in the old National Numeracy Strategy. Whenever possible assessment should take place when the children are involved in mathematical activities so that they can be questioned and any misconceptions can be picked up quickly.

Pupils will be assessed through observation, practical activities, tests (formal and informal) and recorded work.

During the Autumn and Spring terms moderation is carried out by the head teacher and curriculum co-ordinator, following tests. Tests produced by Wigan are used. Teacher assessments are made termly and given to the Assessment co-ordinator. Data is used to track pupil progress, update pupils' assessment records and inform target setting for pupils and school targets.

Formal and informal assessments against key learning objectives are recorded on Key Objectives sheets at least termly. For pupils with special educational needs recording is done on an individual record sheet. All assessment sheets are kept in the year group assessment folders for each class.

Reception children are currently assessed against the EYFS Mathematics statements found in 'Development Matters' throughout the year. In June, the Early Learning Goals are used to assess the children's attainment, which is reported to parents.

Children are currently awarded a National Curriculum level for maths as a result of Teacher Assessment and Standardised Assessment Tests (SATs during the Summer term of years 2 and 6). Optional Standardised Assessment Tests are given in the Summer Term to years 3, 4 and 5. Levels and standardised scores are awarded and recorded. This information is passed on to the Maths Co-ordinator and the Assessment Co-ordinator. This data is used to track pupil progress, assist with target setting both for the pupils and for the school, and to give a summative assessment of pupil progress at the end of the year.

The marking of children's work should reflect the aims of the school's marking policy.

All assessments records and current annotated medium term plans are passed on to the next class teacher at the end of the academic year. This ensures continuity and progression.

Parents are formally invited termly to discuss their child's progress in mathematics and other subject areas and a written report is given annually.

### **Equal Opportunities and Special Educational Needs:**

All children at Sydenham and Lighthorne Heath Primary Schools must be given full access to the National Curriculum with regard to Numeracy. Staff will endeavour to help all children to reach their full potential irrespective of race, gender, age or ability in line with the Special Educational Needs policy.

### **Monitoring and Evaluating:**

The head teacher and Mathematics Co-ordinator monitor class teachers' medium term plans. This is to ensure that the learning objectives are planned at an appropriate level, continuity and progression are in evidence, balance in the different aspects of maths are achieved and there is equal entitlement across the year groups.

Discussion with colleagues, regular work trawls, observations of the lessons and the analysis of data regularly take place.

### **Race Equality Statement**

At Sydenham and Lighthorne Heath Primary Schools we offer a curriculum that reflects the cultural diversity of our communities. We teach children to be aware of the diversity of cultures within our own and the wider community, and to see them as a positive factor that enriches our experiences. We recognise that different languages may be spoken and understood by staff and children in our school.

### **Review**

This policy is a working document and therefore is open to change and restructuring as and when the need arises.

**This policy was ratified:** September 2017

**And will be reviewed:** September 2018

**Signed by the Head teacher**

*Juliette Westwood*

**Chair of Governors:**

Jim Lyne