

## MATHEMATICS POLICY STATEMENT

### **WE BELIEVE...**

Mathematics equips pupils with a 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, many forms of employment, science and technology, medicine, the economy, the environment and development and in public decision-making. Different cultures have contributed to the development and application of mathematics. Today, the subject transcends cultural boundaries and its importance is universally recognised. Mathematics is a creative discipline. It can stimulate moments of pleasure and wonder when a pupil solves a problem for the first time, discovers a more elegant solution to that problem, or suddenly sees hidden connections.

(National Curriculum Orders 2000)

### **AIMS**

We are continually aiming

- to raise the standards of achievement of the pupils at St Laurence.
- to enable each pupil to develop within their capabilities.
- to develop, in the children, an enthusiasm and fascination about maths itself.
- to increase pupil confidence in maths so that they are able to express themselves and their ideas using appropriate mathematical language.
- to develop their problem solving and investigational skills
- to enable children to make decision as to the appropriate resources, strategies and recording methods to use for mathematical problems.
- to encourage children to work both collaboratively and independently.

### **THE NATIONAL CURRICULUM AND THE NATIONAL NUMERACY STRATEGY**

The National Curriculum Order for Mathematics describes what must be taught in each Key Stage. St Laurence follows the National Numeracy Strategy Framework, which provides detailed guidance for the implementation of the Orders and ensures continuity and progression in the teaching of mathematics. Every teacher in St Laurence has a copy of the Framework for teaching mathematics.

In Early Years, the curriculum is guided by the Early Learning Goals, which mirror the Reception Learning Objectives in the NNS Framework.

### **PLANNING**

There are three connected levels of planning;

- long term: we follow the NNS Framework
- medium term: termly outlines of units of work and their main teaching objectives, and when the units will be taught.
- Short term: weekly notes on tasks, activities, exercises, key questions and teaching points for 5 lessons, including how children will be grouped, which of them the teacher will work with and how any support will be used.

### **CROSS-CURRICULAR LINKS**

Mathematics is taught mainly as a separate subject but every effort is made to link maths with other areas of the curriculum. We try and identify the mathematical possibilities across the curriculum at the planning stage. We also draw children's attention to the links between maths and other curricular work so children see that maths is not an isolated subject.

In the Early Years, these links are more evident because of the less formal timetable.

## TEACHING METHODS AND APPROACHES

Lessons generally follow the NNS format with a mental and oral starter, a main activity and a plenary session.

In K.S.1 mathematics lessons are held on a daily basis and last for approximately 45 minutes. The children are taught in mixed ability classes. When children start in Reception the organisation is more flexible building up to a daily 45-minute lesson in the summer term. In Reception the aim is to have prepared the children by the end of the year for a daily 45-minute maths lesson. (Refer to Introduction section in Framework for more details)

In K.S.2 the daily maths lessons last for approximately one hour.

Children in K.S. 1 and 2 are grouped according to ability for most maths lessons. These groupings are flexible and children are moved between groups after teacher assessment.

The teaching of maths at St. Laurence's provides opportunities for:

- Group work
- Paired work
- Whole class teaching
- Individual work
- Mixed ability groups

Pupils engage in:

- The development of mental strategies
- Mathematical discussion
- Practical work
- Investigational work
- Problem- solving
- Mathematical games
- Written methods
- Consolidation of basic skills and routines

At St Laurence we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. Children are made aware of appropriate mathematical vocabulary and children are expected to use it in their verbal and written explanations.

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

We will use a variety of questioning techniques.

## ASSESSMENT AND RECORD - KEEPING

### Long Term Assessment.

- SAT papers will be taken at end of each Key Stage.
- Optional SATs are taken at the end of years 3, 4, and 5. Test analysis sheets are used to inform present and future staff of performance.
- In Reception term 3, year 1 and year 2, activities are selected from the 'Assess and Review ' file and recorded on the Maths tracking sheet.

The purposes of *long term assessment* are to:

- Assess children's work against the key objectives for the whole year
- Assess children's attainment against national standards at the end of the key stage

- Inform the next teacher and the parents, of children's progress and attainment in school
- Enable headteacher, governors, staff, LEA and Ofsted to assess the progress and attainment of the school.

### **Medium Term Assessment**

- Each teacher will complete 'Key Objectives' sheet at the end of each unit of work recording each child's attainment against the key objectives.
- Baseline assessment for Reception children (during 1<sup>st</sup> 8 weeks in school)

The purposes of **Medium Term Assessment** are to:

- Assess children's progress against the key objectives
- To assess attainment and inform future planning
- To aid teacher assessment at the end of the year

### **Short Term Assessment**

- Regular annotation of children's work
- Specific marking of work and identification of next steps linked to Maths Targets
- Early Years on-going observations recorded in Nursery records and on daily plans

The purposes of **Short Term Assessment**

- To inform teachers of current progress of individual children
- To inform children of their progress and next steps

### **REPORTING**

- All parents receive an annual written report on which there is a summary of their child's effort and progress in mathematics over the year.
- At the end of Key Stage 1 and Key Stage 2 each pupil's level of achievement against national standards; SATs, is included as part of their annual written report.
- At the end of years 3,4 and 5 the results of the optional SATs are also reported.

### **RESOURCES**

Resources for the delivery of the maths curriculum are stored both centrally and in classrooms. Everyday basic equipment is kept in classrooms. Additional equipment and topic-specific items are stored centrally. There is a central store in K.S. 2 department.

Key resources include:

- Numicon
- Deines base 10 material
- Multilink
- Number lines
- 100 squares
- Counters
- Dice
- Balances
- Clocks
- Capacity equipment
- Plastic money
- 2D and 3D shapes

Collins is used as the core published scheme throughout the school.

Numerous additional materials are also used.

## DISPLAY

We recognise the important role display has in the teaching and learning of mathematics by having maths work displayed in the school. Every class is encouraged to have a mathematics display which provides a visual support for the children's mental processes.

## CALCULATORS

We believe that calculators can be an effective teaching and learning resource in the primary classroom. We follow the NNS Framework objectives for the use of calculators in years 4,5 and 6, and recognise that they are an important learning tool in all other age groups.

Calculators can be used for:

- Exploring patterns in number
- Identifying properties and relationships
- Problem solving, where the process of calculation is not the key objective
- Consolidating the children's learning of number facts

Children are taught *how* to use calculators effectively, and to recognise when it is *appropriate* to use them.

## EQUAL OPPORTUNITIES

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.

## CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

Wherever possible we aim to fully include SEN pupils in the daily mathematics lesson so that they benefit from the emphasis on oral and mental work and by listening and participating with other children in demonstrating and explaining their methods. Where necessary teachers will, in consultation with the SENCO, draw up an Individual Educational Plan for a child. If a child's needs are particularly severe they will work on an individualised programme written in consultation with the appropriate staff. When planning, teachers will try to address the child's needs through simplified or modified tasks or the use of support staff. Where appropriate a Group Educational Plan is developed with common objectives and learning targets for a group.

## HOMEWORK

It is expected that children will spend 5-10 mins every evening practising times tables in Years 2 - 6, and counting /number facts in reception and Year 1.

In KS2 a maths activity is set x1 a week to last 20 -30 mins depending on age.