

## North Stainley Church of England Primary School

### Policy for Mathematics

#### **The Nature of Mathematics**

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 world. 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 new imaginative worlds to explore.

Using the National Curriculum it is our aim to develop:

- ❖ a positive attitude towards mathematics and an awareness of the fascination of mathematics.
- ❖ competence and confidence in mathematical knowledge, concepts and skills.
- ❖ an ability to solve problems, to reason, to think logically and to work systematically and accurately.
- ❖ initiative and an ability to work both independently and in cooperation with others.
- ❖ an ability to communicate mathematics.
- ❖ an ability to use and apply mathematics across the curriculum and in real life.
- ❖ an understanding of mathematics through a process of enquiry and experiment.

#### **Knowledge Skills and Understanding**

At KS1 and KS2 teachers use the level descriptors to ensure that all parts of the National Curriculum Programme of Study are taught.

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- ❖ practical activities and mathematical games.
- ❖ problem solving.
- ❖ individual, group and whole class discussions and activities.
- ❖ open and closed tasks.
- ❖ a range of methods of calculating eg. mental, pencil and paper and using a calculator.

- ❖ working with computers as a mathematical tool.

### **Scheme of Work**

Our school scheme of work is a working document and as such is composed of ongoing plans produced on a week by week basis. This is developed from the national Curriculum and APP which takes into consideration the needs of our children.

### **Cross Curricular Issues**

Throughout the whole curriculum opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities.

### **Teachers Planning and Organisation**

Each class teacher is responsible for the mathematics in their class in consultation with and with guidance from the mathematics coordinator.

The approach to the teaching of mathematics within the school is based on three key principles:

- ❖ a mathematics lesson every day
- ❖ a clear focus on direct, instructional teaching and interactive oral work with the whole class and group
- ❖ an emphasis on mental calculation

Each class organises a daily lesson of between 45 and 60 minutes for mathematics

Lessons are planned using a common planning format and are collected and monitored by the mathematics coordinator.

The teacher of the Foundation class bases their teaching on objectives in the Framework for Reception; this ensures that they are working towards the 'Early Learning Goals For Mathematical Development'.

### **Special Educational Needs**

Children with SEN are taught within the daily mathematics lesson and are encouraged to take part when and where possible (please see the section on differentiation).

Where applicable children's IEPs incorporate suitable objectives from the NNS Framework and teachers keep these objectives in mind when planning work.

When additional support staff support groups or individual children they work collaboratively with the class teacher. A feedback sheet or notebook is completed by the class teacher and returned by support staff at the end of each lesson.

Within the daily mathematics lesson teachers not only provide activities to support children who find mathematics difficult but also activities that provide appropriate challenges for children who are high achievers in mathematics.

### **Pupils' Records of their Work**

There are occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

Children are encouraged to use mental strategies where possible.

### **Exercise Books for Recording**

It is school policy that the following pattern is used:

- ❖ KS1: plain exercise books
- ❖ Year 3: 1 cm squares
- ❖ Year 4: 1 cm squares – gradual move to 7 mm squares when individual children are ready
- ❖ Year 5: 7 mm squares
- ❖ Year 6: 7 mm squares

All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit.

### **Marking**

Work in mathematics can generate a great deal of marking and it is recognised that it is not always desirable to mark every piece of work. The children themselves can mark exercises which involve routine practice with support and guidance from the teacher. Where appropriate children in Years 5 and 6 are encouraged to check computational exercises with a calculator. This can foster independence in the children, who can seek help if they are unable to locate and correct their errors.

The quality of marking is crucial. A simple 'X' is of little assistance to a child unless accompanied by an indication of where the error occurred, together with an explanation of what went wrong.

Marking should be both diagnostic and summative and school policy believes that it is best done through conversation with the child but acknowledges that constraints of time do not always allow this (for more detail see the School Marking Policy).

### **Assessment and Record Keeping**

Teachers are expected to make regular assessments of each child's progress and to record these systematically. The following is the school policy for assessment in mathematics:

#### Informal Tests of Mental Arithmetic

This involves 20 mixed questions given orally every two weeks for up to Y4, and every week for Y5/6. This may also be done as 10 questions weekly. This is followed immediately by discussion with the whole class so that any misconception can be put right and the merits of different methods discussed.

In Class 1 the teacher aims to achieve 5 questions with the Reception children by the end of the year and the teacher starts with 5 questions in Year 1.

#### Formal Written Tests

Teachers use the supplement of examples in the framework to plan assessment activities and written tasks for one or two days towards the end of each half term.

The work set, combined with a scrutiny of children's recorded work over the previous six weeks, helps to review how well children have taken in the topics taught and identifies any remaining misconceptions. A record of each child's attainment is recorded.

#### Termly Evaluation

The evaluation of termly plans shows what has been taught and what has yet to be learned. This serves as a class record of progress. The teacher may wish to make notes on individual children whose progress differs markedly from the rest of the class, and the reasons for it. These notes and class records follow through with the child as they progress through the years.

#### Formal Assessment

In the summer term the children are formally assessed as part of the School's Assessment Policy.

### **Reporting to Parents**

Reports are completed before the end of the summer term and parents are given opportunity to discuss their child's progress on two separate occasions, once in autumn term and once in spring term.

Teachers use the information gathered from their half termly assessments to help them comment on individual children's progress.

### **Parental Involvement**

- ❖ Parents are invited into school twice yearly to look at their children's work.
- ❖ When significant changes have been/are made to the mathematics curriculum parents are invited to a meeting or sent information via a half termly newsletter.
- ❖ Parents are welcomed into school to work alongside teachers in the daily mathematics lesson.

### **Differentiation**

This should always be incorporated into all mathematics lessons and can be done in various ways:

- ❖ Differentiated Activities which become more difficult and demanding but cater for the less able in the early sections.
- ❖ Common Tasks which are open ended activities/investigations where differentiation is by outcome.
- ❖ Resourcing which provides a variety of resources depending on abilities eg. counters, cubes, 100 squares, number lines, mirrors.
- ❖ Grouping according to ability so that the groups can be given different tasks when appropriate. Activities are based on the same theme and usually at no more than three levels.

### **Monitoring and Evaluation**

The mathematics coordinator works alongside other teachers to monitor and evaluate the quality and standards of mathematics throughout the school and to support teachers.

Opportunities for teachers to review the scheme, policy and published materials are given during staff meetings.

### **Staffing and Resources**

All teachers have an area within the classroom dedicated to mathematics resources. This area is easily accessible to all children and allows them to become familiar with all resources.

Resources which are not used or required regularly are stored centrally.

### **Homework**

It is our school policy to provide parents and carers with opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics.

Activities are sent home on a regular basis (see the separate school Homework Policy) and take the form of number games and tasks with some formal exercises for older children.

**Signed (Chair of Governors)**\_\_\_\_\_

**Date**\_\_\_\_\_

**Date for review**\_\_\_\_\_