



## Rowhill School Secondary Mathematics Policy

### **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 Programmes of Study from the National Curriculum and the National Numeracy Strategy Framework for Teaching Mathematics 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

### **SCHOOL POLICY AND THE NATIONAL CURRICULUM**

#### Knowledge Skills and Understanding

At KS3 teachers modify the NNS Framework for Teaching Mathematics to ensure that each child receives an individualised curriculum to meet their specific needs.

At KS4 pupils' may either follow a course in GCSE mathematics, or work towards and Entry Level Certificate in mathematics, or follow a Functional Skills program.

### Breadth of Study

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 NNS Framework and 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' ASSESSMENT, PLANNING AND ORGANISATION**

Each mathematics 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:

- Four or five mathematics lessons per week.
- A clear focus on functional numeracy skills.
- A focus on differentiation across the department.

Medium Term planning is done using a common planning format (Appendix 1). Teachers are responsible for their own weekly planning based on this, according to the learning needs of their pupils.

Assessment informs planning. At the end of each unit of work, pupils are assessed against NNS attainment targets using a common assessment grid (Appendix 2). From this grid, the co-ordinator can plan particular units based on objectives to be met.

Teachers in the maths department meet periodically to agree national curriculum level descriptors for the units of work for the previous term.

## **SPECIAL EDUCATIONAL NEEDS**

All pupils at Rowhill School have a statement of educational needs issued by their Local Education Authority. As such, each child's needs are taken into consideration for the purposes of planning for classroom activities.

Some pupils require support with literacy skills to access the numeracy curriculum. These needs can be met in a variety of ways in the class setting.

Some pupils have been identified across the secondary department as having made little or unsatisfactory progress in numeracy. Where appropriate, these pupils receive 1:1 or 1:2 intervention in the Stern Maths program which is delivered by support staff and overseen by the Maths Co-ordinator.

Many pupils at Rowhill School have a diagnosis of Attention Deficit Hyperactivity Disorder. Where these pupils find it difficult to maintain their attention on tasks for extended periods of time, it is common for a variety of activities to take place, many of these hands-on activities to cater for kinaesthetic learners.

## **EQUAL OPPORTUNITIES**

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics.

In the daily mathematics lesson we support children with English as an additional language in a variety of ways.

eg. repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc.

### **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 before resorting to a written algorithm.

All children are encouraged to work tidily and neatly when recording their work. When using squares one square should be used for each digit. When involved in routine practice of calculations the children are encouraged to fold a page in half creating two columns for answers.

### **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 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).

### **REPORTING TO PARENTS AND CARERS**

Reports are completed before the end of the summer term and parents are given opportunity to discuss their child's progress at the end of the school year and during the Annual Review process.

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

## **RECORDS OF ACHIEVEMENT**

During the year, 3 to 4 pieces of mathematical work are kept for each child to reflect the breadth of mathematics covered. This forms part of individual children's Record of Achievement.

A portfolio of work is kept in the mathematics monitoring file. It includes some mathematics samples of work as evidence of the levels to which children are working at in the school. These samples are updated and discussed once a year.

## **PARENTAL INVOLVEMENT**

- Parents are invited into school twice yearly to look at their children's work.
- An open evening is held once a year.
- When significant changes have been/are made to the mathematics curriculum parents are invited to a meeting or sent information via the school newsletter.
- At Annual Review meetings, pupils' achievement is reviewed and targets shared with parents.

## **DIFFERENTIATION**

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

- Stepped 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**

Time is set aside twice a term for subject teachers to meet to discuss mathematics in the department.

This time may be used for a variety of purposes:

- Any changes or developments in the curriculum.
- Sharing resources and ideas.
- Monitoring and evaluating the quality and standards of mathematics across the department.
- Opportunities for teachers to review the scheme, policy and published materials.

## **STAFFING AND RESOURCES**

Practical Resources

All teachers should organise 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 in the Key Stage 4 maths room.

## **THE GOVERNING BODY**

The Governing Body has an Every Child Matters committee which meets regularly to discuss and review the curriculum.

Opportunities are provided for members of the committee to attend any relevant training.

Members of the committee are integral to the mathematics department.