

# Bosvigo School



## Policy for Mathematics

July 2011

## **1. INTRODUCTION**

This policy reflects the values and philosophy of Bosvigo School in relation to the teaching and learning of mathematics. It sets out a framework within which all staff, both teaching and non-teaching work. It gives guidance on the planning, teaching and assessment of mathematics. The policy takes into account the National Curriculum, the Renewed Framework for mathematics and recent curriculum developments.

## **2. AUDIENCE**

This policy, having been presented to and agreed upon by the whole staff and Governing Body, is available, from the school office, to the following:-

- All teaching and non-teaching staff
- School governors
- Parents and carers
- Advisors and Inspectors
- Visiting teachers / out-reach teachers

## **3. VISION STATEMENT**

In the teaching of mathematics, we can identify a number of aims which will enable children to apply knowledge and skills, solve problems of a practical and investigative nature, and communicate their ideas to others using appropriate mathematical language.

A good mathematician at Bosvigo School will....

- have a positive attitudes towards mathematics and an awareness of the fascination of mathematics
- be able to identify mathematical relationships, both spatial, numerical and logical, and recognise their relevance to everyday life
- be able to carry out practical activities involving measurement, estimation and calculation
- be able to use money in everyday situations
- be able to read and record mathematical statements using correct terminology and symbols
- be able to use and interpret diagrams, charts, graphs and tables
- have an ability to solve problems, to reason, to think logically and to work systematically and accurately
- have developed an ability to use and apply mathematics across the curriculum and in real life
- have developed an understanding of mathematics through a process of enquiry and experiment

#### **4. AIMS**

The aim of the Primary Framework for Literacy and Mathematics is to support and increase all children's access to excellent teaching, leading to exciting and successful learning.

Children deserve:

- to be set appropriate learning challenges
- to be taught well and be given the opportunity to learn in ways that maximise the chances of success
- to have adults working with them to tackle the specific barriers to progress they face

#### **5. EXPECTATIONS**

Children at Bosvigo School follow the National Curriculum for mathematics and work at levels appropriate to their ability. It is expected that most children at the end of the Early Years Foundation Stage will have satisfied at least 6 of the 'development matters' statements. Some will have satisfied all 9 statements. By the end of KS1 it is expected that most children will achieve Level 2 and by the end of KS2 it is expected that most children will achieve Level 4. Some children will be expected to exceed national expectations. All children will:

- experience a range of mathematical activities as an integral part of the whole school curriculum
- have opportunities to develop basic mathematical skills, concepts, attitudes and knowledge appropriate to their development
- have opportunities to acquire, practise and develop mathematical skills
- have opportunities to work in a variety of ways:- class, group, or individually, depending on the task
- have access to practical tasks which will enable them to develop mathematical language, knowledge and skills
- be able to perform mathematical operations and apply them to everyday life

#### **6. TEACHING AND LEARNING**

The curriculum is delivered by class teachers. In all classes children are taught in ability groups and work is differentiated in order to give appropriate levels of work to each ability group. Where appropriate these groups/individual children are supported by teaching assistants/learning support assistants.

Children are taught mathematics in class groups from Foundation Stage to Year 2. In both Lower Key Stage Two and Upper Key Stage Two the children are grouped based on their learning needs. We therefore have three maths groups in each of Lower Key Stage Two and Upper Key Stage Two.

### EARLY YEARS/FOUNDATION STAGE

Learning takes place through adult-directed, adult-initiated and child-initiated activity. There is a strong emphasis on exploration and problem solving through play. Children are assessed largely through observations which provide evidence of progression towards achievement of the Foundation Stage Profile scale points. Evidence is recorded in the individual Foundation Stage Profile booklet for each child.

### KEY STAGE 1 AND KEY STAGE 2

From Year 1, all children have a dedicated mathematics lesson every day lasting about 60 minutes. We aim to provide all pupils with some direct teaching every day, which is oral, interactive and stimulating. Teaching styles and lesson structure provide opportunities for children to consolidate their previous learning, use and apply their knowledge, understanding and skills, pose and ask questions, investigate mathematical ideas, reflect on their own learning and make links with other areas of the curriculum.

Our approach to teaching is based on four key principles:

- Dedicated mathematics lessons
- Direct teaching and interactive oral work
- An emphasis on mental calculations
- Activities differentiated so that all children are engaged in mathematics related to a common theme

As much time as possible is spent in each lesson in direct teaching and questioning of the whole class, groups or individuals. There is a range of elements in the teaching, namely directing, instructing, demonstrating, explaining and illustrating, questioning and discussing, consolidating, evaluating responses and summarising. Children are encouraged to make decisions, communicate their understanding to others and give reasons for their answers. Teachers aim to create an environment where children are secure and feel confident in being able to take risks in their learning.

### HOMEWORK

Homework is regarded as an important tool for the support of classroom learning; practice, reinforcement, extension and revision are concepts covered by the tasks set in Key Stage 1 and Key Stage 2.

At Key Stage 1 mathematics homework will be given regularly, wherever appropriate, and at Key Stage 2 mathematics homework will be given on a weekly basis.

## 7. INCLUSION AND EQUAL OPPORTUNITIES

All teaching and non-teaching staff at Bosvigo School are responsible for ensuring that all children, irrespective of gender, ability, ethnic origin and social circumstances, have access to the whole curriculum and make the greatest possible progress.

At Bosvigo School we aim to provide a broad and balanced education to all pupils. We provide learning opportunities that are matched to the needs of pupils of all abilities and we aim to include all children within the daily mathematics lesson. Work in mathematics takes into account the targets set for individual children in their IEPs and whether they have been recognised as being Talented and Gifted.

## **8. THE ROLE OF ICT IN MATHEMATICS**

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- ICT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics
- Any decision about using ICT in a particular lesson or sequence of lessons should be directly related to the teaching and learning objectives for those lessons
- ICT should be used if the teacher and/or the children can achieve something more effectively with it than without it
- Useful suggestions as to integrating ICT into units of work is given in the planning section of the Renewed Framework

## **9. PUPIL ASSESSMENT**

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). We make **short-term assessments** which are used to help adjust the daily plans. These short-term assessments are mainly informal and may be recorded on the daily planning sheets. Teachers use them to inform their day to day planning. In Key Stage 1 and 2 **medium-term assessments** are made to measure progress using 'end of unit' tests and APP. We make **long-term assessments** towards the end of the school year and we use these to assess progress against school and national targets.

- The Foundation Stage profile is stored electronically at the beginning, middle and end of the child's time in Reception and progress can be shown through graphs to show progress.
- Each class teacher is responsible for monitoring and evaluating the progress of their pupils Mathematics skills. Teachers record progress, assessed through APP and SATs, on tracking sheets each term, and these are passed on from one year group to the next.
- Curricular targets are used to individually monitor children's progress. These are focused on a particular area of maths, in line with current needs/data analysis.
- Children are also formally assessed at Year 2 and Year 6 according to SATs tests and tasks with the Year 2 test results being based on teacher assessment and not on the results of the actual test.
- Years 3, 4 and 5 also undergo optional SATs tests in mathematics.
- An electronic tracking system is used to closely monitor children's progress throughout the school. Teacher assessments are entered termly and they are closely analysed by the Senior Leadership Team.

## **TARGETTING**

After analysis of the end of year tests and assessments we set targets for the next school year. These targets are broken down into Year Group targets and from these, targets are set for individual children. Targets are discussed with parents and children at parent interviews and their child's targets are given to them in the form of a leaflet. Children's achievements regarding the targets will be commented on in the annual report to parents and at parent interviews.

## **RECORDING AND REPORTING**

Children's achievements are reported to parents at the parent interviews in the Autumn and Spring Term. Written reports of attainment are issued to parents in the Summer Term. Information about individual children's achievements is passed on to the next teacher, verbally and statistically, at the end of the academic year.

## **10. ROLES AND RESPONSIBILITIES**

The subject leader for maths is responsible for the following areas:

- Ensuring understanding of the Renewed Framework amongst teachers, teaching assistants and learning support assistants
- Keeping up to date with developments in maths teaching
- Observing colleagues and monitoring planning and quality of teaching.
- Reviewing planning and conducting work sampling
- Organising maths events
- Leading by example in the way of teaching in own classroom.
- Preparing policy documents
- Advising colleagues and helping to develop expertise
- Encouraging the development of maths activities that are appropriately differentiated and enable progress
- Liaising with the Head teacher, Deputy Head teacher and Governors as appropriate
- Making purchasing decisions
- Contributing to INSET training of staff
- Reporting to the governors and to the Maths Governor.

## **11. MANAGEMENT INFORMATION**

Communication with staff is made through staff training days, SLT meetings, weekly staff meetings/team meetings and individual meetings with staff. We also report back on courses to whole staff, phases or individuals, as appropriate. To ensure consistency and progression in the Mathematics curriculum throughout the schools we currently:

- meet together regularly in separate teams to discuss current mathematics issues, look at planning and moderate
- discuss mathematics requirements in whole staff meetings
- attend training individually or in key stage or whole staff groups
- pass relevant records of attainment and pieces of mathematics work to next class teacher.

Resources are located in individual classrooms, the maths coordinators classroom and the two maths cupboards.

## **12. HOME/SCHOOL LINKS**

We see the relationship with parents as very important in supporting their children's mathematics skills. We involve the parents in their children's learning by:

- Providing regular parents' evenings which give them verbal and written information on their child's progress and their targets for the future.
- Providing termly curriculum letters informing the parents on the areas of the curriculum that are being covered.
- Providing an end of year report which outlines progress and attainment.
- Providing meetings to inform parents on how we teach mathematics and how they can help.
- Providing links to relevant Maths websites through our Learning Platform (from Autumn 2011)

## **13. INSET**

INSET needs are identified through the School Development Plan, Curriculum review and the Mathematics School Action Plan. The needs of the school, Coordinator and individuals are prioritised by the Mathematics Coordinator and the INSET Coordinator.

## **14. SUBJECT MONITORING / EVALUATION OF PROVISION**

The Senior Leadership Team is responsible for monitoring and evaluating curriculum progress. This is done through books trawls, planning scrutinies, lesson observations, staff discussions and audits of resources.

## **15. HEALTH AND SAFETY ISSUES**

Please refer to the school Health and Safety Policy.

Particular care is needed when working with sharp equipment, especially pairs of compasses and scissors.

Next review July 2014

## **APPENDIX 1**

### **PRESENTATION OF WORK**

#### **BOOK SIZE**

Foundation: - A4 plain books for all work

Key Stage 1:- A5 1cm square books.

(Jotters record informal calculations  
Worksheets filed in separate folders)

Key Stage 2:-

Class 5, 6, 7,

Year 3:- A5 1cm square books

Year 4 'low achievers':- A5 1cm square books

Year 4 'on track' and above: - A5 7mm square books

Year 5:- A5 7mm square books

Key Stage 2:-

Class 8, 9 and 10

Year 5:- A4 7mm square books

Year 6:- A4 7mm square books

(Informal methods of recording included in maths books.  
Worksheets glued into maths books.)

#### **RECORDING WORK**

Foundation: - pencil

Key Stage 1:- pencil

Key Stage 2:- Class 5, 6 and 7:- pencil

Key Stage 2:- Class 8, 9 and 10:- pen

#### **RECORDING DATE, TITLE AND OBJECTIVE**

Foundation: - Date and title supplied by staff. Objective given orally.

Key Stage 1:- Short date and title on left of page. Objective reflected in title and repeated orally throughout the lesson. RAG system used for self-assessment of learning objective.

Key Stage 2:- Short date on left of page. Title reflects objective. Objective verbalised at the beginning and during the session. RAG system used for self-assessment of objective. Objective written on Smart board or whiteboard.