

BARTON PRIMARY SCHOOL AND EARLY YEARS CENTRE.



Maths Policy

DATE: 2009

TO BE REVIEWED: 2011



Introduction:

- This document is a statement of the principles, aims and strategies for teaching and learning, progress and continuity, recording and reporting and use of resources in Mathematics at Barton Primary School and Early Years Centre.
- It was updated during 2009 through a process of consultation with teaching staff and Governors.
- This policy will be reviewed in 2011, or sooner if necessary.

Principles:

- Mathematics is a body of knowledge, which provides a way of viewing and making sense of the world.
- It is widely used in society both in every day situations and in the world of work.
- It can be used to represent or communicate ideas, to predict, to explain, to hypothesise and to generalise about what has been discussed.
- It is interesting and enjoyable, providing intellectual challenge and aesthetic pleasure.
- Mathematics contributes to each child's personal, social and intellectual development and understanding and prepares them for adult life.
- Mathematical skills are developed in the Foundation Stage where they are categorised into Problem solving, reasoning and numeracy. Mathematics is a core subject in the National Curriculum.

Early Years Framework:

Numbers as labels for counting

Calculating

Shape, Space and Measures

Shape, Space and Mathematics.

Key Stage 1 and Key Stage 2 [through 'Maths Makes Sense']

Using and applying Mathematics

Shape, Space and Measure

Handling Data

Algebra

Numbers and the Number System

Calculating

Our aims in Mathematics are to ensure

- Well motivated pupils with consistently high expectations
- Continuous improvement in outcomes for all pupils
- High quality teaching of mathematics
- A positive attitude to mathematics as an interesting and attractive subject in which all children can gain success and pleasure.
- An appreciation of the creative aspects of the subject and an awareness of its aesthetic appeal.
- An ability to think clearly and logically in mathematics with confidence and an independence of thought and a flexibility of mind.
- An understanding of mathematics through enquiry and the experience of the joy of discovery.
- An appreciation of mathematical pattern and an ability to identify relationships.
- Mathematical concepts, skills and facts accompanied by a quick recall of basic facts.
- An awareness of the use of mathematics in the world beyond the classroom.
- Persistence through sustained work in mathematics, which requires some perseverance over a period of time.
- A confidence in mathematics which is shown by the ability to express oneself fluently, to talk about the subject with assurance and to use the language of mathematics readily.
- Cross-curricular dimensions, skills and themes.

Foundation Stage:

Effective learning involves:

- Children initiating activities within a carefully planned environment that promote learning and can be extended.
- Children enjoy mathematical learning because it is purposeful.
- Learning which is consolidated and extended through games and gives children opportunities to practise their mathematical skills and knowledge.
- Children being confident and enthusiastic to join in with or talk about mathematical activities.
- Children following ' Maths Makes Sense' principles, as well as play initiated activities.

Effective Teaching and Learning requires:

- Knowing the children well and ensuring good progress
- Accuracy, consistency and robustness of systems for tracking, monitoring and analysing the impact of teaching
- High expectations of all pupils
- Commitment to bringing improvement across all outcomes for pupils
- High quality teaching
- Peer observation including co-coaching
- Practitioners who help children to see themselves as mathematicians, and develop a positive attitude and disposition towards their learning.
- Practitioners who maintain children's enthusiasm and confidence when they begin to record their mathematics.
- Planning a range of mathematical opportunities.
- Making good use of opportunities to talk 'mathematically' as children play or take part in normal daily activities.
- Practitioners encouraging children's mathematical development by intervening and extending play opportunities.
- Practitioners who develop children's thinking by showing an interest in methods, not just solutions.
- Practitioners who understand that mathematical development does not depend on specific resources.
- Practitioners who are confident about themselves as mathematicians and understand the links between different areas of mathematics.

Key Stages 1 and 2:

- The Mathematics curriculum is based upon the ' Maths Make Sense' initiative and supplemented with the NNS Framework, which is based on 4 key principles:
 - 1: Dedicated Mathematics lessons every day.
 - 2: Direct teaching and interactive oral work with the whole class and groups.
 - 3: An emphasis on mental calculation.
 - 4: Controlled differentiation, with all pupils engaged in mathematics relating to a common theme.

There is no specialist teaching in Mathematics, it is taught by the class teacher and specialist trained teacher assistants

Mathematics teaching at all levels should be achieved by balancing different elements:

Directing: sharing the objectives with the class, ensuring that pupils know what to do.

Instructing: giving information and structuring it well.

Demonstrating: showing, describing and modelling mathematics using appropriate resources and visual displays.

Explaining and illustrating: giving accurate, well-placed explanations referring to previous work or methods.

Questioning and discussing: questioning in ways, which match the direction and pace of the lesson and ensures all pupils take part, listening carefully to pupils' responses and responding constructively.

Consolidating: maximising opportunities to reinforce and develop what has been taught.

Evaluating: pupils' responses identifying mistakes, using them as a positive teaching point.

Summarising: reviewing during and towards the end of the lesson the mathematics that has been taught and what the pupils have learned, identifying and correcting misunderstandings.

Information and Communication Technology:

Is used for:

- Data handling (use of data bases, spreadsheets and graph drawing).
- Modelling (Logo activities).
- Practise of basic skills in a games context.
- Problem solving.

(See 'Using ICT to Support Mathematics in Primary School').

Calculators:

Are used to enable children to:

- Work on investigation activities without the need to focus on calculation.
- Explore large numbers.
- Practise using and recalling number facts etc.
- They are not a substitute for pencil and paper or mental methods of calculation, which are also widely practised.

A Mathematical Display:

This plays an important role in the classroom and has a variety of functions as it can:

- Communicate a sense of what is valued in a classroom both to those that work in it and those visiting.
- Teach, provide information, ask questions and give instructions.
- Celebrate the children's work and effort.
- Motivate, encouraging children to participate in a practical activity.
- Develop the children's skill in communication if they are involved in producing the display.

Special Needs:

Pupils with difficulties in Mathematics need the national curriculum targets broken down in smaller bite size objectives, presented in a practical way, with extra support if possible from the classroom assistant.

- Children who have specific difficulties may have difficulty interpreting written problems or instructions. They should be given the opportunity to discuss what they have read and what they think it means. The mathematics may be within their capability.
- Children in Years 3 and 4 who need to boost their confidence and ability in number are given extra help through the Springboard programme.
- Pupils with particular ability or flair in mathematics are mostly extended through the use of problems and investigation.

Guidelines for Ensuring Progress and Continuity:

Planning - in Mathematics is a process which all teachers at Barton Primary School and Early Years Centre are involved. It takes into account:

- Curriculum Guidance in Mathematics for the Foundation Stage.
- 'Maths Make Sense' and The National Numeracy Strategy Framework.
- The expectation that attainment target 1 will permeate the acquisition of the concepts skills and facts in attainment targets 2-4.
- The different abilities within the class, some children will be working above the expectation for their year and others below.

- The variety of approaches outlined in strategies for teaching.
- Cross curriculum applications and purposeful contexts.
- School planning sheets are used for Medium Term and Weekly planning
- Teachers may develop their own daily plans which will include differentiation
- Planning must show the use of classroom assistants and ICT.
- Where there are parallel classes, medium term and weekly plans are collaborative.
- Planning is monitored by the Mathematics Co-ordinator.

Formative Assessment:

Formative Assessment is used to guide the progress of individual pupils in Mathematics. It involves identifying each child's progress in each aspect of the subject, determining what each child has learned and what therefore should be the next stage in his/her learning. Formative assessment is mostly carried out informally by the teachers during the course of their teaching.

Assessment may include:

- Observation by teacher.
- Small group discussion perhaps in the context of a practical activity.
- Individual discussion in which children are encouraged to appraise their own work and progress.
- Short tests in which teachers give questions orally and pupils write answers.
- Written assignments.
- Practise exercises.

(See 'Using Assess and Review Lessons').

A PORTFOLIO of work showing examples of above average, average and below average attainments for each level through the Assessing Pupil's Progress-training in process

MARKING of work provides feedback to pupils about their progress in Mathematics. Effective marking is:

- Encouraging and supportive, includes ticks and written comments with errors clearly indicated.
- Is often done while a task is being carried out through the discussion between a child and the teacher.

- Is often done by discussion as a whole class.
- Focussing on individual targets
- To inform future learning and understanding.

The Role of the Mathematics Co-ordinator:

The role of the Mathematics Co-ordinator is to:

- Take the lead in policy development
- Support colleagues in their development of work plans, the implementation of the scheme of work and assessment and record keeping activities.
- Monitor progress in Mathematics, identifying gaps between year groups and analysing groups within the cohorts
- Take responsibility for ordering organising mathematics resources.
- Prepare action plans to include resource requirements.
- Keep up to date with developments in mathematics education and disseminate information to colleagues as appropriate.

Guidelines for Target Setting, Recording and Reporting:

Records of progress in Mathematics for each child are recorded on:

1. Foundation Stage Profile with use of supporting evidence in books and on post its
2. APP records Individual and Class Records.

Target Setting

All children are set annual targets based on their previous results.

Challenging targets are also given. These are reviewed constantly in progress meetings held 1st Monday of each month with year group peer teacher

Reporting to Parents:

Reporting to parents is on a twice-yearly basis through interviews and annually through written report. Reporting on Mathematics will focus on each child's:

- Attitude to mathematics.
- Competence in basic skills including number, measures, shape and space.
- Using and applying mathematics.

Formal Summative Assessments:

Formal Summative Assessments are carried out:

- Foundation Stage Profile at the end of Reception Year.
- At the end of Year 2 using End of Key Stage Assessments.
- At the end of Year 3 using CAT's Quantitative Test and Optional SAT.
- Optional Year 4 SATs
- Progress tasks to support APP.

Use of Resources:

Classroom resources in Mathematics include:

- 'Maths makes Sense' complete box of resources and Scheme of Work
- A variety of equipment for measuring and data handling.
- A variety of equipment for work on number, shape and space.
- Mathematical games.
- Calculators.
- Computers and information technology programmes.

Some resources are shared between year groups

Classroom resources are stored tidily, labelled clearly and accessible to the children. The children are taught to look after the equipment, handling it carefully and putting it back correctly.

Health and Safety Issues in Mathematics:

Health and Safety Issues in Mathematics include:

- Special care and procedures when handling some apparatus such as scissors, compasses, glue guns etc.
- Use of aprons for messy work.
- Supervision of cooking activities by an adult checking hygiene and safety procedures.

This concludes the **Barton Primary School and Early Years Centre Policy for Mathematics.**