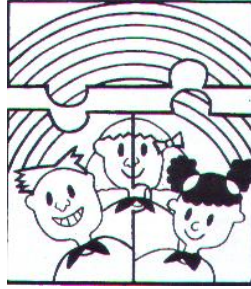


Mathematics Policy



Emersons Green Primary School **Mathematics Policy**

1 Aims and objectives

1.1 Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

1.2 The aims of mathematics are:

- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to understand the importance of mathematics in everyday life.

2 Teaching and learning style

2.1 Emersons Green Primary School uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching and promotes pupil talk and paired or group work. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Mathematical dictionaries are available in all classrooms. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations and make the links between mathematical concepts.

2.2 In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to work in pairs on open-ended

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problems or games. We use classroom assistants to support children and to ensure that work is matched to the needs of individuals.

At Emersons Green School we teach an agreed list of calculation strategies for the four number operations. This is agreed and implemented by all staff in conjunction with the South Gloucestershire recommended strategies. Training sessions are run for TAs and workshops for parents.

3 Mathematics Curriculum Planning

- 3.1** Mathematics is a core subject in the National Curriculum, and we use the National Numeracy Strategy as the basis for implementing the statutory requirements of the programme of study for mathematics.
- 3.2** We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The National Numeracy Strategy Framework for Teaching gives a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the key objectives in mathematics that we teach in each year.
- 3.3** Our medium-term mathematics plans, which are adopted from the Framework and give details of the main teaching objectives for each term, define what we teach. They ensure an appropriate balance and distribution of work across each term. These plans are annotated by teachers to meet the needs of their class and continually evaluated. Copies of these plans are given to the subject leader at the beginning and end of each term, so they can be reviewed.
- 3.4** It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans, and the class teacher and subject leader often discuss them on an informal basis. Weekly plans are also made available on the school shared drive so that they can be accessed by all members of staff.

4 The Foundation Stage

- 4.1** We teach mathematics in our Reception class. As the class is part of the Foundation Stage of the National Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

5 Contribution of Mathematics to Teaching in other Curriculum Areas

5.1 English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

5.2 Information and communication technology (ICT)

Children use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships.

5.3 Personal, Social and Health Education (PSHE) and Citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children whenever we can with real-life situations in their work, such as the spending of money.

5.4 Spiritual, Moral, Social and Cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results. The study of famous mathematicians and mathematical ideas from around the world contribute to the cultural development of our children.

6 Teaching Mathematics to Children with Special Needs/ Gifted, Able and Talented

6.1 We teach mathematics to all children, whatever their ability. At Emersons Green School we aim to provide a broad and balanced education for all the children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Work in mathematics takes into account the targets set for individual children in their Individual Education Plans (IEPs). Children who are gifted, able and talented in mathematics will be included on the GA & T register. They will be given the opportunity to participate in extra-curricular activities as organised through the LEA and the school. Their needs will also be incorporated into the teaching of the daily Numeracy hour.

7 Assessment and Recording

7.1 We assess children's work in mathematics in a variety of ways. We make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

7.2 We make medium-term assessments to measure progress against the key objectives, and to help us plan the next unit of work. We use the class record of the key objectives as the recording format for this.

7.3 We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of teacher

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assessments and end-of-year tests, which are analysed by all teaching staff. We use the national tests for children in Year 2 and Year 6, plus the optional national tests for children at the end of Years 3, 4 and 5. There are also end of year assessments in Reception and Year 1. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum.

- 7.4** The mathematics subject leader keeps samples of children's work in a portfolio. This demonstrates what the expected level of achievement is in mathematics in each year. Teachers meet regularly to review individual examples of work against the national exemplification material produced by the QCA and the DfEE.

8 Resources

- 8.1** There are a range of resources to support the teaching of mathematics across the school. All classrooms have a number line and a wide range of appropriate small apparatus. Mathematical dictionaries are available in all classrooms. Calculators and a range of audio visual aids are available in most classrooms and from the central storage area. The library contains a range of books to support children's individual research. A range of software is available to support work with computers and all classes have interactive whiteboards. Easiteach Numeracy is used by class teachers to enhance daily mathematics teaching.

9 Monitoring and Review

- 9.1** Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader, along with the Headteacher. The work of the mathematics subject leader and Numeracy Leadership team also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader and the Headteacher evaluate the strengths and weaknesses in the subject and indicate areas for further improvement. The Headteacher allocates regular management time to the mathematics subject leader, or Numeracy Leadership team members so that they can review samples of children's work and undertake lesson observations of mathematics teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress.

Signed:

Date:

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