

Bonner School Mathematics Policy

1 **Statement of Philosophy**

“We at Bonner Primary School believe that mathematics is a body of knowledge which provides a way of viewing and making sense of the world. It is also a powerful means of developing self-esteem, communication, confidence and co-operation.

We acknowledge that mathematics is an essential tool for everyday life and a subject worthy of study in itself.”

1.2 **The aims of mathematics are:**

- to foster enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- to develop mathematical fluency;
- to fulfill the National Curriculum mastery requirement, according to the child's ability;
- to raise mathematical achievement;
- to promote school and community links through shared mathematical experience;
- to give all our children equal access into the mathematics curriculum and resources regardless of race, ability, age, sex or disability;
- to use mathematical language with ease and understanding as a form of communication;
- to develop pupils' self-confidence in their mathematical ability;
- to encourage children to think and reason for themselves;
- to give children the opportunities to work in a variety of mathematical situations.

2 **Teaching and learning style**

2.1 The 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. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of concrete resources such as number lines, number squares, digit cards and small apparatus to support their work. 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.

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

3 Mathematics curriculum planning

- 3.1** Mathematics is a core subject in the National Curriculum, and we use the National Curriculum as the basis for planning and implementing lessons.
- 3.2** We carry out the curriculum planning in mathematics in two main phases (long-term and short-term). The Mathematics Programmes of Study (National Curriculum) provides the long term framework. In addition, our mathematic schemes provide medium term planning.
- 3.3** It is the class teacher who completes the weekly plans for the teaching of mathematics. These may be based on a scheme such as Abacus, or may be developed by the class teacher themselves. 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 provides digital copies weekly. These are monitored by the subject leader.

4 The Early Years Foundation Stage

- 4.1** We teach mathematics in our reception and nursery classes. As these classes are part of the Early Years 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. Many of our coding modules depend on an understanding of mathematics and ability to reason with number and pattern.

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.

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We present older children with real-life situations in their work on 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 around the world contributes to the cultural development of our children.

5.5 Science

Mathematics contributes to the teaching of Science in a number of ways. The children use knowledge of weights and learn to use and apply number in science lessons. They use their knowledge of estimation and prediction whilst working on investigations. They use and develop the skills of accurate observation and recording of events further. They use numbers in many of their answers and conclusions.

6 Teaching mathematics to children with special needs

- 6.1** We teach mathematics to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all 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 Plan (IEPs).

7 Assessment and recording

- 7.1** We assess children's work in mathematics from two aspects (summative and formative). We make short-term formative assessments which we use to help us adjust our daily plans. These assessments are closely matched to the teaching objectives. Teachers use Classtrack, book marking, informal assessment and their own additional assessments in the short term.
- 7.2** We make longer term summative assessments three times a year. We use Classtrack, Abacus assessments and end of year tests to inform our assessments. We assess progress against school and national targets. This information is shared with parents and the child's next teacher that s/he can plan for the new school year.

8 Resources

- 8.1** There is 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. Calculators and a range of audio visual aids are available 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 the computers. The interactive whiteboard in each teaching space is used to help children understand a range of mathematical concepts.

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 leaders. The work

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of the mathematics subject leaders 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 leaders give the headteacher an annual summary in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. 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: October 2016

Next Review: October 2017