Melsonby Methodist Primary School Mathematics Policy

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1 Aims and objectives

1.1 Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It enables children to understand relationships and patterns 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 Our objectives in the teaching of mathematics are to:

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

2 Teaching and learning

2.1 The school uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding. During our daily 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. Computing is used in mathematics lessons for modelling ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations.

2.2 In all classes, children have a wide range of mathematical abilities. 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 teaching 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 Primary Curriculum. We use the Primary Curriculum programmes of study as the basis for our curriculum planning.

3.2 We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term).

3.3 Our medium-term mathematics plans define what we teach giving details of the main teaching objectives for each term. They ensure an appropriate balance and distribution of work across each term. These plans are kept and reviewed by the subject leader.

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 and expected outcomes 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.

3.5 We plan the activities in mathematics so that they build on the children's prior learning. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

4 The Early Years Foundation Stage

4.1 We teach mathematics in our reception class using the Mathematical Development aspects of the EYFS curriculum as the basis of our planning. As the class is part of the Early Years Foundation Stage 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

The teaching of mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, in mathematics lessons, we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others during plenary sessions. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

5.2 Personal, social and health education (PSHE) and citizenship

The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money.

5.3 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.

6 Mathematics and Computing

6.1 Computing enhances the teaching of mathematics significantly, because computing is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly such as tessellations. When working on control, children can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships. E-mail permits collaborative problem-solving.

7 Mathematics and inclusion

7.1 At our school, we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this.

7.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the Primary Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.

7.3 Sometimes mathematical targets are set as part of a child's Provision Map (PM). Teachers will pay regard to such targets when designing lessons or setting individual tasks in mathematics.

8 Assessment

8.1 Teachers will assess children's work in mathematics from three aspects (long-term, medium-term and short-term). We use short-term assessments to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

8.2 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.

8.3 We make long-term assessments towards the end of the school year, and we use these to assess progress. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and carers. We pass this information on to the next teacher at the end of the year, so that the new school year can be planned. We make the long-term assessments informed by end-of-year tests and ongoing teacher assessments. We also make annual assessments of children's progress measured against the level descriptions of the Primary Curriculum.

8.5 Older children are encouraged to make judgements about how they can improve their own and each other's work.

9 Resources

9.1 All classrooms have a number line and a wide range of appropriate small apparatus. Mathematical dictionaries are available in all classrooms. A range of computer software is also available including Espresso.

10 Monitoring and review

10.1 The coordination and planning of the mathematics curriculum are the responsibility of the subject leader who also:

- supports colleagues in their teaching, by keeping informed about current developments in mathematics, and by providing a strategic lead and direction for this subject;
- gives the headteacher an annual summary report from which the strengths and weaknesses in mathematics can be evaluated, and areas for further improvement identified;
- uses specially allocated regular management time to review evidence of pupil's work.

10.2 The quality of teaching and learning in mathematics is monitored and evaluated by the headteacher as part of the school's agreed cycle of monitoring and evaluation.

10.3 A named member of the school's governing body is briefed to oversee the teaching of numeracy. The numeracy governor meets regularly with the subject leader to review progress.