Britannia Community Primary School

Policy on Mathematics

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;
- 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 help children understand the importance of mathematics in everyday life;
- to develop the cross-curricular use of mathematics in other subjects.

2 Teaching and learning style

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. ICT 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 which we accommodate. Although all children are expected to attempt similar learning, the tasks are differentiated through skilled questioning from the class teacher. All children are challenged and supported to move their learning forward and extra challenges are provided, where necessary, from other sources for example Testbase or the Mastery documents.

3 Mathematics curriculum planning

3.1 Mathematics is a core subject in the National Curriculum, and we use the Maths No Problem! scheme of work, which is based on the Singapore approach to teaching.

3.2 The Maths No Problem! scheme of work has full coverage of the National Curriculum for mathematics for each year group and has been endorsed by the Lancashire Mathematics team.

3.3 Teachers are expected to use the Maths No Problem! workbook to help them plan their lessons. To plan, they need to think of key questions, misconceptions and prior learning so that they have a clear picture of how they want the lesson to go.

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. Teachers also have the Progression in Mathematics Document which has been produced by the Lancashire Mathematics Team.

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. The children follow the newly written Maths No Problem scheme for EYFS. 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

Mathematics contributes to the teaching of PSHE 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 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. Younger children use computers 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 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. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).

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 and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National 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 Intervention through School Action and School Action Plus will lead to the creation of an learning plan for children with special educational needs. The learning plan may include, as appropriate, specific targets relating to mathematics.

7.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom (a 'maths trail', for example), we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8 Assessment for learning

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 Assessment in Maths is made on the spot as much as possible, and children are offered immediate feedback about their learning.

8.3 We make medium-term assessments to measure progress against the key objectives, and to help us plan the next unit of work.

8.4 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 and carers. 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. Our on-going assessments include in-year and end-of-year tests and teacher assessments using the Mathematics KLIPS documents. The national tests for children in Year 2 and Year 6 are also administered. Teacher assessments are made using KLIPS materials and these are collected termly to ensure progress is being made. These judgements are moderated by staff at regular intervals throughout the year.

8.5 The mathematics subject leader keeps samples of children's work in a portfolio. This demonstrates the secure level of achievement in mathematics in each year of the school.

8.6 All of our children are encouraged to make judgements where appropriate 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. Maths resource boxes are available in classrooms and children are encouraged to select

the appropriate equipment independently. The library contains a number of books to support children's individual research. A range of software is available to support work with the computers.

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 in which s/he evaluates the strengths and weaknesses in mathematics, and indicates areas for further improvement;
- uses specially allocated regular management time to review evidence of the children's work, and to observe mathematics lessons across the school.

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 lesson observations.

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

10.4 This policy will be reviewed at least every two years.

Signed:
D. Toddington

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