

Signed by the Governing Body:

Agreed by the Governing Body: March 2017

Review Date: Spring 2020

1 Aims

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 The aims of teaching mathematics are:

- to promote enjoyment of learning through practical activity, exploration and discussion;
- to promote confidence and fluency 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 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. To ensure a solid understanding of key concepts we use the concrete, pictorial, abstract approach. Wherever possible, we encourage the children to apply their learning to everyday situations.

2.2 In all classes we follow a mastery approach to learning. The expectation is that the majority of pupils will move through the programmes of study provided by the National Curriculum at broadly the same pace. However decisions about when to progress are based on the security of pupils understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly are challenged through being offering, rich, deepening tasks before any acceleration through new content. Those who are assessed as not fluent with the earlier material will consolidate their understanding through additional practice, before moving on.

3 Mathematics curriculum planning

3.1 Mathematics is a core subject in the National Curriculum which we use as the basis for planning to age related expectations.

3.2 The National Curriculum gives a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the key objectives we assess in each year.

3.3 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.

4 The Foundation Stage

4.1 We teach mathematics in our reception class. 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.

Signed by the Governing Body:

Agreed by the Governing Body: March 2017

Review Date: Spring 2020

5 Contribution of mathematics to teaching in other curriculum areas

Maths contributes to many subjects within the primary curriculum, allowing children to use and apply mathematics in real contexts.

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 reason 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 children with real-life situations in their mathematics work, e.g. on the spending of money.

5.3 Spiritual, moral, social and cultural development

Our Maths curriculum promotes British Values. All children are encouraged to achieve their maximum potential through Maths lessons and learn the importance of Maths in all aspects of life. Children of all abilities are encouraged to believe they are able to achieve and this builds confidence and self-esteem. Children have the freedom to choose the level of challenge in some lessons. Group work encourages them to work as part of a team and helps them understand how different people solve problems in various ways. This also promotes the British values of mutual respect and support for one another. Whilst investigating and applying Maths to a range of situations, tolerance and resilience are promoted as children are encouraged to persevere, take risks and try different methods. Children will learn that Mathematics comes from different cultures eg Rangoli patterns, Fibonacci etc.

6 Mathematics and ICT

6.1 Information and communication technology enhances the teaching of mathematics significantly, because ICT 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. Children use ICT to communicate results with appropriate mathematical symbols. It is used to produce graphs and tables when explaining 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.

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 National Curriculum allows us to consider each child's attainment and progress against age related expectations. This ensures that our teaching is matched to the child's needs.

Signed by the Governing Body:

Agreed by the Governing Body: March 2017

Review Date: Spring 2020

7.3 Intervention through SEND support 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 and are on-going. Levels of achievement identify pupils who are; working towards age related expectations, working at age related expectations and those working at age related expectations, with depth. Quick response intervention such as re-teaching may be provided to develop those children who are assessed at working towards the age-related expectations. Pre-teaching to specific groups of children may also occur, where the teacher deems necessary.

8.2 We make medium-term (half termly) assessments to measure progress against the key objectives, and to help us plan intervention groups.

8.3 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 reporting it to 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 end-of-year tests and teacher assessments.

8.4 We encourage children to evaluate their own progress and learning through mini-plenaries and self assessment activities.

8.5 Marking in mathematics follows the school marking policy. Marking in maths will provide praise, guidance, consolidation or challenge for the pupils.

8.6 In Key Stage 2, a weekly X factor test (based on times tables) is given where the children aim to increase their score in the time given. When they have completed the challenge they then can move to the higher difficulty stage. A copy of the sheet is sent home for the children to correct and complete. This is supported by the teaching of times tables and number facts within maths lessons.

9 Homework

In the Foundation Stage there is no formal maths homework. In Key Stage 1 maths homework is given regularly, to consolidate number facts or to consolidate the work they have covered in class. In Key Stage 2, pupils receive homework weekly. The aim of the homework is to consolidate learning that has been happening in the classroom. Parents are encouraged to liaise with the teacher if any issues arise with the homework.

10 Resources

10.1 Resources for the delivery of maths, including age appropriate manipulatives, are stored in classrooms where children have access to them. The library contains a number of books to support children's individual research. The maths subject leader orders new resources after consultation with the staff.

Signed by the Governing Body:

Agreed by the Governing Body: March 2017

Review Date: Spring 2020

11 Monitoring and review

11.1 Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the subject leader. The work of the subject leader also involves supporting colleagues in their teaching, being informed about current developments in the subject, and providing a strategic lead and direction for mathematics in the school. The subject leader gives the headteacher an annual summary in which s/he evaluates strengths and weaknesses in the subject, and indicates areas for further improvement. The headteacher allocates regular management time to the subject leader so that s/he can review samples of children's work, conduct pupil interviews, monitor planning 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 mathematics. This governor meets with the subject leader annually to review progress.