

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.
 - To develop an ability to work both independently and in co – operation with others.

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 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 (in both Key Stages, often with the interactive whiteboard) 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. The development of mental maths skills are part of the daily lesson.
- 2.2 In both 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 groups of children or individuals. By ensuring that work is matched to the needs of individuals we offer children an appropriate level of challenge.

3 Mathematics curriculum planning

- 3.1 Mathematics is a core subject in the National Curriculum, and we use the Primary National framework for Mathematics 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 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 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 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.

4 The Foundation Stage

- 4.1 At this stage, the focus is on mathematical development. 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

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.

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. Our pupils have access to Mathematics at home to support learning across all areas of Mathematics.

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 with real-life situations in their work on the spending of money.

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. We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi – cultural aspects of mathematics.

6 Teaching mathematics to children with special needs

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. Work in mathematics takes into account the targets set for individual children in their Individual Education Plans (IEPs).

Children with SEN are taught within the daily maths lesson as the Strategy offers opportunities for children to experience the wealth and breadth at every level. This is supported by very focused teaching; some of it in small steps. Other methods include: allowing children the opportunity to 'over-learn' and revisit topics, giving children the chance to say what they are doing (especially during oral/mental work), simplifying work (e.g. using simpler numbers), in some cases it will be necessary to track back to ensure that the child has the basic knowledge on which to build further work, sharing specific achievable learning targets to motivate and encourage the child.

When additional support staff are available they work closely with the class teacher to ensure appropriate vocabulary, approaches, methods of working are adopted.

Teaching maths to more able children

Within the daily maths lesson, teachers not only provide activities to support children who find maths difficult, but also activities that provide appropriate challenges for children who are high achievers in mathematics. Class teachers look for opportunities to extend and enrich the mathematical curriculum offered to able pupils.

7 Assessment and recording

- 7.1** We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). 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 use summative assessment materials, 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 end-of-year tests and teacher assessments. 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.

7.4.1 The quality of the teacher's marking is crucial. We attempt to provide feedback whilst the children are working on set tasks. When this is not possible, class teachers ensure that appropriate comments and explanations accompany their marking.

8 Resources

8.1 There is a range of resources to support the teaching of mathematics across the school. All classrooms have a wide range of appropriate small apparatus. Mathematical dictionaries are available in all classrooms.

9 Monitoring and review

9.1.1 Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader 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 headteacher allocates regular management time to the mathematics subject leader so that s/he 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.

10 Parental Involvement

10.1.1 Reporting arrangements are outlined in our assessment policy. However, if there are common areas of concern to parents, e.g. progression of written calculations, information will be sent to parents or a parents' information evening will be organised. Parents are regularly sent targets booklets which set out the key objectives for a year group and suggestions for home activities.

10.2 It is our policy to provide parents and carers with opportunities to work with their children at home. These activities may only be brief, but are valuable in promoting children's learning in mathematics. Activities are sent home on a regular basis and may take the form of number games, investigations or more formal tasks. Teachers ensure that the activity is 'new' and not just finishing off work carried out in class.

Tatham Fells CE (VC) Primary School

Mathematics Policy

This policy was reviewed by the curriculum committee on 22nd January 2013

Signed (Headteacher):

Signed (On behalf of the Governing Body):

Date: April 2016

Review date: April 2019

Please also see our Calculations Policy.