

St Neot School

Mathematics Policy

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Aims and objectives

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.

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.

Teaching and learning style

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 which includes a variety of teaching strategies, including open ended questions and investigative approaches. 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 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. Interactive Teaching Programs (ITPs) are used to demonstrate mathematical concepts.

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.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and we use the National Numeracy Strategy and renewed Framework as the basis for implementing the statutory requirements of the programme of study for mathematics.

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

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.

The class teacher 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. A variety of planning formats and resources are used including abacus, unit plans and Hamilton Trust plans. The plans are kept in the class file and discussed with the numeracy co-ordinator as appropriate.

The Foundation Stage

Mathematics is an important part of the Foundation Stage. We provide a range of opportunities to develop mathematical skill. 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.

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.

Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The planned activities that children do within the classroom encourage them to work together, respect and listen to each other's views. We present 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.

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

Assessment and recording

Detailed assessment procedures are outlined in the school assessment policy. 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.

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 individual record of key objectives as the recording format for this. Using the parent booklet, targets for pupils, we set individual targets at parent evenings during the autumn and spring terms.

We make a summary of each child's progress in the annual report at the end of the school year. We make these long-term assessments with the help of end-of-year test and teacher assessments. We use the national tests for children in year 2 and Year 6, plus the optional national test at the end of Years 3, 4 and 5. We make teacher assessments of children's progress measured against the level descriptions of the National Curriculum.

Resources

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. Mathematical dictionaries are available in all classrooms. 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.

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics co-ordinator. 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. A named member of the school's governing body is briefed to oversee the teaching of numeracy.

Numeracy forms an important part of school self evaluation, and this includes observations of teaching and learning as well as scrutiny of work and discussion with pupils. A Numeracy Action Plan is part of school development planning and this provides the outline of the years overall objectives and success criteria.