

Wilton & Barford Primary School



Mathematics Policy 2013

Aims and objectives

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.

The aims of teaching 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 encourage oracy by developing the ability to articulate reasoning, deconstruct questions and sequence problem solving.
- 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

Wilton & Barford Primary School uses a variety of teaching and learning styles in numeracy. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons we encourage children's oracy skills by giving them opportunities to ask as well as answer numeracy questions, and to articulate their thinking. 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 numeracy lessons for modelling ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations.

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.

Planning

Mathematics is a core subject in the National Curriculum, and we use the National Strategy - Primary Framework for Mathematics to inform our teaching. Abacus i-planner is used as a framework for planning to ensure continuity and progression across the school.

The key skills for each unit are selected at the beginning of each term and form the medium term plan. They ensure an appropriate balance and distribution of work across each term. These plans are monitored by the subject leader.

Short term plans are informed by assessment for learning. For each key skill, there are individual plans to meet the needs of the learners and where appropriate, are linked to the Standards Site - Primary Framework for Mathematics. These 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.

The Foundation Stage

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. 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, practice and talk confidently about mathematics.

Contribution of mathematics to teaching in other curriculum areas

English

The teaching of mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of speaking and listening, reading and writing. For example, learners are improving their oracy skills when they explain their reasoning during the lesson and present their work to others. In English lessons, too, mathematics can contribute: e.g. 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.

Personal, social and health education (PSHE)/ Social and Emotional Aspects of Learning (SEAL) and citizenship

Mathematics contributes to the teaching of PSHE/SEAL 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 to develop economic well-being.

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 have opportunities to work together, and we give them the chance to discuss their ideas and results. Our children feel valued and are therefore confident in attempting tasks that are challenging. They are encouraged to discover how they can be 'amazing' and 'wonderful' mathematicians.

Mathematics and ICT

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 on the interactive whiteboards and the individual laptops to present information visually, dynamically and interactively, so that children understand concepts more quickly. 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 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. All children are registered to use Mathletics both at school and home.

Mathematics and inclusion

At our school we teach mathematics to all children, whatever their ability and individual needs. Through our mathematics teaching we provide learning opportunities that enable all pupils to make good progress. We endeavour 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.

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 child specific 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.

Intervention through School Action and School Action Plus will lead to the creation of an Education Plan (IEP) for children with special educational needs.

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 (e.g. data gathering - counting cars) we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

Assessment for learning

Teachers will continuously assess children's work in mathematics. We use formative assessments (questioning, marking etc) to help us adjust our daily teaching.

At the end of each unit, to measure progress against the key objectives, we make formal assessments using key questions that show the children's learning (Apply my Knowledge). This then helps us to plan the next unit of work. **We use the class record of the key objectives as the recording format for this.**

We make formal age referenced levelled assessments, three times during the school year, and we use these to assess progress against school and national targets. Each year the class teacher sets targets for December, March and June, and then completes assessments to assess progress. At the end of the year we make a summary of each child's progress which is reported to parents in the End of Year Report. This information is passed onto the next teacher at the end of the year, so that s/he can plan for the new school year. We moderate the long-term assessments using the national tests for children in Year 2 and Year 6. The optional national tests for children at the end of Years 3, 4 and 5 are used formatively. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum.

Progress assessments are moderated by the Headteacher and reported to the subject leader. Work samples from a below average pupil, an average pupil and an above average pupil are moderated and used to inform the subject leaders annual report to governors and the Head's judgements on standards across the school.

Resources

All classrooms have an interactive white board which can be updated daily on-line, and a wide range of appropriate small apparatus including calculators. A variety of practical resources are available from the resource cupboard. The library contains a small number of books to support children's individual research and 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 and learning 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 Head and Governors an annual report, revised policy and action plan, in which s/he evaluates strengths and weaknesses in the subject, and indicates areas for further improvement.

Signed on behalf of the Governing Body _____

Date: February 2013

Review Date: February 2015

CHILD PROTECTION STATEMENT

At Wilton and Barford Primary School, we believe that every child has the right to be safe and therefore to be cared for in a way that ensures her/his safety and meets her/his individual needs. We recognise that all children need protection at all times from anything or anyone that may cause them harm and we work together following the Child Protection Policy to ensure this. We respect all members of the school's community and treat information with confidentiality.