

ALL SAINTS' CEVCP SCHOOL

Mathematics Policy

Inspire Challenge Succeed

To be reviewed every three years.

Adopted at Governing Body meeting on 13th March 2013

Signed.....

Date

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 relationship 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 develop children's mathematical thinking and their ability to make links between the different areas of mathematics;
- To promote curiosity, interest and enjoyment in mathematics through practical activity, exploration and discussion;
- To develop personal qualities such as cooperation, perseverance, initiative, creativity, empathy, self-confidence and independence;
- 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 promote talk throughout lessons, developing the children's ability to explain their thinking and methods.
- 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 the children's mathematical thinking, 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 children are encouraged to verbalise their reasoning and explain how and why they are doing things. 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 and are actively encouraged to access these independently. Mathematical dictionaries are available in all classrooms. Children use ICT in mathematics lessons where it will enhance their learning, including the interactive whiteboards to model ideas and

methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

We recognise the fact that we have children of differing ability in all our classes, and so we 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:

- Setting common tasks that are open-ended and can have a variety of responses;
- Setting tasks of increasing difficulty where not all children complete all tasks;
- Grouping children by ability and setting different tasks for each group (these groupings are flexible and can be changed depending on the task);
- Providing a range of challenges with different resources;
- Using additional adults to support the work of individual children or small groups.
- Explain their thinking to adults and peers.

Pupils are encouraged to:

- Select suitable mathematics and resources for their task
- Breakdown a problem into smaller parts to enable patterns to be developed and identified
- Make accurate observations and measurements
- Record systematically, making jottings to explain thought processes and using the empty number line when appropriate
- Estimate

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum. At All Saints' CEVC Primary School we use the Primary Framework as the basis for implementing the statutory requirements of the programme of study for mathematics. This will be reviewed under the 2013 National Curriculum.

We carry out the curriculum planning in mathematics through medium-term and short-term. The Primary Framework for Teaching gives a detailed outline of what we teach in the long-term, which identifies the key objectives in mathematics that we teach in each year.

Our medium-term mathematics plans give details of the main teaching objectives for each term and define what we teach. They ensure an appropriate balance and distribution of work across each term. The mathematics subject leader is responsible for keeping and reviewing these plans.

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 to teach the lessons. The class teacher makes a copy for the subject leader and the class teacher and subject leader may discuss them on an informal basis when necessary.

We plan the activities in mathematics so that they build upon the prior learning of the children. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also build planned progression into the scheme of work, so that there is an increasing challenge for the children as they move up the school.

EYFS

We teach mathematics in our reception class and relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals which underpin curriculum planning for children at this

age. We give all the children ample opportunity to develop their understanding of number, calculation and shape, space and measure through varied activities that allow them to enjoy, explore, practise, apply and talk confidently about mathematics.

Contribution to mathematics to teaching in other curriculum areas

Literacy

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 throughout the lessons. 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 using pictograms and use the roamer to investigate position and direction. Older children may use it to produce graphs and tables when explaining their results or when creating repeating patterns or symmetry. When working on control, children use standard and non-standard measures for distance and angle. The interactive whiteboard is used to support mental maths and the teaching of number, data handling, measures etc.

Personal, social and health education (PHSE) and citizenship

Mathematics contributes to the teaching of personal, social and health education and citizenship. Each teacher endeavours to conduct lessons in a secure, supportive and disciplined manner. The pupils and the staff should interact in a manner that demonstrates mutual respect. Pupils are encouraged to take 'chances and risks' with their work without fear of ridicule or failure. 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 work such as the spending of money.

Teaching mathematics to more able children and those with special educational needs

We teach mathematics to all children, whatever their ability. Mathematics forms part of our school curriculum policy to provide a broad and balanced education for all our children. Our teachers provide learning opportunities that challenge and extend the more able in accordance with our Challenge Policy and are matched to the needs of children with learning difficulties. Work in mathematics takes into account the targets set for individual children working with others of similar ability and those set in Pupil Passports (IEPs). First Class @ Number, The Power of 2 and One Plus One are used to underpin mathematical concepts and strategies for those children who need this support, as identified in the teacher assessments and APP.

Assessment and recording

We assess the children's work in mathematics from three aspects (long-term, medium-term and short-term). We make short-term assessments and observations which we use to help us adjust our daily plans and feed into our APP grids. 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 ensure that children are making at least expected progress and to identify those that are exceeding expected progress. At Pupil Progress Meetings, children that are identified as not making expected progress are highlighted and appropriate interventions are put into place.

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. We pass this information onto 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 ongoing teacher assessment (APP).

All EYFS children undergo continuous assessment which is used to provide a profile of their attainment throughout the year which influences planning for individual children on a daily basis. This is then used to inform the next steps in learning at the start of Year 1 and to highlight any children that are not making expected progress.

Resources

There is a range of resources to support the teaching of mathematics across the school. All classrooms have number lines, hundred squares, mathematical dictionaries and working walls. At KS1 there is a wide range of small apparatus in each classroom and a similar supply is easily accessible to KS2 classes. Calculators and a range of measuring apparatus are available from the central storage area in the KS2 practical area. The library contains a number of big books for use at KS1 and some books to support children's individual research. A range of software is available to support work with the computers.

Monitoring and Review

The monitoring of the standards of the children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the subject leader also involves supporting colleagues in the teaching of mathematics (through in-house INSET when necessary), being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

The mathematics subject leader gives the Head Teacher an annual summary report in which s/he evaluates strengths and weaknesses in the subject and provides an action plan for further improvement. The mathematics subject leader reviews samples of children's work through a book and planning scrutiny, lesson observations, data analysis and interviews children from all classes to obtain a snap-shot of mathematics teaching across the school. This information is then used to build a Mathematics Subject Profile which identifies strengths and areas for further development.

Mathematics forms part of the School development plan and has named governors that are linked to the identified 'Key Issues'. This is monitored through regular monitoring visits.