



Mathematics Policy

Status

This is a non-statutory curriculum policy.

Purpose

At Rackheath Primary School we recognise Mathematics to be a vital part of the curriculum. It provides an essential set of skills to enable children to make greater sense of the world around them, both now and in their future.

Our aims in teaching Mathematics are that all children will:

- Enjoy the subject and study it with confidence and a sense of achievement,
- Achieve a high standard in number fluency and other mathematical skills,
- Apply these skills with confidence and understanding when solving problems,
- Have equal opportunities to develop their full potential in all areas of the Mathematics curriculum,
- Understand the relevance of Mathematics that they meet, in other subjects and in everyday life, now and in the future,
- Develop resilience and courage when solving mathematical problems
- Build a sense of understanding of maths in the real world.

Relationship to other policies

This policy should be read in conjunction with the following school policies:

- Teaching and Learning Policy;
- Assessment, Recording and Reporting Policy;
- Feedback and Marking Policy;
- Homework Policy;
- SEN policy;
- Inclusion Policy;
- Calculation Policy.

Roles and Responsibilities

Headteacher

The headteacher will ensure that the legal requirements of the National Curriculum for Mathematics are met in the school. They will also support the subject leader in monitoring planning, teaching and learning through lesson observations and planning and work scrutiny.

Subject Leader

The subject leader will ensure that there is a whole school approach with common practice established for its teaching. The main role of the Mathematics coordinator is to provide support for all who teach Mathematics and so improve the quality and continuity of Mathematics teaching and learning throughout the school. In addition to this they are expected:

- ◆ To purchase, organise and maintain teaching resources,
- ◆ To work with class teachers and the SENCo to diagnose and support pupils with learning difficulties,
- ◆ To organise or deliver in-service training to support Mathematics teaching in the school,
- ◆ To keep up to date with local and national initiatives by attending courses and family group meetings and by reading LEA and DFEs literature related to Mathematics,
- ◆ To provide guidance and support to colleagues in the implementation of the National Curriculum,
- ◆ To encourage ways of involving parents in their children's learning,
- ◆ To be responsible for compiling and monitoring a mathematics SIDP,
- ◆ To monitor the quality of teaching and learning of Mathematics throughout the school,
- ◆ To co-ordinate the transfer of records between classes,
- ◆ To encourage use of technology to support Mathematics learning.

Staff

Class teachers are expected to ensure in their mathematics planning and teaching that:

- Children meet the same mathematical ideas in a wide variety of contexts;
- Learning is as practical as possible;
- Learning is differentiated or scaffolded to a manageable degree;
- Children are given mathematical experiences which match their ability and stage of development, are structured and maintain a good pace;
- Children have the opportunity to work independently and collaboratively;
- Maths is enjoyed by pupils;
- Children are encouraged to use their imagination and initiative;
- Children develop the appreciation of relationships within Mathematics;
- Children experience confidence and build success at all levels of ability;
- Stress the importance of mental calculation
- Concrete, pictorial and abstract methods are taught

Class teachers will ensure that the following key elements of planning, teaching, learning and content are evident in their practice.

Daily maths lesson

This will involve whole-class work to rehearse, sharpen and develop mental and oral skills. Equipment, activity and teaching repertoire must be varied over time in order to maximize the impact on learning and it is imperative that interactive activities are used so that all the children in the class are involved.

The main teaching activity may include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work. It is vital that teachers rehearse and use correct mathematical language and methods at such times.

All children should work on the same topic, differentiated or scaffolded according to ability.

High quality, direct teaching and questioning is the key to children's learning in Mathematics. High quality teaching is oral, interactive and lively, with high quality discussions, explaining and demonstrating

methods to the class. It is a two-way process in which pupils are expected to play an active part by answering questions, contributing their strategies and questioning.

Mathematics teaching at all levels should include opportunities for:

- Directing: sharing the teaching and learning objectives, drawing attention to particular points;
- Instructing: giving information on how to do a particular process/activity;
- Demonstrating: showing, describing and modelling Mathematics making good use of available resources;
- Explaining and illustrating: accurate, well-paced explanations referring to previous work or methods;
- Questioning and discussing: using a range of open and closed questions adjusted to ensure that all pupils of all abilities are involved and contributing to discussions;
- Consolidating: maximising opportunities to reinforce and develop previous teaching;
- Evaluating pupils' responses: identifying mistakes and using them as positive teaching points, giving children oral feedback on their work;
- Summarising: reviewing during the lesson what is being taught/learned, picking out key ideas and making links to work in other areas of Mathematics and other subjects.

Planning

Over a period of a term, teachers shall ensure, through their planning, that all children will have opportunities to:

- work at their own ability level
- work in pairs and in small and large groups
- work in the areas of number, measures, shape, space and data handling
- use Technology as appropriate
- use a wide range of mathematical tools/instruments
- rehearse mental strategies and skills

Recording

Children in Key Stage 1 and the Foundation Stage will record their Mathematics on worksheets and in plain books. Some of their recording may take the form of pictures, or a record of oral explanations may be kept. Throughout Key Stage 1 teachers will be modelling the mathematical recording of problems children encounter, demonstrating how mathematical language is represented by a range of numbers and symbols and introducing the use of a number-line to represent calculations. Children will be encouraged to make jottings as part of their normal working and will see jottings modelled by teachers in their demonstrations and explanations.

As they move through Key Stage 2 the majority of children's work will be recorded in their mathematics book. Use of number-lines and more 'formal' methods and jottings to record their work will be actively reinforced through teaching.

In both key stages children make use of individual white boards for jottings and responding to questioning by the teacher. When appropriate these will be photocopied to provide evidence of attainment.

Calculations

All children's methods of calculations are valued and discussed, however, to ensure consistency in teaching and ensure that misconceptions do not occur it is necessary to have an agreed approach within the school to the methods taught for both formal and informal calculation methods. These are set out in the Calculation Policy.

Cross-curricular Links

As well as the daily Mathematics lesson it is important to make links between Mathematics and other subjects e.g. measuring in Science and Design Technology; collecting and presenting data in History, Geography and computers; using properties of shape and pattern in art.

Resources

Mathematical resources and apparatus are managed by the co-ordinator. Resources are both class-based and centralised. Teachers should make use of a variety of visual aids including hundred squares, number-lines, number sticks, base-10 apparatus and place value cards to support children's understanding of numbers and the number system. Children in Key Stage 2 should also have access to information books about Mathematics and Mathematical dictionaries

Marking and Feedback

Marking of children's mathematical work and the feedback that is given to children should be in line with the school's Feedback and Marking Policy and assessment for learning procedures as set down in the Assessment, Recording and Reporting Policy. Work is marked in relation to the learning target which has been shared with the children during the lesson. Older pupils should be encouraged to mark their work in progress to avoid repetition of errors or misconceptions.

Assessment

School assessment procedures for Mathematics are set out in the appendix of the Assessment, Recording and Reporting policy.

Special Educational Needs

Teachers will aim to include all pupils fully in their daily Mathematics lessons. Support for those pupils who are experiencing difficulties in mathematics, or are not making sufficient progress may include some additional work with a small group or on a one-to-one basis. Teachers need to be aware that pupils with specific language difficulties may need specific support to make sense of vocabulary used in a Mathematical context. Class teachers, in consultation with the SENCo, will create individual education plans for those children experiencing particular difficulties in Mathematics.

All children benefit from the emphasis on oral and mental work and participating in watching and listening to other children demonstrating and explaining their methods. Effective questioning will involve children of all abilities in Mathematics lessons.

Very able pupils will be stretched through differentiated group work, harder problems, extra challenges and investigations.

Pupils

Pupils are encouraged to develop positive attitudes towards mathematics and make links from their mathematics to other areas of the curriculum and wider life experiences.

Pupils are expected to know their current maths timestable targets .

Parents

Parents are encouraged to actively support their child's learning through their support for maths homework activities, use of Sumdog and by practising timestables. Parents are also encouraged to support their children's maths targets and will be given this information at parent consultations and in their child's annual report.

Governors

The governing body are responsible for ensuring:

- National Curriculum teacher assessment results are reported to parents and progress towards meeting agreed targets is described
- Parents and carers receive timely reports on the progress of their child against clearly defined expectations
- Targets are set in relation to end of Key Stage 1 and 2 attainment in mathematics.

Arrangements for monitoring and evaluation

Monitoring of mathematics in the school will be carried out by the headteacher, senior management team, mathematics co-ordinator and governors.

Monitoring activities may include: classroom observations; looking at long, medium; discussions with colleagues; discussions with children; sampling of work; monitoring of children's individual targets; analysis of end of term and Key Stage assessments.

The evaluation of this data will be communicated to the curriculum committee by the headteacher and by the headteacher's termly report to governors.

Review of Policy

This policy will be reviewed annually.