

St Anne's CE (Aided) Primary School



Mathematics Policy

MATHEMATICS AND NUMERACY POLICY

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at St Anne's C of E Primary school. The school's policy for mathematics is based on 'The National Curriculum for teaching mathematics from Year 1 to Year 6 (2014).' The policy has been drawn up as a result of staff discussion and has full agreement of the Governing Body. The implementation of this policy is the responsibility of all the teaching staff.

Rationale

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas, and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Aims

At St Anne's school we are committed to providing an environment for all God's children which enables them to embrace values for LIFE:

We aim for each child to:

- Have a positive attitude towards mathematics and an awareness of the fascination of mathematics.
- Have self-confidence in their ability to deal with mathematics.
- Be competent and confident in mathematical knowledge, concepts and skills.
- Have an ability to solve problems, to reason, to think logically and to work systematically and accurately.
- Experience a sense of achievement regardless of their ability.
- Understand the appropriate underlying skills, concepts and knowledge of number, measure, geometry position and movement and statistics.
- Have initiative and an ability to work both independently and in co-operation with others.
- Be able to communicate with peers and adults, their ideas, experiences and questions clearly and fluently, using appropriate mathematical language.
- Have the ability to use and apply mathematics across the curriculum and in real life.
- Have an understanding of mathematics through a process of enquiry and experiment.
- Encourage the use of mental calculations and effective strategies to work out the answers.
- Have an ability to work both independently and in co-operation with others.
- Acknowledge improvements of pupils' own learning and performance.

The National Curriculum for Mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Provision

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

Organisation of Teaching and Learning

In the Foundation Stage, short carpet sessions in key-worker groups are planned to promote the development of mathematical language and concepts. In Early Years learning takes place both indoors and outdoors with resources readily available and accessible to the children within the maths area of each classroom (including the outdoor classroom). In addition to this, group activities will also be planned for the children to carry out independently or with the support of an adult. When children start in reception, the organisation is more flexible building up to a minimum of three 45 minute lessons in the summer term for most children.

In Key Stage 1, mathematics lessons are held a minimum of 4 days per week and last for 60 minutes. Children are taught in mixed ability classes.

In Key Stage 2, the mathematics lessons are held a minimum of 5 days per week and last for at least one hour. The children are taught in mixed ability classes.

Although the order of the structure may vary, lessons generally feature the elements of National Curriculum;

- Oral and mental calculation
This will involve whole class work to rehearse, sharpen and develop mental and oral skills.
- The main teaching activity
This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work.
- A plenary

This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.

In both key stages 1 & 2, lessons are delivered with a good balance between whole-class work, group teaching and individual / group practice.

Pupils will engage in:

- The development of mental strategies;
- Written methods;
- Investigational work;
- Problem solving;
- Mathematical discussion;
- Consolidation of basic skills and number facts;
- Practical activities and mathematical games;
- Open and closed tasks;
- Working with ICT as a mathematical tool.

Planning

Long term and medium term planning is structured following guidance set out in the National Curriculum for Mathematics. The planning structure for each year is organised into programs of study and topics. The structure is the same for each year group.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Medium term planning is completed half termly and is based on topics and the programs of study. In addition to this, opportunities are sought to export and import ideas relating to our topic to ensure that we take advantage of any cross curricular links.

Short term plans are formulated weekly. These may include examples from the National Curriculum, other published resources or the teachers own ideas. At St. Anne's we use a consistent planning format throughout each key stage. Teachers plan according to the needs, interests and make-up of their class. Pupil provision is linked to achievement, not age.

Computing in Mathematics

ICT is an integral part of mathematics and may be used in a number of ways during the lesson. Teachers can access ITPs, games and useful websites through their interactive whiteboards; using ICT as a visual tool to aid the teaching and learning in mathematics. We use the Roamers in KS2 & the Bee Bots in KS1. In addition to this; there are iPads and laptops are available to use to enhance the children's learning experience.

Assessment and Target Setting

Assessment will take place at three connected levels: short-term, medium-term and long-term. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.

Short-term assessment is an important part of every lesson. The teacher will share the objectives (Learning Challenge) for the lesson with the children and make sure they are clear what is being expected of them to successfully achieve the objective (Success Criteria). This is a necessary part of assessment for learning and helps the children take ownership of their own learning. The short term assessment will also involve the teacher checking the children's understanding at the end of the session to inform future planning and lessons.

Medium-term assessment in Key Stages 1 & 2: Target Tracker is used to record children's attainment in mathematics and records are updated on a half termly basis. Rising Stars tests are used at the end of each topic to assess progress against age related expectations. Progress towards the age related expectations are recorded using the following scale.

b (beginning) b+ (beginning +) w (within) w+ (within +) s (secure) s+ (secure +)

Medium-term assessment in the Foundation Stage: Throughout the year Early Years teachers will gather good evidence to file in the children's Learning Journey. This information will then be used to make the decision whether children are working below, working at or working above age related expectations in number and shape space and measure. This information will be updated half termly into the Early Years Target Tracker.

Long-term assessment will take place towards the end of the school year to assess and review pupils' progress and attainment. These will be made through the compulsory National Curriculum mathematics tests for pupils in year 2 and 6 and supplemented by the Optional NFER tests for years 3 – 5. Teachers will also draw upon their class record of attainment and supplementary notes and knowledge about their class to produce a summative record. Accurate information will then be reported to the child's next teacher.

Long-term assessment in the Foundation Stage: During the Summer Term the Reception teachers are responsible for the completion of each child's profile on the Early Years Target Tracker. A copy of the children's levels should be given to the headteacher, maths co-ordinator and early years co-ordinator.

Targets are set for each child from Reception up. This is through effective monitoring and evaluation. The targets are recorded on a target sheet and kept in the front of the child's maths book. In Year 3 up the children are responsible for thinking of their own targets and recording. Class teachers monitor the targets and date them when they have been achieved.

Pre and post learning assessments are used from Year 3 up. Children will be assessed before the start of a topic (pre learning) and targets for the topic will be set. After the topic has been taught the children complete the post learning to assess whether or not they have met their target.

Equalities

As a staff, we endeavour to maintain an awareness of, and to provide for, equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and AEN, both in our teaching attitudes and in the published materials we use with our pupils. All governors and staff recognize our duties under the Equality Act 2010 to:

- Eliminate discrimination, bullying and harassment aimed at protected characteristics as defined in the Act.
- Promote equality of access and opportunity within our school and within our wider community.
- Promote positive attitudes to difference and good relationships between people with different backgrounds, genders, cultures, faiths, abilities and ethnic origins.

In line with our Behaviour/Anti-Bullying Policy we deal firmly with derogatory language aimed at protected characteristics. We ensure our environment is as inclusive as possible and our resources reflect the diversity in our society.

Additional Needs

More Able Pupils will be taught with their own class and challenged through differentiated work and extra challenges. When working with the whole class, teachers will direct higher order questions to the more able. Very occasionally, arrangements will be made for an exceptionally gifted pupil: e.g. they may follow an individualised programme with more challenging problems to tackle. Those children identified as more able will also have the opportunity to attend local maths problem solving days with other able pupils from local primary schools.

Interventions: When necessary additional materials will be used to support children with gaps in their mathematical understanding or who are in need of additional mathematical input.

Special Educational Needs: Teachers will include all pupils fully in their daily mathematics lessons. Teachers will differentiate to meet the needs of such pupils and use Teaching Assistants to support such pupils where appropriate. However, a pupil whose difficulties are severe or complex may need to be supported with an individualised programme.

Reporting and Parental Involvement

At St. Anne's Primary School, we encourage parents to be involved by:

- Inviting them into school twice yearly to discuss the progress of their child.
- Inviting parents into school in the summer term to discuss the yearly report.
- Be actively involved in their children's mathematical learning in school and at home.
- Informing them twice yearly with an interim report and with an annual report at the end of the academic year
- In all year groups a weekly newsletter is sent home to summarise what the children have been learning and what they will be learning in the following week.

At the end of the Foundation Stage the children's Learning Journeys will be sent home. In addition to this a copy of the children's Profile will also be sent home to parents.

End of year reports inform parents about their child's achievement against age related expectations using a banding system. A booklet is included in the report which explains parents what they end of year expectations are.

Role of the Maths Curriculum Leader

The Maths Curriculum Leader is responsible for co-ordinating mathematics through the school. This includes:

- Ensuring continuity and progression from year to year group.
- Advising and supporting colleagues in the implementation and assessment of mathematics throughout the school.
- Keeping the written policy up to date.
- Analysing results, and identifying areas of strength and weakness so that clear targets can be set to improve and sustain pupil achievement.
- Keeping the head informed.
- Monitoring standards in maths across the school through classroom observation, work scrutiny, teachers' planning, data analysis and discussion with the children and teachers.
- Being aware of national developments in maths through reading relevant materials and attending courses where appropriate.
- Keeping the Maths Governor informed and up to date with relevant information.

Role of Class Teacher

- To ensure progression in the acquisition of mathematical skills with due regard to the National Curriculum for mathematics.
- To develop and update skills, knowledge and understanding of mathematics.
- To identify INSET needs in mathematics and take advantage of training opportunities.
- To keep appropriate and agreed on-going records.
- To plan effectively for mathematics using the agreed planning format.
- To link the children's learning to the national curriculum statements in red ink.
- To inform parents of pupils' progress, achievements and attainment.
- To ensure pupils' attainment results are given to the headteacher.

The Role of the Headteacher

- To support the co-ordinator in leading, managing and monitoring the implementation of the framework, including monitoring teaching plans and the quality of teaching in the classrooms.
- With the Maths Governor, keep the governing body informed about the progress of mathematics in our school.
- Deploy support staff to maximise support for the framework and the children's attainment.

Governing Body

At St Anne's Primary School we have an identified governor for Maths. The Maths Governor should be aware of standards in mathematics as well as an understanding of what the school is achieving well in or what needs to be improved. The Maths Governor may visit the school to talk with the Maths Curriculum Leader.

Conclusion

This policy also needs to be in line with other school policies including:

Presentation Policy
Assessment Policy
Marking Policy
Special Educational Needs Policy
Computing Policy
Homework Policy
Equal Opportunities Policy

Member of staff responsible: Mrs V Snape