

St Augustine's Catholic Primary School

Mathematics Policy Statement

Mission Statement

*As one family working together
to be the best that we can be,
we live, love and learn with Jesus.*

The Philosophy of Mathematics Education

Mathematics has been recognised as a foundation to make us make sense of our world. Children learn to communicate in a universal language using numbers, signs, symbols and shapes. They can see patterns and they are able to extend and explore as well as identify relationships and connections that allow problems to be solved.

Mathematics is not just a collection of skills; it's a way of thinking. It lies at the core of scientific understanding and of rational and logical argument.

(The National Curriculum for England - Mathematics p61)

Aims

The Mathematics of St Augustine's School is geared towards enabling each pupil to develop within his/her capabilities not only the mathematics skills and understanding required for later life but also an enthusiasm and fascination about mathematics itself. A high-quality education in maths provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.

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

- become fluent in the fundamentals of mathematics, including varied and frequent practice with increasingly complex problems over time so that pupils develop conceptual understanding and the ability to mentally 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.

In addition at St Augustine's Catholic Primary School we aim to:

- ❖ ensure that each child reaches his/her potential
- ❖ provide the opportunity for children to develop the practical skills and understanding of concepts, facts and operations as outlined in the National Curriculum Programmes of Study for Mathematics
- ❖ develop the children's mental arithmetic skills and their own flexible mental operations to solve a variety of problems
- ❖ encourage the children to work independently and collaboratively and to be able to select appropriate materials for the set task
- ❖ increase pupil confidence in Mathematics and encourage the use of mathematical language to discuss, explain and express ideas and to interpret results with assurance
- ❖ ensure that children with special needs, both the less able and the high achievers, are recognised and are provided with relevant support and appropriate tasks and experiences
- ❖ help all children to experience enjoyment and success in mathematical activities in order to develop a confident and positive attitude towards Mathematics
- ❖ ensure that all pupils, regardless of race, gender, class, culture or disability have equal opportunity to develop their full potential in all areas of the Mathematics curriculum: the contributions of all children are to be respected, valued and acknowledged
- ❖ continually raise the standards of achievements of all the pupils in St Augustine's School.

Objectives

The children will....

- ❖ have a good understanding of a variety of mental strategies in order to solve mathematical problems
- ❖ apply mathematical knowledge and skills when carrying out investigations and be able to find solutions to a variety of problems
- ❖ be able to communicate the process they choose, how they administer it and the conclusions they draw, orally and in written form
- ❖ be able to select and use a range of equipment to complete a task
- ❖ have knowledge and understanding of shape, space and measure and handling data.

Teaching and Learning

From Reception class through to Y6, the children work in mixed ability year groups. Lessons generally follow format of a mental and oral starter, a main activity and a plenary session. In Reception, the aim is to have prepared the children by the end of the year for a daily 45-minute Mathematics lesson.

The teaching of Mathematics at St Augustine's School provides opportunities for:

- group work
- whole class teaching
- paired work
- individual work

The range of teaching styles includes:

- written methods
- problem solving
- practical work
- mathematical discussions
- investigational work
- consolidation of basic skills and routines
- application of skills to aim for mastery of learning.

At St Augustine's School, we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. In order to provide continuity and progression a whole school policy for written calculations for R-Y6 has been developed, implemented and reviewed (see written calculations- A Whole School Policy September 2011).

In order for parents to assist in their child's learning, meetings are held to inform them of the methods, strategies and skills used in the teaching of Mathematics for each year group. This enables the parents to support their child at home using the same methods and avoid confusion.

The teacher regularly sets targets. The targets are set against the learning objective. Progress is recorded in tracking sheets stored in each pupil's maths book as well as in SPTO.

Key Objectives and Mental Strategies - (a continuous working document) enables children's progress against the Key Objectives to be assessed and recorded each half term. This continuous working document is forwarded to the next class teacher at the beginning of each academic year.

Classroom displays play an important role and are used as a teaching tool, giving visual support to the children's mental process.

ICT is an integral part of the curriculum with regular use of the computer mathematical software. The software is regularly reviewed in collaboration with the ICT subject leader.

Curriculum Planning

Mathematics is a core subject in the National Curriculum which we use as the basis for implementing the statutory requirements of the programme of study for mathematics. This is regularly reviewed and takes into account the priorities of the School Improvement Plan. Our yearly teaching programme identifies the key learning objectives in Mathematics that we teach in each year.

The class teacher completes the weekly planning for the teaching of Mathematics. These plans include learning objectives for the mental/oral and the main activity, differentiated tasks, resources to be used, key vocabulary and key questions. These weekly plans are recorded and evaluated on an agreed sheet and are stored electronically.

At St Augustine's School, we use a variety of published schemes to facilitate the teaching of Mathematics but we recognise the need for the teaching of Mathematics to be 'scheme assisted not scheme driven'.

Foundation Stage

Mathematics in the Foundation Stage forms part of the overall Foundation Stage Curriculum, which is driven by the area of Mathematical Development. This includes number, measurement, pattern, shape and space. Through varied activities, key skills are developed that allow the children to enjoy, explore, practise and talk confidently about Mathematics.

English as an Additional Language

At St Augustine's, we encourage all our children to achieve the highest possible standards. We do this through taking account of each child's life experiences and needs. A number of our children have particular learning and assessment requirements which are linked to their progress in learning English as an additional language.

When delivering the mathematics curriculum, we ensure we meet the full range of needs of those children who are learning English as an additional language. This is in line with the requirements of the Race Relations Act 1976 and our equal opportunities policy. The Mathematics curriculum can create different language demands which we identify and address. (see EAL Policy)

Special Educational Needs

Provision is made for those children with SEN at both ends of the spectrum throughout the school. Teachers try to address the child's need through simplified or modified tasks or the use of support staff. Wherever it is deemed necessary teachers will, in consultation with the SENCO, draw up an Individual Education Plan from which suitable support will be provided.

Equal Opportunities

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in Mathematics in line with our school policy. We aim to take into account cultural background, gender and special needs, both in our teaching attitudes and in the published materials we use with our pupils.

Assessments

We use two major forms of assessment. **Formative** assessment is used on a daily basis and **Summative** assessment is used yearly. Children are assessed regularly using a variety of strategies informally and formally. The marking scheme also leads to assessment against the learning objectives. Children are regularly required to self assess and peer assess their work and strive towards setting their own personal goals. The assessment process also serves as a guide in setting the priorities in the SIP.

Monitoring/Review/Evaluation

The Mathematics subject leader monitors, evaluates and reviews in accordance with the Mathematics MER schedule. Classroom observations, team teaching and book trailing is carried out by the subject leader. Staff receive feedback, orally and written. The process of review also helps us to determine priorities for the SIP and evaluations help to identify areas for development.

Contribution of Mathematics to other subjects

Mathematics is taught mainly as a separate subject but every effort is made to link mathematics with other areas of the curriculum. We try to identify the mathematical possibilities across the curriculum at the planning stage. We also draw children's attention to the links between Mathematics and other curricular work so children see that mathematics is not an isolated subject eg developing the using and applying of handling data in the context of Science, Geography or History etc;

- ❖ the skills acquired in Mathematics can be applied or consolidated in the context of another eg work with co-ordinates in Geography on four-figure references;
- ❖ the work of Mathematics provides a useful stimulus for work in another eg pattern in art in the environment.

Resources

A variety of resources is provided for practical use and for use in problem solving and investigations. Where appropriate, these materials are classroom based with other specific items are stored centrally in the Resource Room. Many additional materials are available via the internet and interactive whiteboard software. Support material is reviewed regularly, replaced if necessary and updated.

MONITORING AND EVALUATION

This policy will be reviewed annually by staff and governors or earlier if local or national directives are received.