

MATHS AT HOLY FAMILY CATHOLIC PRIMARY SCHOOL

WHAT IS MATHEMATICS ?

Mathematics is the translation of experiences with numbers into a specific language of symbols. This language can then be applied in the tackling of real life problems, the exercise of attempting to solve problems and gaining new knowledge upon the ‘journey’ or merely hypothesising over general examples to conclude in specific rules.

Mathematics can be viewed as a purely utilitarian skill in which the user decodes symbols to solve practical daily problems e.g. $2 + 2 = 4$.

It can also be used as an exercise ‘tool’ to strengthen and expand the brain’s capacity to think logically, strategically and systematically, where an end product is not always sought. In this way mathematics can be viewed as a means to increase mental skills which can then be transferred to any area of human activity.

OUR AIMS IN TEACHING MATHEMATICS

Simply put, the study of maths is twofold:

1. To equip all pupils with the skills to decide and to solve problems of a mathematical nature that are presented in daily life.
2. To provide all pupils with academic exercises to expand and stimulate the intellect.

Mathematics is also seen to be part of a broad and balanced curriculum to all pupils, as so many facets of the subject have cross-curricular applications.

OUR PRINCIPLES IN TEACHING MATHEMATICS

All involved in mathematics education of children at Holy Family will seek to follow principles that encourage all pupils to become secure and successful mathematicians who have realised their full potential.

The teaching of mathematics should be underpinned by:

- ◆ removing the fear of working with all aspects of mathematics;
- ◆ engendering a ‘no failure’ culture that builds from practical first hand experience to general rules and the ability to use skills to tackle any mathematical problem;
- ◆ producing equal opportunities in mathematics for all regardless of gender, race or disability;
- ◆ encouraging enjoyment and fun in mathematics;
- ◆ bridging the gap between mathematical skills, knowledge and understanding of their use in real life situations;
- ◆ creating a spirit of adventure that encourages pupils to experiment within the field of mathematics;

- ◆ creating a supportive culture where pupils know where and when to ask for help and guidance in mathematics.

STRATEGIES FOR THE TEACHING OF MATHEMATICS

Practical first hand experience leading to internalised thought. Pupils should receive a chance to ‘play’ with structured mathematics materials, to look for similarities, to draw general conclusions and then be able to explain to others, through different media, what has been learned.

Pupils should develop this first hand experience into theory i.e. the translation of practical experiences into an abstract mathematics language where the child can paint a comprehensible picture of a practical topic or concept.

The teacher must lead, support, challenge and above all teach mathematics concepts. Emphasis must be placed upon ensuring that the teacher understands where the pupil’s current mathematics knowledge is in order to teach knowledge, skills and concepts that move the pupils forward. Teachers should endeavour to keep pertinent records of pupils’ progress.

Whole class teaching must form a large part of each pupil’s experience. At Holy Family this forms the core element of the daily mathematics lesson.

Through the National Numeracy Strategy the school provides a thorough, planned teaching programme for mathematics, with clear learning objectives and guidance upon teaching time thus ensuring progression and consistency throughout the school.

Use of publicised schemes and resources has been carefully considered regarding their appropriateness, content and suitability to our mathematics philosophy and development plan. A range of resources is available and further additions are acquired as necessary.

It is not the view of the school, in the light of guidance from the National Numeracy Project, that large-scale purchases of published schemes are going to deliver the requirements of the National Curriculum.

An essential element in our teaching of mathematics is the link between planning, delivery and assessment. The latter being a format that is manageable by all, is understood and informs planning.

Systematic monitoring of mathematics by the Mathematics Co-ordinator under the head’s direction, in the areas of planning, teaching and assessment of mathematics is an essential element in improving quality in mathematics. This process is on-going.

Planning for Numeracy follows a common format throughout the school, as does record keeping, testing and reporting to parents. The use of objective tests as well as end of Key Stage tests and teacher assessment is used to inform planning and to diagnose individual pupil’s difficulties.

Results are used to analyse general successes and weaknesses in the school's performance, thus enabling the Head and senior management to plan and effect enhanced performance and results in the subject.

The delivery of a stimulating mathematics curriculum must be founded upon quality teaching. Facets that need to be addressed are:

- ◆ a teacher's firm knowledge of the subject;
- ◆ clear learning objectives for each lesson;
- ◆ a clear and all encompassing scheme of work;
- ◆ practical assessment procedures;
- ◆ challenging, interactive teaching strategies to whole classes, groups or individuals.

The use of other human resources will be carefully planned i.e.:

- ◆ the use of classroom assistants;
- ◆ the use of parent helpers in classes and a clear channel of communication to parents regarding their child's mathematics progress;
- ◆ informing governing and LEA officers of the school's mathematics strategic plan.

PROGRESSION

With the introduction of the National Numeracy Strategy and to ensure progression from Years 1-6 in Primary Education the school adheres to the outline of the Numeracy lesson for Primary Schools and the emphasis placed upon:

- ◆ oral/mental activities;
- ◆ a regular daily mathematics lesson;
- ◆ the use of correct mathematical language.

This format provides a sound basis for development and appropriate progression after transfer to Key Stage 3.

ASSESSMENT, RECORDING AND REPORTING

(Refer to Holy Family Assessment Policy)

Pupils are regularly assessed against learning objectives to inform planning and to ensure appropriate teaching and learning opportunities. End of Key Stage summative assessment will follow National Curriculum requirements. For each year group from Y2-Y6 NFER tests are used and optional Q.C.A. materials are administered for years 3,4 and 5. At Y1 M.I.S.T materials are in operation.

Targets must be set for all levels of ability. Termly targets for Numeracy are set, evaluated and reviewed.

SPIRITUAL, MORAL, SOCIAL AND CULTURAL ASPECTS

Opportunities to promote, appreciate and develop pupils' spiritual, moral, social and cultural awareness and understanding should be sought. These opportunities should be clearly identified in planning and promoted in practice.

INFORMATION COMMUNICATION TECHNOLOGY

Opportunities exist within mathematics for the use of ICT, specifically to develop the aspects of Data Handling outlined within the National Curriculum. At Holy Family we take every opportunity to integrate the use of ICT to further pupil's understanding and use of this technology, for the handling of data and any other aspect of the mathematics curriculum.

SPECIAL EDUCATIONAL NEEDS AND EQUAL OPPORTUNITIES

(Refer to Holy Family Special Educational Needs Policy)

It is our intention to provide every individual with a broad, balanced and relevant curriculum in mathematics at an appropriate level regardless of ability, gender, religion, race, social circumstances or first language. Clear procedures for the early identification of pupils experiencing difficulties are in place. Early intervention, which may include the provision of appropriate learning support, is a priority and will help ensure that pupils are given every opportunity to succeed.

The school takes every opportunity to ensure suitable challenges for those pupils deemed to be more able, as well as catering for pupils with a special educational need.