

St. Joseph's School Mathematics Policy

Aims

Our aims in teaching Mathematics are that all children will

- Enjoy the subject and study it with confidence.
- Achieve a good standard in Mathematics and a range of other mathematical skills.
- Apply these skills with confidence and understanding when solving problems.

Our aims are intended to reflect that

- The children can apply their mathematical skills to everyday situations.
- That the children should be actively involved in all aspects of their learning, including the recognition and assessment of their achievements.
- That all children should be enabled to fully develop their mathematical potential, regardless of gender, ethnic origin, disability or social circumstances.

Principles of the Teaching and Learning of Mathematics

Mathematics is important because

- It is widely used in society, in everyday situations and in the world of work.
- It can be used to represent or communicate ideas, to explain and to verify.

Mathematics is a core subject in the National Curriculum.

The fundamental skills, knowledge and concepts of the subject are categorised into these areas:

1. Number – number and place value
2. Number – addition and subtraction
3. Number – multiplication and division
4. Number – fractions (including decimals from Year 4 and percentages from Year 5)
5. Geometry – properties of shapes
6. Geometry – position and direction
7. Statistics (from Year 2)
8. Ratio and proportion (Year 6 only)
9. Algebra (Year 6 only)

The Teaching of Mathematics

Mathematics is taught For 45 minutes to 1 hour daily

- Classes in KS1 and 2 are set according to ability.

Lessons will allow opportunities for a combination of written, practical and oral work, including:

- Demonstration, explanation and instruction by the teacher, to groups, individuals and the whole class
- Whole class and group discussions
- Practical activities
- Practice activities to consolidate skills which have been learned
- The use of mental mathematics involving quick recall of mathematical facts
- Problem solving and investigational activities
- Each class to practise mental calculation daily

Throughout their daily maths lesson children are encouraged to:

- Develop a variety of mathematical strategies
- Develop different mathematical approaches
- Develop flexible and effective methods of computation and recording.

Calculators are used to enable children to work on investigational activities and in Upper Key Stage 2 to develop calculator skills and its effective use.

Pupils who have been identified as having special needs in Mathematics will receive support from the class teacher/SENCO. They include:

- Pupils with difficulties in learning mathematics
- The higher achiever who will work on extended tasks

Homework may be used to support mathematics through:

- Mental maths tasks
- The learning of tables usually from Year 2 onwards
- Specific tasks set by teachers

Planning **KS1 and KS2**

- Staff Inset meetings have included discussions on the mathematics curriculum to ensure consistency of approach, expectations and standards across the school.

- Annual, termly and weekly plans are drawn up by individual teachers and are based primarily on the weekly outcomes from the Hamilton Trust website.
- Teachers use a range of schemes to support their planning, however, the driving force for planning is the teacher's knowledge of the children's prior learning and their next steps.

Foundation Stage

Mathematics in the Nursery and Reception classes is taught as an integral part of the topic work covered during the year and the mathematical aspects of the children's work is related to the objectives set out in the Early Learning Goals (ELG's) which underpin the curriculum planning for children aged three to five. Mathematics makes a significant contribution to the ELG objectives of developing a child's knowledge and understanding of mathematical concepts. In this area of learning children are developing 'crucial knowledge, skills and understanding that helps them to make senses of number'. This forms the foundation for later work in mathematics.

Cross curricular links

English

Mathematics makes a significant contribution to the teaching of English in our school because it actively promotes the skills of reading, writing, speaking and listening. Mathematical enquiry involves: reading and interpreting a variety of word problems; writing solutions to them, descriptive explanations etc; speaking and listening skills are developed through arguing explaining, asking and answering questions, both orally and in writing, about a topic or issue, group work, presentations, analyse and illustrate a variety of data/ mathematical concepts.

Information and communication technology (ICT)

We use ICT effectively to enhance the learning of Mathematics in class, through the use of Interactive Whiteboards with links to the internet, together with a selection of CD-Roms, DVDs and compatible mathematical resources. The children have the opportunities to use the laptops/iPads in maths lessons. There are a range of websites used to consolidate the children's learning, such as MyMaths. We also offer the children the opportunity to use the digital camera to record and use photographic images.

Moreover, **Information Technology** is a valuable resource used in the teaching of mathematics.

Laptops may be used for:

- Data handling

- Practice of basic number skills for individual pupils who are in need of special support or motivation
- Problem solving and investigational activities

Personal, social and health education (PSHE) and citizenship

The ability to work collaboratively as well as individually is an essential quality in good mathematics' learning. Group work and problem solving activities are a regular feature of lessons so that children develop qualities such as tolerance and the ability to see other points of view. These activities encourage children to develop their own strengths when working as a member of a team. Mathematics in our school promotes the concept of positive citizenship.

Spiritual, moral, social and cultural development

Children are encouraged to be aware of the power and beauty of Mathematics, to reflect on and celebrate their own abilities, as well as those of others, and to see how Mathematics can sometimes give insight into situations which go beyond the physical (e.g. when appreciating the idea of infinity). We offer children in our school many opportunities to examine the fundamental questions of life through the medium of Mathematics. We encourage children to reflect on the impact of mankind on our world. Through teaching about economics, we enable the children to learn about inequality and injustice in the world. We help contribute to the children's social development by teaching them about how society works to resolve difficult issues of economic development. Mathematics contributes to the children's appreciation of what is right and wrong by raising moral questions during the programme of study.

Strategies for Recording, Reporting and Assessment

Reporting in mathematics will focus on each child's

- Competence in basic skills
- Ability to apply mathematical knowledge to new situations

The assessment in the EYFS is teacher based through discussion and specific activities.

From Year 1 upwards, there is ongoing formal and informal assessment throughout the year.

Resources

A variety of resources are available for the teaching of Mathematics and these are regularly reviewed and updated by the Subject Leader. They are kept in the classrooms and in the Resource room. In the library there are a range of mathematics topic books and these can be supplemented by the Schools Library topic loan facility.

Health and Safety Issues in Mathematics include

- Special care to be taken when using mathematical apparatus.

Monitoring and review

The Mathematics Subject Leader is responsible for monitoring the standard of the children's work and the quality of teaching in Mathematics. The Mathematics Subject Leader is also responsible for supporting colleagues in the teaching of mathematics, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The Mathematics Subject Leader gives the Head Teacher an annual report in which s/he evaluates the strengths and weaknesses of the subject and indicates areas for further improvement. The Subject Leader has allocated time for monitoring children's work and observing teaching across the school.

Reviewed and updated October 2017

Maths Subject Leader

Ann Cassidy-Jones