

Reviewed Spring 2023
Next Review Date - Spring 2025

St. Joseph's School Mathematics Policy

Intent

- For children to develop a deep, long-term, secure and adaptable understanding of their mathematics through a mastery approach
- For children to develop the ability to reason and problem-solve mathematically while they appreciate God's creation through patterns and natural geometry.
- For all children to access a fun, engaging and creative mathematical curriculum where they gain the confidence and resilience to apply their mathematical skills to real life situations.
- To create a safe and caring environment for all our children where they can all reach their mathematical potential regardless of gender, ethnic origin, disability or social circumstances.
- To promote and celebrate the diversity of our school community and wider society through links to local businesses in Bishop Stortford and surrounding areas, including those from BAME backgrounds.

Implementation

In the EYFS, the teaching of mathematics comes under the strands of 'Number' and 'Shape, Space and Measure' with opportunities for children to learn about core mathematical concepts. 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. Opportunities for the children to meet the relevant EYFS outcomes are planned for in each mathematical strand of learning, leading on from the interests of the children through some adult-directed activities alongside meaningful enrichments to child-initiated learning.

EYFS Maths lessons are now planned and taught from White Rose and NCTEM (Number Blocks) schemes of work. 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.

In Key Stages 1 and 2, annual, termly and weekly plans are drawn up by individual teachers. Teachers refer primarily to the Hertfordshire PA Plus Scheme of Work to plan their lessons. However, the driving force for planning is the teacher's knowledge of the children's prior learning and their next steps. During the course of the academic year, the following areas of mathematics will be planned and taught:

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. Measurement
6. Geometry - properties of shapes
7. Geometry - position and direction
8. Statistics (from Year 2)
9. Ratio and proportion (Year 6 only)
10. Algebra (Year 6 only)

Mathematics is taught for 45 minutes to 1 hour daily in years 1-6.

In addition to this, fluency sessions are taught for 10-15 minutes, 3 to 4 times per week in years 1-6.

Lessons allow opportunities for a combination of practical, oral and written work which follows a mastery approach. They include:

- Demonstration, explanation and instruction by the teacher to the whole class, individuals and targeted groups
- A key emphasis is placed on key mathematical vocabulary and for the children to understand and use this language
- Whole class, group and paired discussions
- Engaging practical activities which deepen children's understanding of their mathematics.
- Practise activities to consolidate skills which have been learned
- The use of mental mathematics involving quick recall of mathematical facts e.g. number bonds in KS1 and times tables facts in KS2.
- Problem solving and investigative activities

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.

Pupils who have been identified as having special needs in Mathematics receive support from the class teacher/teaching assistants within focused intervention groups. Some of these children complete the Dynamo Maths Programme on a daily basis.

Homework may be used to consolidate learning that has taken place in class and will be related to:

- Arithmetic questions
- Reasoning and Problem-solving questions
- Maths Mastery activities
- Number bonds in EYFS and year 1.
- The learning of times tables from Year 2 onwards

Contribution to other Curriculum Areas

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 problems by giving clear explanations using relevant mathematical vocabulary etc; speaking and listening skills are developed through children asking and answering questions and explaining their mathematical thinking both orally and in writing.

Computing

We use ICT effectively to enhance the learning of Mathematics in class: through the use of Interactive Whiteboards teachers display their Smart Notebook Planning/presentations. Additionally, the Interactive Whiteboards provide relevant links to the internet, together with a range of websites and online resources to consolidate the children's learning such as White Rose, Maths Shed and Hit the Button. The children have the opportunity to use the laptops/iPads in maths lessons - for example the year four children use them regularly to practise for the year 4 Multiplication Tables Check. We also offer the children the opportunity to use iPads to record and use photographic images within their lessons.

SEND children who take part in the Dynamo Maths Programme use a Google Chromebook to access this online resource.

Laptops may also 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, Health and Economic Education (PSHE)

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.

Inclusion

We teach mathematics to all children, regardless of their ability, and our teaching is planned to provide learning opportunities that match the needs of all children. Lessons are taught using a mastery approach, with adaptations made for those pupils who require greater scaffolding. For example, Dynamo Maths is used to support identified children who are at risk of developmental dyscalculia or who are performing significantly below their peers in maths.

Assessment and Recording

In EYFS, assessment is teacher based with an emphasis on discussion and specific activities.

From Year 1 upwards, there is ongoing formative and summative assessment throughout the year. Assessment data is stored centrally on our school SIMS system and is updated half termly. Children are assessed as working at either

BTW (below the expected standard), WTS (working towards the expected standard), EXS (working at the expected standard) or GDS (working at greater depth within the expected standard).

Health and Safety Issues in Mathematics

- Special care to be taken when using mathematical apparatus.

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, saved on the school server and in the Resource room.

Impact

The effectiveness of maths provision in the school is monitored through:

- Lesson observations and learning walks conducted by SLT and members of the subject lead team;
- Pupil voice questionnaires;
- Staff voice questionnaires;
- Analysis of pupils' attainment and progress data;
- Book and planning scrutiny.

The members of the maths team are responsible for:

- Producing and reviewing the maths policy;
- Monitoring the standard of the children's work and the quality of teaching in maths;
- Supporting colleagues in the teaching of maths;
- Keeping informed about current developments in the subject;
- Providing a strategic lead and direction for maths in the school;
- Providing the Head Teacher with an annual report in which s/he evaluates the strengths and weaknesses of the subject and indicates areas for further improvement
- Reviewing and updating the subject SEF and action plan;
- Reporting to the curriculum committee of the governors.

Reviewed and updated Spring 2023.
Maths Subject Leaders.
Haydn Carrington and Christina Kenny