

# *St. Joseph's R.C. Primary School*



## ***Mathematics Policy***

January 2024

Review: January 2027

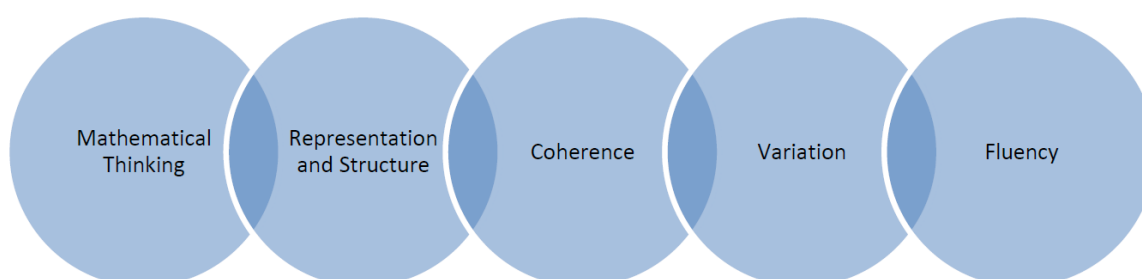
## Aims

Mathematics equips children with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

It is vital that a positive attitude towards mathematics is encouraged amongst all our children to foster confidence and achievement in a skill that is essential in our society. At St Joseph's, we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. We are committed to ensuring that all children achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education.

At St Joseph's our teaching for mastery is underpinned by the NCETM's 5 Big Ideas. Opportunities for **Mathematical Thinking** allow children to make chains of reasoning connected with the other areas of their mathematics. A focus on **Representation and Structure** ensures concepts are explored using concrete, pictorial and abstract representations, the children actively look for patterns as well as specialise and generalise whilst problem solving. **Coherence** is achieved through the planning of small connected steps to link every question and lesson within a topic. Teachers use both procedural and conceptual **Variation** within their lessons and there remains an emphasis on **Fluency** with a relentless focus on number and times table facts.

## NCETM 5 Big Ideas



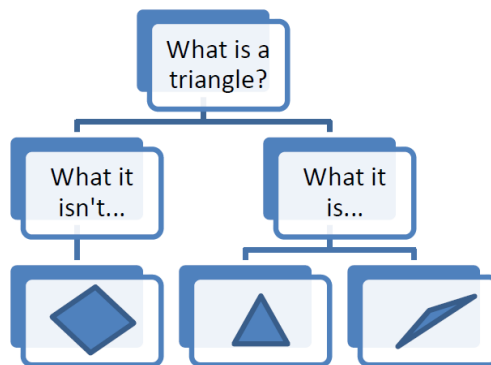
### 1. Statutory Requirements

The 2014 National Curriculum aims to ensure that all children:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that children 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

## 2. Teaching and Learning

- Teachers believe in the importance of mathematics and that the vast majority of children can succeed in learning mathematics in line with national expectations.
- The whole class is taught mathematics together, with no differentiation by acceleration to new content. The learning needs of individuals are addressed through careful scaffolding, questioning and appropriate rapid intervention where necessary, to provide the appropriate support and challenge.
- The reasoning behind mathematical processes is emphasized. Teacher/child interaction explores **how** answers were obtained as well as **why** the method worked and what might be the most efficient strategy.
- Precise mathematical language, often couched in full sentences, is used by teachers so that mathematical ideas are conveyed with clarity and precision. We value 'mathematical talk' and children get lots of opportunity to talk about and evaluate their mathematics during lessons.
- **Conceptual variation** and **procedural variation** are used extensively throughout teaching. This helps to present the mathematics in ways that promote deep, sustainable learning. Conceptual variation is where the concept is varied and there is intelligent practice. Positive variation is showing what the concept is, and negative variation is showing what the concept isn't. This clears away misconceptions at the very start. Within positive variation, both standard and non-standard representations are shown.



Procedural variation is where different procedures and/or representations are used to bring about understanding. For example, teachers may collect several solutions for a problem (some right, some wrong) before guiding the class towards the most efficient method. It also involves highlighting the essential features of a concept or idea through varying the non-essential features. Variation is not the same as variety – careful attention needs to be paid to what aspects are being varied (and what is not being varied) and for what purpose.

- Sufficient time is spent on key concepts to ensure learning is well developed and deeply embedded before moving on.
- The DfE non-statutory mathematics guidance is used to help teachers make effective use of the National Curriculum to develop pupils' mastery of mathematics. Alongside this, we use the NCETM's curriculum maps to ensure maths units are taught in a logical, progressive manner.

- We follow the NCETM Mastering Number from Reception through to Year 2 to develop a good number sense for all children.

### **3. EYFS**

Maths is a specific area within the statutory framework for the Early Years Foundation Stage. We follow the non-statutory guidance 'Birth to 5 Matters' to help us identify children's progress towards the Early Learning Goals.

### **4. Resources for the Teaching of Mathematics**

A range of resources, including Numicon, Diennes and place value counters are available in all classrooms for children to use independently, or with adult support, to support their learning.

Similar resources are available across the school to support children's learning. Resources such as place value counters increase in complexity to support the children. E.g. Key stage 1 – place value counters in 1's, 10's and 100's. Key Stage 2 – place value counters in decimals.

### **5. Assessment and Target Setting**

- End of year targets are set on Arbor at the beginning of the academic year using baseline assessments.
- Progress and attainment are assessed through the use of cold and hot tasks at the start and end of each new unit of work. The NCETM 'questions, tasks and activities to support assessment' are used to assess fluency, reasoning and problem solving.
- Group targets are set following the cold task in each unit. These are recorded in pupils' books, alongside the cold task, to ensure pupils are aware of their individual targets.
- Daily Assessment for Learning is used to ensure understanding. Same day interventions take place to provide children with additional support or to address any misconceptions.
- Formative tracking in pupil books is used to identify progress being made – objectives are dated when taught and highlighted green when a pupil has met the objective.
- Class teachers enter summative data into Arbor marksheets on a termly basis to identify attainment and progress.
- Children's next steps for Maths are identified and passed on to parents at Parent Consultation Evenings and in mid-term/end of year reports.

### **6. Inclusion**

We aim to provide for all children so that they achieve as significantly as they can in Mathematics according to their individual abilities. We will identify which children or groups of children are under-achieving and take appropriate steps to improve their attainment.

### **7. Equal Opportunities**

St Joseph's has universal ambitions for every child, whatever their gender, background or circumstances. Children learn and thrive when they are healthy, safe and engaged.

In order to engage all children, cultural diversity, home languages, gender and religious beliefs are all celebrated. We believe in '**valuing what the child brings to school**' and recognise the importance of supporting a child's first language, not only to foster self-esteem, but to assist in the learning of Mathematics.

## **8. Role of Subject Leader**

The Subject Leader is responsible for improving the standards of teaching and learning in Mathematics through:

- monitoring and evaluating Mathematics;
- tracking pupil progress;
- monitoring marking and planning in Mathematics;
- monitoring and ensuring full curriculum coverage;
- monitoring the quality of the Learning Environment,
- taking the lead in policy development;
- auditing and supporting colleagues in their CPD;
- purchasing and organising resources;
- keeping up-to-date with recent Mathematical developments.

## **9. Parental Involvement**

We aim to involve parents directly in the life of the school, and thus in the development of children's skills, knowledge and understanding in Mathematics. There are opportunities each term when parents can discuss their children's progress with their teacher. Termly topic webs provide information about the Mathematics curriculum and how parents can support their children.

Workshops will be provided for parents to help them understand how best to support their children's Mathematics at home. Strategies will be taught to enable parents to help children achieve the targets set by teachers.

Parents are informed of Mathematics homework tasks through weekly Class Newsletters.

## **10. Summary**

SATs results are published in accordance with Government legislation.

This policy should be read in conjunction with the following school policies:

- Calculation Policy
- Teaching and Learning Policy
- Assessment, Marking & Feedback Policy
- Special Educational Needs Policy
- Computing Policy
- Equal Opportunities Policy
- Continuing Professional Development Policy