



# St. Monica's Catholic Primary School

## Mathematics Policy

Status	School need
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### 1. Rationale

At St. Monica's our Mission Statement prompts us all to 'Never stop trying' and 'Aim to be the best we can be'. In planning how we teach Mathematics, these statements imply a curriculum in which we teach resilience and give each child every chance to master the learning objectives. We have, therefore, adopted a mastery approach to learning.

### 2. Aims

We aim to plan a curriculum and style of teaching that:

- 2.1 Fosters mathematical understanding of new concepts and method.
- 2.2 Requires pupils to think and reason mathematically for themselves.
- 2.3 Ensures that pupils acquire mathematical knowledge appropriate to their age and starting points and enables them to recall it rapidly and apply it fluently and accurately, including when calculating efficiently and in applying arithmetic algorithms.
- 2.4 Uses resources and approaches to enable pupils in the class to understand and master the mathematics they are learning, ie the Concrete, Pictorial, Abstract approach.
- 2.5 Develops depth of understanding and readiness for the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.
- 2.6 Enables pupils to solve a variety of mathematical problems, applying the mathematical knowledge and skills they have been taught

### 3. Teaching and Learning Style

The Maths No Problem maths scheme promotes a mastery approach of teaching. All staff follow an age appropriate version of the following lesson structure:

Focus - the anchor or 'hook' which poses a mathematical problem which requires fluency or reasoning to solve

Journaling - annotating the methods used where necessary

Guided Practice - applying taught approach with support or extension where required.

Independent work – applying, usually in abstract form eg written equations and methods.

Three times a week, pupils will receive short number skills sessions to develop their mathematical fluency. These sessions are separate from the MNP scheme and are used to reinforce the fluent foundations of the pupils' learning. From Year 1 to Year 6, the pupils will be assessed in weekly Mental Maths tests to track attainment and progress.

To develop the learning of the more and most able pupils, a range of resources and schemes can be accessed through and across school: the MAaT cluster workshops, NCETM Mastery, NRICH, Barvember, and MNP Mastery booklets. In Years 5 and 6, the most able pupils can also enter the annually-held Primary Maths Challenge.

#### **4. Mathematics curriculum planning**

**4.1** Mathematics is a core subject in the 2014 National Curriculum. Planning for years 1-6 is from the programmes of study and attainment targets of the 2014 curriculum.

**4.2** We carry out the curriculum planning in mathematics in two phases (long-term and short-term). The long-term plan details the objectives to be taught each term / week. They ensure an appropriate balance and distribution of work across each term.

**4.3** The weekly plans list the specific learning objectives, teaching activity and differentiated activities for each lesson. The plan includes a grid allowing the identification of children who have achieved the lesson objective; or the grid can be retained elsewhere.

**4.4** The web based system Classroom Monitor is used to inform planning, so that planning will relate closely to record keeping.

**4.5** The teaching of calculations is undertaken with reference to the methods promoted in the Maths No Problem scheme textbooks.

#### **5. The Early Years Foundation Stage**

**5.1** We teach the Aspects of Learning: Number; and Shape, Space and Measure in our Reception class through the Early Years Foundation Stage Curriculum. We relate the mathematical aspects of the children's work to the objectives set out in the Early Years Foundation Stage framework, for use from September 2014. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space, through a variety of practical, hands-on experiences, including collaborative problem-solving activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

**5.2** Where we feel it meets the children's needs we consider:

- the direct teaching of the whole class, with sufficient time to practise and rehearse important processes and skills
- the use of practical activities and equipment, giving the children materials to manipulate to aid their understanding and lay the foundations for visual images that represent numbers
- including some content from Year 1 national curriculum programmes of study when the children are secure in the ELG, eg number bonds to 10 or 20 and partitioning the numbers within this range.

#### **6. Contribution of mathematics to teaching in other curriculum areas**

##### **6.1 English**

The teaching of Mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, in mathematics lessons we expect children to read and interpret problems, in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others and write in their

journals. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts.

### **6.2 Personal, social and health education (PSHE) and citizenship**

Mathematics contributes to the teaching of PSHE and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money. Activities such as running a cake stall, organizing Lenten activities, taking part in Enterprise weeks or acting as School Council treasurer enable children to contribute to the community and develop entrepreneurial skills.

### **6.3 Spiritual, moral, social and cultural development**

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results.

### **6.4 Computing**

**Information and communication technology** enhances the teaching of mathematics significantly, because ICT is particularly useful for mathematical tasks. Teachers can use Interactive Whiteboard software to present information visually, dynamically and interactively, so that children understand concepts more quickly. Younger children use ICT to communicate results with appropriate mathematical symbols. In the EYFS, we use computer programs and programmable toys to develop the children's understanding of positional language, number and shape. Older children use it to produce graphs and tables when explaining their results, or when creating repeating patterns, such as tessellations. When working on control, children can use both standard and non-standard measures for distance and angle. They can also use simulations to identify patterns and relationships.

## **7. Inclusion**

7.1 At **our school** we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details see separate policies: Special Educational Needs; Disability Non-Discrimination; Gifted and Talented.

7.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, intervention – so that we can take some additional or different action to enable the child to learn more effectively. Half termly assessment against the NC objectives allows us to consider each child's attainment and progress against target levels. This ensures that our teaching is matched to the child's needs.

7.3 Interventions are offered to children with Special Educational Needs and to those in receipt of Pupil Premium Funding. Other children who fall behind in lessons may be included in an Intervention group or may be offered extra sessions with the teacher outside of the daily maths lesson to help them to keep up.

7.4 Where assessment shows the children would benefit from it, Springboard, Wave 3, and Overcoming Barriers intervention resources are available for use.

7.5 Groups who have been identified as needing support in maths, because of particular difficulties, or because they have fallen behind their planned route through the curriculum, are recorded in the Pupil Progress paperwork, and remedial action is planned in discussion between the Class Teacher and the Head Teacher.

7.6 Children identified as being gifted or able in this area, are identified in short term planning. Extension groups meet each week with Miss Hall to undertake extra challenging problem solving activities.

## **8 Assessment for learning**

**8.1** Through the use of Classroom Monitor, the children's progress is monitored and a judgment is made about whether the child is 'beginning, beginning +, developing, developing +, secure or exceeding with the year's curriculum. Our target is that all non SEN children should be at least secure by the end of the year.

**8.2** Half termly assessments are undertaken and those children who are not on target to have a 'secure' judgment by the end of the year are offered remedial support.

**8.3** NFER assessments for Y3 are taken in May. Further information can be found in the Assessment, Recording and Reporting Policy.

**8.4** A learning objective is shared with the children each lesson, with regular feedback against these.

**8.5** Children are encouraged to become involved in assessing their own progress and achieving targets through: sharing lesson objectives in introductions, discussing achievement of objectives in plenaries and post topic assessment.

## **9. Resources**

All classrooms have an IAWB with appropriate software. Calculators, games, cubes, dienes, counters, dice, number lines etc are available in all classrooms and should be regularly used in the CPA approach we have adopted. Maths No Problem textbooks are used in most lessons. Many staff also use the My Maths online resource.

Teachers have access to a range of materials to support planning, including:  
Classroom Monitor Markbooks  
Maths No Problems

## **10 Monitoring and review**

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of all staff, led by the subject leader. The work of the subject leader also involves supporting colleagues in their teaching, being informed about current developments in the subject, and providing a strategic lead and direction for mathematics in the school. Mr. Burn is the governor with responsibility to oversee the teaching of mathematics and meets with the subject leader to review progress.

**Signed:**

**Chair of the Education Committee**

**Date: November 2020**

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