

St. Michael's Catholic Primary School



Maths Policy
February 2018
Kevin Ronan Deputy Head



'With Jesus we can *achieve* what we *dream* and *believe*'

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School Mission (Spring 2015)

Overview

This policy (in conjunction with the Teaching and Learning policy) contributes to the school's philosophy of teaching and learning as expressed through our mission statement.

The new National Curriculum states that:

"Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject."

It is our belief that all pupils, regardless of ability, race or gender, should be encouraged and helped to realise their full potential in Maths. We want the children to see Mathematics as being relevant to their world and applicable to everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment. To that end, a high-quality, inter-related and creative Maths experience should be one that develops the children's ability to think mathematically and one which allows them to apply the tools to which they have been exposed in a variety of ways. We place a strong emphasis on teaching Mathematical skills and concepts in concrete and practical contexts. Teachers should use models and practical activities which enable the children to use and apply skills, knowledge and understanding. Teachers have access to the Liverpool School Improvement medium term plans for Mathematics and we also follow the School Improvement Liverpool Calculation policy

Following the introduction of the new National Curriculum in 2014 the emphasis has been to ensure that all children:

- Become **FLUENT**
- **REASON** and **EXPLAIN** mathematically
- Can **SOLVE PROBLEMS**

This means that children need to be regularly exposed to opportunities involving increasingly complex problem solving which allows them to apply their Maths knowledge. In doing so they should be encouraged to develop an argument and line of enquiry which they can prove and justify using mathematical vocabulary. This includes the ability to break down problems, both routine and non-routine, into a series of steps.

Aims/Objectives

Using the Programmes of Study from the National Curriculum the aims of mathematics are:

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- To create a lively, exciting and stimulating environment in which all children can learn Maths
- Ensure the delivery of Maths is filled with cross curricular opportunities
- To promote confidence and competence with numbers and the number system and to use mathematical vocabulary to reason and explain
- To develop the ability to solve problems through decision making and reasoning in a range of contexts
- To develop a practical understanding of the ways in which information is gathered and presented.
- To explore features of shape and space and develop measuring skills in a range of contexts
- For children to challenge and stretch themselves and take risks in their learning
- To promote the concept that acquiring mathematical knowledge and skills provides the foundation for understanding Maths in everyday life.

Strategies

It is important that children are allowed to explore Maths and present their findings not only in a written form but also visually; to that end the school will adopt the CPA approach: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of Maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers.

At St. Michael's we follow the Local Authority Calculation Policy (See Appendix 1)

We also use the Liverpool School Improvements Maths plans as well as the White Rose Maths plans as an aid to our planning.

Nursery: Maths is taught through all areas of play and also as a small guided group session.

Reception: At the start of the year Maths is taught as a whole class daily lesson and guided maths sessions take place each day. By the end of the year Maths will progress to being taught as a whole class 45minute lesson. Maths games are played weekly across the phase and there are mathematical opportunities offered daily throughout the learning environment, both inside and outdoor.

Year 1-6: There is an hourly maths lesson, which includes basic skills revision and also 5 x 10 minute basic skills sessions per week. (See Maths Yearly Overview)

We place a strong emphasis on the teaching of basic Maths skills, knowledge and understanding (times tables, calculation methods etc.). To help with this, we have set aside the left hand side of Maths books for record of basic skills and calculation strategies. Each class dedicates 10 minutes per day on the teaching of basic skills.

We follow the Assertive Mentoring Strategy for the recording and assessment of Basic Skills. 30 minutes of a Monday is set aside for a skills check and 45 minutes on a Friday are dedicated to addressing misconceptions.

Display and Resources

- In the classrooms there should be, either on display or easily accessible to children, appropriate resources, particularly concrete and pictorial apparatus to support children to grasp concepts.
- Mathematical vocabulary should be displayed so that children use this in the communication of their understanding.
- There should be maths work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards mathematics for all groups of children

Mathematical materials, equipment and Basic resources are stored in each classroom.

The mathematic Co-coordinator should be informed when equipment needs replacing or supplementing. The children are shown how to take care of equipment and resources and progressively encouraged to select materials suitable for the task in which they are engaged.

Links to other curriculum areas

Mathematics contributes to the children's spiritual development, finding shapes and pattern in nature, seeing order, logic and pattern that number offer. Opportunities to reinforce mathematical concepts in other subject areas as well as in the outside environment will be encouraged and provide.

Roles

The role of the subject leader:

The role of the subject leader is to:

- to provide a strategic lead and direction for the subject
- to support and offer advice to colleagues on issues related to the subject;
- to monitor pupil progress in that subject area;
- to provide efficient resource management for the subject.

It is the role of the Maths subject leader to keep up to date with developments in Maths , at both national and local level. They review the way the subject is taught in the school and plan for improvement. This development planning links to whole-school objectives. Each subject leader

reviews the curriculum plans for their subject, ensures that there is full coverage of the National Curriculum and that progression is planned. They must then monitor and review this on a regular basis, by conducting book scrutiny, learning walks and through discussion with both pupils and staff. This will then inform future.

Parental Support and Homework

We recognise that parents make a significant difference to the pupils' progress in maths and encourage this essential partnership. Homework follows the school's Homework Policy and is used for the following purposes:

- To practice a skill
- To learn something by rote such as times tables and formulae
- To revise for an assessment
- To explore a mathematical problem or question
- To research a topic

Outcomes

Intended Outcomes Our pupils will learn to:

- Develop the appropriate mathematical language associated with number, shape and position;
- Use and apply mathematics in practical tasks, in real life problems and in acquiring further knowledge, skills and understanding in the subject itself;
- Understand and use the four operations of number in relevant contexts;
- Understand relationships between numbers, learn basic number facts and develop a range of computational methods;
- Understand place value in our counting system and understand how it can be extended into numbers below zero.
- Use their mathematical skills in simple problem solving;
- Collect, interpret and represent data in tabular, graphical and diagrammatic form;
- Develop mental methods of calculation;
- Recognise, describe and represent shapes and patterns in terms of their properties, location and movement;
- Measure quantities including length, area, volume/capacity, angle, temperature, time and mass;
- By the time children reach Year 6 they will be introduced to ratio/ proportion and language of algebra as a means for solving a variety of problems.
- Pupil to be at the Age Related Expectations (ARE) at the end of their appropriate school year.

Monitoring and Assessment

Teachers will work in pairs within each year group to plan and deliver lessons that suit the particular learning styles of the children within the year group. Teachers continuously assess the children informally (formative assessment) through their marking and interactions with the pupils during lessons. They then complete an 'objective assessment' record on an ongoing basis. These are reviewed once per term as part of our Whole School Pupil Progress Procedures.

Across a range of lessons children should be allowed to engage in mathematical discussion (talk partner or group work), investigations, problem solving, practical experiences and written methods, as well as allowing for time to demonstrate their understanding through gap tasks.

In EYFS children's attainment and progress is tracked on a daily and weekly basis.

NFER Testing: As part of our formative assessment year's 3, 4 & 5 conduct NFER test in the autumn term, as a baseline assessment, and then again in the summer term to identify progress and inform attainment standards.

Appendixes

Appendix 1: Calculation Policy