



**St. Basil's**

Catholic Primary School

'We love, learn and succeed together'

# Maths Policy

## January 2021



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## **Curriculum Intent**

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.

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
- Ensure opportunities for children to make choices, determine challenge, take risks and demonstrate resilience in their learning
- To promote the concept that acquiring mathematical knowledge and skills provides the foundation for understanding Maths in everyday life.
- Make meaningful links between subjects and build upon children's life experiences.
- Foster in children, a sense of pride and recognition of their achievements and the ability to identify their next steps in learning.
- Encourage aspirations and lifelong learning skills which will facilitate both future choices and lifestyle.

## **Curriculum Design**

A calculation policy has been developed in 2021, in line with the New National Curriculum requirements in 2014. The programmes of study set out within each domain in the new National Curriculum will be used to ensure children get the learning experience that is required. A Progression in Mental Mathematics strategy has also been adopted and disseminated to teachers.

The teachers carefully sequences concepts seeking to develop a coherent and comprehensive conceptual pathway; through the use of clear concrete, pictorial and abstract progressive steps.

Learning is broken down into small steps, connected steps building on from what pupils already know. There is little repetition of previous learning (year before). The focus is on delivering deep understanding of concepts within the year group expectations.

Difficult points and potential misconceptions are identified in advance (during the planning stage). Teachers plan to address misconceptions and Teaching assistants are used for daily pre-teaching of concepts. Flexible groupings are used to ensure that all tasks set closely match differing learners abilities. This ensures mastery through the child's depth of understanding and ability to apply knowledge within their learning. Alongside this consideration is given to key questions– these are designed to challenge thinking, and develop learning for all pupils.

Fast learning is used to develop accuracy, fluency and automaticity of concepts. Specific emphasis is placed upon all children securing foundational outcomes and developing conceptual learning in order to secure the connections between knowledge, understanding and skills.

Contexts and representations are carefully chosen to develop reasoning skills and to help pupil's link concrete ideas to abstract mathematical concepts.

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.

EYFS – The EYFS maths curriculum is based upon the development matters statements and is centred on the Mathematical Fluency Project. 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 lesson. Maths games are played across the phase and there are mathematical opportunities offered daily throughout the learning environment, both inside and outdoor. Regular maths meetings take place in EYFS which reinforces key skills and knowledge is revisited on a regular basis so that pupils develop a solid foundation of maths skills. Maths is promoted through continuous provision in the form of maths challenges which children are encouraged to complete. The use of maths vocabulary is promoted throughout the provision by all adults.

In EYFS the Mathematical Fluency Project alongside the use of Maths Mastery is enabling learners to make connections to number in many different contexts.

Year 1-6: There is an hourly maths lesson and also 3 x 15 minute maths meetings per week to reinforce key skills and knowledge.

In Y1 and Y2 the Mathematics Mastery Programme has ensured that children have excellent opportunities to develop their fluency and reasoning and are developing their knowledge of the CPA approach. Manipulatives are used effectively to enhance teaching and to help to secure concepts for the children.

In Y3-6, the implementation of the 6 part lesson structure ensures that children have regular opportunities to develop fluency, reason mathematically and problem solve. Teachers have worked with a maths consultant and the subject leader to utilise a toolkit which ensures this continual challenge.

### **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.

The Mathematics Working Wall is used to display the progression of the unit / concept, success criteria and Mathematical vocabulary so that children use this in the communication of their understanding.

There should be maths work on display in classrooms 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 team 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.

### **Roles**

The role of the subject leader(s) is:

- 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. The subject leader reviews the curriculum plans for mathematics, 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,

analysis of data and through discussion with both pupils and staff. This will then inform future priorities.

### **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

### **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.

Children will be provided with feedback either verbally or through written marking. Often, in order to clarify understanding of a concept, children will be set gap tasks, but not for every lesson; these should be completed by the children at the next earliest opportunity after the lesson. Corrections and errors are responded to with a green pen. When marking work teachers should adhere to the school's Marking Policy.

Each year group has a set of criteria which all pupils are assessed against at key assessment points and to help inform termly and end of year judgements. These are reviewed once per term as part of our Whole School Pupil Progress Procedures.

Teachers' formative assessments are regularly updated on OTrack which enables teachers and the subject leader to identify and address any gaps in learning. Tracking systems also identify if children are on track or not to achieve the end of year expectations for their particular year group. This enables the school to swiftly put into place any necessary intervention strategies or further investigation or SEN involvement.

Children are assessed both formatively and summatively to check for progress and identify misconceptions and areas for development. Moderation of children's skills takes place both internally and externally. Teachers in all key stages meet with other schools within the local authority to check for accuracy of assessment. Summative assessments include the use of NFER tests in Yr1, 2, 3, 4 and 5 and CGP Assessments in Y2 and Y6.

## **Inclusion**

In line with the School's Inclusion Policy each child will have an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.

Intervention groups will take place both within the Maths lesson and outside; these sessions may be delivered by the teacher or teaching assistant and may involve individual or small group work, accessing both ends of the learning spectrum.

## **Governing Body**

The mathematics team will encourage positive links with the maths governor to keep the governing body informed of all major issues related to mathematics in the school. Co-ordinators will deliver information to governors when necessary to inform them of developments and progress within mathematics at St Basil's.

Governor approval date:

Next review date: