

# St Thomas of Canterbury Catholic Primary School

*'To Love and To Serve'*



## Maths Policy

**Review Date: July 2021**

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## 'To Love and To Serve'

### Maths Policy

#### Mission Statement

- The school's educational programme is intentionally directed at the growth of the whole person: to develop pupils who can accept responsibility, whose lives reflect Christian values and who recognise knowledge is important but its chief value is in giving service to others. We aim to create a Christian Community in our school whose values are communicated through love and sincere relationships between all its members, a community in which each person can develop his or her human potential as fully as possible with a view to a personal commitment to Christ. The school recognises that it can achieve its aims only in partnership with parents who are the first and foremost educators of the child.
- To make prayer, worship and liturgy real educational experiences and to contribute successfully to the development of the Faith of each individual in the school community.
- To create an active school community which values the individual but promotes respect for others and provides through links with home-parish-school preparation for the pupils' entry into the wider community.
- To ensure that the curriculum provides a Catholic setting in which the pupils have an entitlement to grow in understanding and an entitlement to the acquisition of skills, attitudes and values.
- To ensure that all the pupils in the school experience a caring community which promotes the importance of Christian principles in relationships.
- To show concern in a school that looks to Christ for the basis of its existence, for all those outside the school regardless of colour, class or creed.
- To encourage pupils to critically evaluate standards and values in society to enable them to strengthen their own beliefs.

## **Aim**

At St Thomas of Canterbury, we want all our pupils to leave our school being fluent in the use of mathematics including rapid and accurate fact recall and application of procedures so that pupils can tackle more complex mathematics confidently and efficiently.

Pupils will leave us with the conceptual understanding of the key mathematical ideas needed for them to go on and be successful mathematicians in the next phase of their education. This include being able to use reasoning to problem-solve practical tasks and real life problems by using their understanding of mathematical structures and relationships.

## **Principles**

We provide children with a variety of mathematical experiences which will develop:

- logical and creative thinking through approaching problems in a variety of ways;
- using a trial and improvement method in which mistakes are used as a learning tool;
- the skills of predicting, estimating and reasoning through solving mathematical problems;
- processing and analytical skills through verbalising and recording mathematical information.

## **The Role of the Maths Subject Leaders:**

- To work with colleagues in developing confidence and skills necessary for the teaching of mathematics;
- To have an overall responsibility for auditing plans, monitoring working walls, children's work and resources;
- To be knowledgeable about whole school Math data;
- To bring new developments and ideas to the attention of the staff;
- To attend INSET and arrange INSET for staff.

## **Strategies**

### *Key Stage 1*

In Reception class the emphasis is placed on practical activities and informal recording, working towards a more formal recording by the end of Key Stage 1. Year 1 and Year 2 children work both practically and formally record their Mathematical work. Children are given opportunities

to work through a variety of planned practical experiences which develop mathematical understanding and skills.

### *Key Stage 2*

At Key Stage 2 children are provided with practical experiences and problems set in a meaningful context which will help them to internalise concepts and deal with maths in an abstract form. A structured approach is used for teaching formal algorithms which follows the Mathematics Curriculum.

### **The Maths Lesson**

There is a daily maths lesson of one hour when children are provided with a variety of activities.

### *Mental Maths /Fluency Starter*

- Ten minutes every day is spent on activities which involve the children in solving mathematical problems mentally, or in practising skills, i.e. rhymes, times tables etc. During this time, children are shown or asked to share their own strategies for solving mental problems efficiently.

### *Oral Opportunities*

In every lesson children are given the opportunities:

- To discuss their work with the teacher and other children (Talk partners to share their understanding of the concept)
- To answer questions in full sentences
- To use new Maths Vocabulary in contexts

These discussions are opportunities to clarify understanding and address any misconceptions.

### *Main Activities*

Children are provided with a structure of the main activities

- Through paired work, group work and independent work, as well as whole class teaching when appropriate.
- Investigative and problem solving tasks which may be open ended and enable children to see a variety of options for completing tasks.
- Maths games which are fun and allow children to extend and consolidate mathematical and collaborative skills.
- Consolidation which provides an opportunity to practise and extend mathematical learning.

### *Plenary*

- Opportunities are taken at the end of each lesson to assess and discuss children's learning.

### **Recording Maths**

At *Key Stage 1* recording is done through:

- Pictures/photos
- Drawing/recording of Diagrams (Part - Part - Whole, Ten frames, Dienes, Shapes...)
- Numerical facts
- Visual displays
- graphs
- Real life objects i.e. sorting trays, peg boards, (flour to weigh...)
- Children's own recording methods
- Interactive displays

At *Key Stage 2* the following are some ways of recording:

- Algorithms
- Diagrams (Part-Part-Whole, Bar models)
- Charts
- Plans
- Written - explanation of their reasoning
- Pictures / Photos
- Children's own recording methods

A significant amount of time is spent developing mental ability and investigating mathematical concepts.

### **Planning for Maths**

Teachers' planning reflects the following:

- a knowledge of the children (their skills, level of understanding and group dynamics);
- small step, sequential learning which build on prior learning
- clear objectives for each lesson;
- Clear vocabulary
- Clear stem sentences
- Use of concrete, pictorial and diagram to explain mathematic concepts in a range of contexts
- clear activities which will help the children to achieve the aims of the lesson;
- Challenges and 'support activities' for able and less able children.

## **Resources**

- Each classroom has a basic stock of maths equipment. Teachers need to inform the maths coordinator of items that need replacing.
- Designated Math Area for all resources (Scales, Measurement, 2D/3D shapes...)
- Teachers are encouraged to use a range of resources to draw activities from.

## **Assessment**

- There is regular, ongoing teacher assessment of maths which informs planning within the lessons through questioning, observations and children's work in books.
- Although teacher assessment is how judgements are made some standardised testing takes place to underpin the teacher assessment, these includes:
  - \*White Rose end of block assessments
  - \*Where appropriate end of term assessment
  - \*PiXL assessment
  - \*Year 2 (Key Stage 1 SATs),
  - \*Year 6 (Key Stage 2 SATs).

## **Conclusion**

We provide pupils with a variety of quality mathematical activities which will encourage them to become efficient mathematicians and able to approach the challenge of maths in different ways.

This policy was reviewed in June 2020

It will be reviewed in June 2021

## **Key Questions that could be asked during a maths lesson**

- What do you notice?
- Is there a pattern?
- Which one is the odd one out? Why?
- How do you know? Prove it.
- Can you explain how you worked it out?
- What could you do next?
- Can you write a Maths story to match the number sentence?
- Can you think of another way you could do it?
- Has anyone done it differently?
- Is there a more efficient way?
- What equipment could you use to help you?
- How could you record it?
- How can you check it is correct?

- What operation do you need to use (did you use) to solve it?
- What is the question asking you to find?

### **How support staff will be used during a maths lesson**

#### *During mental and plenary sessions*

- questioning and encouraging targeted children to respond to the task set by the teacher;
- simplifying language for targeted children;
- recording the oral responses given by children;
- doing an agreed mental task with a targeted group (by withdrawing or in class);
- feeding back to the class, with children, on what has been learnt.
- Having models and images available for pupils to use (hundred squares; number lines; pens...).

#### *During the activity*

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- Move around the class to support children
- Working with targeted (less or more able) children on a task set by the teacher;