



Loving minds  hearts  hands.

## MATHEMATICS POLICY

### Introduction

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics curriculum. The mathematics taught and the methods used reflect the recommendations outlined in the guidance contained in the documents:

- A. Curriculum Guidance for the Foundation Stage
- B. Curriculum guidance for Teaching Mathematics from Year 1 to Year 6
- C. Maths No problem and White Rose medium term planning.

It provides information and guidance for teachers, governors and other interested parties.

### Aims

The national curriculum for mathematics aims to ensure that all pupils:

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

At St. Ambrose, it is recognised and taught that Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems whilst expressing their reasoning fluently. It enables children to understand and appreciate relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

At St. Ambrose Primary School, in conjunction with the National Curriculum, we aim to:

1. develop a positive attitude to maths as an interesting and attractive subject in which all children gain some success and pleasure;

2. develop mathematical understanding through systematic direct teaching of appropriate learning objectives;
3. encourage the effective use of maths as a tool in a wide range of activities within school and, subsequently, adult life;
4. develop an ability in the children to express themselves fluently, to talk about the subject with an assurance, using correct mathematical language and vocabulary (as detailed in the 'mathematical vocabulary');
5. develop an appreciation of relationships within maths;
6. develop ability to think clearly and logically with independence of thought and flexibility of mind;
7. Use manipulatives to aid the development and learning of the children in mathematics.
8. Use CPA (Concrete, Pictorial and Abstract) approach to developing mathematical skills.
9. develop an appreciation of creative aspects of maths and awareness of its aesthetic appeal;
10. develop mathematical skills and knowledge and quick recall of basic facts in line with NC recommendations.

### **Teaching and Learning Style**

The school follows the National Framework for mathematics. Links, where appropriate, are made to other subjects where possible. The school uses a variety of teaching styles to cater for the variety of learning styles of pupils in mathematics lessons. Our principle aim is to develop children's knowledge, skills, reasoning, fluency and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, numicon, and small apparatus to support their work. Counting is an integral part of the majority of lessons.

### **Differentiation**

In the revised national curriculum 2014 it is suggested that:

*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.'*

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies - in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games. Children are given the opportunity in many lessons to decide how they feel about their learning, leading to a choice of differing challenges that are related to the intended learning.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within St. Ambrose Primary School are viewed as an important 'asset' to the school and, as such, are appropriately involved in the planning and delivery of the mathematics curriculum.

## **Attainment targets**

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. The school aims to provide opportunities for children to develop these skills but for those children who are exceeding the appropriate relevant programme of study they are not to move onto the next programme of study. They are to master their current one with an emphasis on depth and challenge rather than accelerating through the content.

## **Mathematics Curriculum Planning**

Mathematics is a core subject in the National Curriculum, and we use Maths No Problem (Singapore Maths) (KS1 and Y3) and the White Rose scheme of learning (Y4-Y6) as the basis for implementing the statutory requirements of the programme of study for mathematics. Maths No Problem has been introduced into KS1 in September 2016. Appropriate training and support will be offered to the class teachers to implement this style of mathematics successfully.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the National Curriculum. Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.

The head teacher, phase leaders and mathematics subject leader are responsible for monitoring the mathematics planning within our school.

Work undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Early Years Foundation Stage document. The techniques used from Maths No Problem will be introduced into EYFS so that children will develop their understanding of mathematics and prepare them for KS1 maths. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

## **Assessment**

The children's learning is assessed regularly through teacher observation, marking, use of classroom monitor and discussion with the children. In addition, PUMA and White Rose Maths assessments are used termly to support judgements. Tracking is completed on a termly basis. For the Foundation Stage, children are assessed in accordance with the Early Years Foundation Stage tracking system.

## **Presentation.**

Children at Saint Ambrose are taught to take pride in their learning and that it is set out neatly. In maths, the date will be written as 10.9.14. A line will be missed and then the title will be written on this line. All dates and titles will be underlined with a pencil and a ruler in Key Stage 2 (this may be started in Key Stage 1 depending on the ability of the child). A margin will be drawn and children will start writing from the margin. Children should use 1 square per digit when writing numbers or calculations. New pieces of work will generally not be started on a new page each time.

Pencil must always be used in maths book.

Any colouring in must be done in crayon or pencil crayons, felt tips must not be used in exercise books.

Any mistakes will be crossed out with one straight line through the error.

Children are expected to keep their books neat and tidy. There will be no doodling on the front or inside covers.

Additional Related Policies

Calculation Policy

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Reviewed: July 2017 for academic year 2017 2018

Date agreed by Governors: