



# MATHEMATICS POLICY

<b>Approved by:</b>	Mr. G Oates (Headteacher)	<b>Date:</b> January 2020
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<b>Last reviewed on:</b>	January 2020
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<b>Next review due by:</b>	January 2022
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## 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.

## 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 Beever Primary school, 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 Beever 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.
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 contents. 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. We understand that in some classes (particularly year 1) not all children will complete the independent practice books and will continue to learn a concept practically. In other year groups, not all children will complete all independent practice questions but will be challenged to deepen their understanding at a pace suitable to the individual.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within Beever Primary School are viewed as an important 'asset' to the school and, as such, are appropriately involved in the training 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 Inspire Maths (Singapore Maths) as the basis for implementing the statutory requirements of the programme of study for mathematics. Inspire Maths was introduced in September 2018. Appropriate training and support will be offered to the class teachers to implement this style of mathematics successfully.

The Inspire Teacher's Guides provide a step-by-step teaching sequence for each unit. Teachers will follow this sequence at a pace which best suits the needs of their class. Pupil Textbooks introduce concepts and skills in a highly structured way, helping children to make meaningful connections between mathematical ideas. Within maths lessons at Beever Primary school, a 'Let's Learn' is used to introduce a new concept where the children will explore the concept in a variety of ways, Guided Practice activities are used to promote discussion and exploration, and games and activities are used for further practice. Each unit references the corresponding Practice Book pages for independent practice. Journaling is also used within a sequence of lessons to show children's mathematical thinking and understanding (thinking caps). In addition to a mathematics lesson, a daily maths meeting (fluency session) will take place to ensure that essential skills and basic mathematical knowledge is not forgotten.

Teachers should be using the Teacher's Guides as a basis to planning their lessons, there is an expectation for teachers to plan how they are going to expose the structure and represent the mathematics within the sequence of lessons, how to deepen the children's mathematical thinking and the vocabulary that children will be expected to use along with the concept of learning.

The senior leadership team and the 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 Inspire Maths 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 additional adults and discussion with the children. In addition, Testbase assessments are administered termly to track the children's progress. Tracking is completed on a half termly basis and submitted on Target Tracker. For the Foundation Stage, children are assessed in accordance with the Early Years Foundation Stage tracking system.

### **Additional Related Policies**

- Calculation Policy