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## Mathematics Policy

December 2021

<b>Document history:</b>	
Written by	Mrs L Culver
Reviewed by	
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  Chair of Governors	

## **RATIONALE**

It is vital that every child at Lenham Primary School gains an understanding of mathematical concepts as it will directly affect their adult lives e.g. in terms of handling money, using timetables, following recipes etc. Children must acquire mathematical skills and knowledge and understand how to apply these to everyday situations. The school follows the National curriculum and the Early Years Foundation Stage for Mathematics, and has adopted a mastery approach to its teaching; lessons will include interactive whole class teaching, lively questioning, explanation and modelling. We expect children to play an active part in lessons by explaining and representing their methods in order to demonstrate their understanding.

## **AIMS**

The school's aim is for all pupils to have equality of opportunity and access. Children are expected;

- To develop a sound understanding of mathematical concepts through practical and investigative work;
- To acquire appropriate and necessary mathematical skills and to be able to apply them confidently and accurately;
- To enjoy Mathematics, be successful and have a positive attitude to the subject;
- To be able to demonstrate their skills and knowledge and talk about their work using appropriate mathematical language;
- To be able to clearly explain their approaches using both verbal reasoning and pictorial representations;
- To develop fluency of key mathematical concepts such as number bonds and times tables;
- To develop thinking skills and logically apply their mathematical knowledge to solve problems;
- To use Mathematics as part of everyday life in school and at home.

## **OBJECTIVES**

- To ensure that all pupils follow a broad and balanced Mathematics programme based on the requirements of the National Curriculum and the statutory Framework for EYFS;
- To ensure that all pupils are provided with interesting and challenging tasks that enable them to achieve standards appropriate to their abilities and potential.
- To allow pupils to develop as independent learners, who are able to make decisions about their own work and the manipulatives they require to access the learning. All pupils must be given the opportunity to reason mathematically and develop an argument, justification or proof using mathematical language.

## **RESOURCES**

There are whole school resources available for teaching in the Resources Cupboard in the main corridor. Each class has access to a range of manipulatives to enable all children to access all learning intentions which includes;

Numicon tiles

Ten Frames

Rekenreks (to 20 and to 50)

Double sided counters

Multi-link/Uni-fix cubes

Digit cards

Compare bears

Money

Clocks

Number lines

Cuisenaire rods

Place value counters (including decimal place value)

2D and 3D shapes

Protractors

Diennes

Mirrors

Dice

## APPENDIX 1

### What does effective Maths learning look like at Lenham Primary School?

- ✓ Lessons have elements of fluency, problem solving and reasoning;
- ✓ Access to manipulatives and children demonstrating independence in using them;
- ✓ Ping-pong between the children and the teacher;
- ✓ Stem sentences being modelled and used by the class teacher and children to reinforce learning;
- ✓ Engagement of all – teacher, additional adults and children;
- ✓ Challenge throughout the lesson;
- ✓ Effective questioning from the Teacher and TA;
- ✓ Children being encouraged to explain their answers;
- ✓ Age appropriate mathematical vocabulary being modelled and used by all;
- ✓ Children are exposed to conceptual variation;
- ✓ Intelligent practice is evident through the teacher's choice of activities and questions;
- ✓ Evidence of concrete, pictorial and abstract within a unit of work;
- ✓ A relevant learning wall which is used to support learning;
- ✓ A range of feedback within the lesson.

## APPENDIX 2

### Progression in Knowledge and Skills Document 2022

This document gives an at-a-glance guide to how the teaching of maths at Lenham Primary School, supported by the White Rose framework, links to the Key Stage 1 and Key Stage 2 National Curriculum, and how it progresses through topics. A copy of this document can be found on the school website, <https://lenham.kent.sch.uk/parent-info/teaching-and-learning-at-lenham-primary-school/>

The White Rose Maths curriculum is a cumulative curriculum, so that once a topic is covered it is met many times again in other contexts. Flashback 4 resources from White Rose are also delivered as part of effective learning in Maths lessons at Lenham Primary School and these provide spaced repetition tasks of the key topics throughout and between year groups.

## APPENDIX 3

### Progression in Calculation Guide (Maths Knowledge Organiser using Padlet)

When teaching calculations in school it is expected that staff follow an agreed progression so that children do not become confused and that all children are moved on in their learning. This will be monitored by the Mathematics Subject Leader each year.

The methods progress through year groups and children should only be taught the methods for their year group. Once children have mastered that method, they should be given opportunities to practice it intelligently by using and applying it in problem solving and investigative tasks.

Manipulatives must be used for **all** children to ensure everyone can access the learning and achieve the learning objective.

Staff must be familiar with all the methods and the progression for all year groups and Key Stages.

If at any time a class or group of children are finding a method difficult to grasp, and manipulative do not appear to be enabling children to access the learning, help and advice must be sought from the Mathematics Subject Leader and SEN Leader as to how to progress.

Key number facts to note:

- ❖ Children should know their number bonds to 20 by the end of Year 2
- ❖ All multiplication facts (times tables) up to 12x12) should be known by heart by the end of Year 4.
- ❖ Inverse operations must be referred to regularly to support fluency.

The Maths Knowledge Organiser has been produced and shared with all stakeholders, via the school website, <https://padlet.com/lculver4/rcur7eys6cqqgrbo>