



The Lancaster School

THE LANCASTER SCHOOL

POLICY FOR MATHEMATICS

November 2018

To be reviewed September 2020

INTRODUCTION

RATIONALE

We believe mathematics is a tool for everyday life. It teaches children how to make sense of the world around them through developing their ability to calculate, reason and to tackle and solve a range of practical tasks and real life problems. Mathematics is an interconnected subject in which children need to be able to move fluently between representations of mathematical ideas. They should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

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

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that children have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
- **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.

AIMS

We aim to provide our children with a mathematics curriculum that gives them the opportunity to become fluent, creative and inquisitive mathematicians.

Our children should:

- have a positive attitude towards mathematics and an awareness of the fascination of mathematics
- be fluent and confident in mathematical knowledge, concepts and skills
- have an ability to solve problems, to reason, to think logically and to work systematically and accurately
- have initiative and an ability to work both independently and in cooperation with others
- have an ability to communicate mathematics in a variety of ways
- have an ability to use and apply mathematics across the curriculum and in real life
- have a good understanding of mathematics through a process of enquiry and experiment

OBJECTIVES

- To ensure that the school's policy and schemes of work fully comply with the New National Curriculum and EYFS.
- To ensure that the quality of teaching and learning of mathematics meets OFSTED requirements.
- To ensure that staff are adequately supported to ensure high quality teaching and learning.

IMPLEMENTATION

Early Years Foundation Stage (EYFS)

The teaching and learning in Mathematical development in the EYFS focuses on encouraging children to be confident and competent in learning and using key skills through practical experiences. Their mathematical understanding is developed through play, stories, songs, games and imaginative play; an everyday use of mathematical language is developed through talking about mathematical problems and discoveries in child and teacher led situations.

Key Stage One

The teaching and learning in mathematics at key stage 1 is to ensure that children develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, children should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, children should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Children should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge.

Teaching and learning style

Through careful planning and preparation we aim to ensure that throughout the school children are given opportunities for:

- practical activities and mathematical games
- problem solving
- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating e.g. mental, using objects, numberlines, pencil and paper
- working with ICT (e.g. computers, ipads, Bee Bots) as a mathematical tool

Assessment

Assessment for learning is fundamental to raising standards and enabling children to reach their potential. Assessment in mathematics takes place daily using a range of strategies such as discussion, observations and marking and response of work. This information informs the planning and next steps in teaching and learning. Planning is annotated to demonstrate adaptations and provide feedback about children's individual/ group progress. Teachers assess children each half term against age related expectations.

The expectation from the curriculum is that the majority of children will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of children's understanding and their readiness to progress to the next stage. Children 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.

Children in the Foundation Stage are assessed in accordance with the EYFS curriculum.

Monitoring and Evaluation

The Curriculum leaders, alongside SLT, are responsible for monitoring and evaluating curriculum progress. This is done through book scrutiny, planning scrutiny, lesson observations, pupil interviews, staff discussions and audit of resources.