



Loose
Primary School

Maths Policy

December 2017

Next Review December 2019

Introduction

This document is a statement of the principles, aims and strategies for the teaching of Mathematics at Loose Primary School. It gives guidance for the planning, teaching and assessment of mathematics throughout the school within the context of the National Curriculum and the Foundation Stage documents.

The expectations for teaching and learning at Loose Primary are outlined in our Teaching and Learning policy and underpin the foundations for a high-quality and highly effective Mathematics education. We aim to develop a sense of enjoyment and curiosity about the subject and provide a programme for progression where pupils are stimulated and challenged. As a result, pupils will become fluent in the fundamental concepts of mathematics and will be able to reason mathematically to apply their understanding to solve problems.

Aims

In line with the new National Curriculum for Mathematics we aim 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.

Purpose of Study

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The National Curriculum programmes of study are, by necessity, organised into apparently distinct domains, but pupils 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.

Numerate pupils should:

- Have a sense of the size of a number.
- Know by heart some number facts such as addition number bonds, times-tables, doubles and halves.

- Calculate answers mentally.
- Identify when to calculate mentally or use a written method.
- Make sense of problems.
- Have strategies for checking.
- Explain methods and reasoning.
- Suggest suitable units for measuring.
- Make sensible estimates.
- Analyse and interpret information in graphs, charts and tables.

Teaching and Learning

Alongside the expectations for high quality teaching and learning opportunities outlined in the Teaching and Learning policy, subject specific information is outlined below.

Organisation and progression

Teaching and learning in Maths is based on the National Curriculum as well as the Foundation Stage guidance to guide planning for children in each year group.

The expectation is that the majority of pupils 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 pupils' understanding and their readiness to progress to the next stage. 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 the Foundation stage, Key Stage 1 and lower Key stage 2 children will be taught Mathematics in their class groups. In upper Key Stage 2, children will be in mixed ability groupings across the year group, with the most able children in each year group taught together.

Content and structure of objectives

The curriculum content for each year group will cover all aspects of the subject, including number, measurement and geometry. Children in Key Stage Two will also be taught statistics.

Children will develop their mathematical fluency of key concepts and methods alongside planned opportunities to apply their reasoning to solve problems.

Planning

In order for children to have an effective learning experience, each lesson must be well planned. At Loose, we use medium-term and short-term planning to cover all that will be taught within the classroom during each year.

- Medium term plans list the objectives to be covered over a term or half-term period.
- Teachers use weekly plans setting out precisely the learning for each day. These are personal to each teacher but all include clear learning intentions, success criteria, differentiated activities and assessment procedures.

High Quality lessons

We have identified these additional factors that contribute to effective teaching and learning in the Mathematics classroom.

- Oral rehearsal of known facts
- Opportunities to talk about learning in Maths and develop reasoning
- Active learning opportunities with a multi-sensory approach
- Planning for a range of practical activities
- Effective use of learning walls during lessons
- Opportunities to work with a variety of practical resources/ manipulatives to support or extend learning in a variety of contexts.
- Rich problem solving opportunities
- Planned opportunities for children to use ICT

Differentiation/ Special Educational Needs

Our SEN policy applies to all subject areas and should be read alongside the following information.

- During lessons pupils may work in groups on differentiated tasks linked to the learning objectives of the lesson. Teaching is organised to enable pupils of all abilities to access learning.
- Intervention programmes are used to support children who are at risk of not meeting age related expectations. Extra lessons may be offered to help those children who have difficulties.
- The children on the gifted and talented register, regarded as gifted mathematically, are provided with appropriately challenging learning opportunities to develop their skills and achieve their full potential.

Assessment

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.

As part of the on-going teaching and learning process, teachers will assess children's understanding, achievement and progress in Maths. Assessment may be based upon observation, questioning, informal testing and the marking and evaluation of work (in accordance with our marking policy). This will inform day to day teaching and learning and provide feedback to children. Learners will also be taught to assess and evaluate their own achievements, learning from their own mistakes and identifying areas for improvement.

Formal statutory assessments will be administered at the end of Key Stages 1 and 2 in line with National guidelines to assess attainment.

In order to track in year progress effectively in Maths, teachers will regularly keep track of pupil progress using the school's electronic tracking tool. Pupils will be assessed against their year group objectives for Maths and will be judged as working towards, working at or exceeding expected levels. Summative assessments will help teachers in years 3- 6 inform judgements and will provide standardised scores which can also be reported to leaders within school. The expectation is that all pupils are working at least within expected levels for their year group by the end of each academic year.

To track progress across each key stage and the primary phase as a whole, teachers and leaders will use the school's electronic tracking tool. Pupil progress and achievement will be measured and tracked. Progress of groups and individuals will also be discussed each term at pupil progress meetings.

Assessment in the Foundation Stage

Assessment in the Foundation Stage is carried out through planned observations; incidental observation during child initiated activities and during teacher directed activities which are informed through planning in line with Development Matters and the ELG from the EYFS.

All information obtained from these assessment strategies is transferred into the children's individual profiles and recorded against the relevant Early Learning Goals. All assessment evidence is stored within the individual learning journeys this includes observations, photographs and children's work.

All pupils in a class should be present at the beginning of the lesson for the introductory teaching session and for the plenary session at the end.

Reporting

Parents are regularly informed of their child's progress through written reports produced by the child's class teacher every other term, which detail how each pupil is progressing in line with the end of year objectives for their year group as well as provide targets for children to work on in the following terms.

Progress and targets are also shared during parent consultation meetings twice a year. In addition, a written report is sent home at the end of each academic year.

Equal Opportunities

All pupils will have equality of opportunity to reach their full potential across the curriculum regardless of their race, gender, cultural background, ability or physical disability. Our Equal Opportunities Policy and Racial Equality Policy apply to all subject areas. Where appropriate, teaching materials, and individual group activities should reflect the cultural and ethnic diversity of society. Stereotyping, in terms of ethnicity, race and gender is not permitted, and pupils' progress should be monitored, ensuring that no child is disadvantaged. Equally, a child's religious beliefs and cultural differences should always be respected. See Equal Opportunities policy for further details.