

Lovers' Lane Primary and Nursery School



Maths Policy

Date Reviewed: September 2022

Next review date: September 2023

Maths Policy

Introduction

Lovers' Lane Primary is a friendly and caring school in which the children are supported and encouraged through lessons, assemblies and playtime to achieve their best in every aspect of their learning. Within our diverse and inclusive community, we aim to nurture individuals and develop pride and mutual respect for each other and our school through our core values - Show Respect, Work together, Aspire and Nurture.

This policy sets out Lovers' Lane Primary and Nursery School's aims and strategies for the successful delivery of Maths. This policy should be read in conjunction with other relevant school policies such as the Safeguarding, Equal Opportunities, Curriculum, Finance, Teaching & Learning, SEND and Assessment policies. The policy has been developed by the Maths Lead in consultation with the Headteacher, SENDCO, Leadership Team and teachers. Guidance from consultants and pupil, parent and staff voice questionnaires have shaped and will continue to help shape this policy. This policy is based on government recommended/statutory programmes of study.

Aims and Objectives

Lovers' Lane teaches the objectives of the National Curriculum in a lively, exciting and stimulating environment, in which children become confident mathematicians. Pupils become fluent in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. Frequent opportunities are provided for children to reason mathematically: by following a line of enquiry; conjecturing relationships and generalisations, and developing argument, justification or proof using mathematical language. Children can solve problems by applying their mathematical skills, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The aims of Maths are:

- To teach maths in line with National Curriculum guidelines, ensuring that pupils have access to a broad and balanced mathematical curriculum.
- To promote an understanding of maths within real life situations.
- To develop mental strategies to ensure the rapid recall of core number facts.
- To accurately use maths vocabulary when reasoning and explaining.
- To promote high levels of challenge and risk taking in all children's learning.
- To develop a progressive understanding of maths concepts, skills and attitudes throughout the Foundation Stage, Key Stage 1 and Key Stage 2.

Curriculum

As a school, we teach the National Curriculum objectives, using the White Rose Maths Schemes of Learning to inform our planning. Use of White Rose learning objectives ensure progressive, sequential learning which provides challenge to all learners and supports pupils in achieving their potential. The adapted White Rose Schemes of Learning for 2020/21 have been adapted to recap and embed key areas that may have been missed during COVID-19 Lockdown 1.0 in Spring / Summer 2020. In these adapted Schemes of Learning, links have been made to the DFE ready to progress criteria to help prioritise learning and signpost teachers to this resource.

Approaches to Teaching and Learning through Mastery

At Lovers' Lane we are transitioning to teaching for Mastery and adapting this to meet the needs for our pupils. As we progress through our Mastery journey, we endeavour for our Maths teaching and learning to be based upon the following principles:

- The whole class being taught maths together, with no differentiation by acceleration to new content – broadening the concept that the children are learning through depth not breadth of content.
- Concrete manipulatives are fundamental to Concrete – Pictorial – Abstract (CPA) approach and are a key resource in developing a deep understanding of maths for children of all ages.
- The learning needs of individual children are addressed through careful scaffolding, skilful questioning and appropriate teacher discussion, in order to provide necessary support and challenge.
- Factual knowledge (e.g. number bonds and times tables), procedural knowledge (e.g. formal written methods) and conceptual knowledge (e.g. place value) are taught in a fully integrated way and are all seen as important connected elements in the learning of mathematics.
- The reasoning behind maths processes is emphasised. Teacher / pupil interaction explores in detail how answers were obtained, why the method worked and what might be the most efficient method.
- Precise mathematical language is used by teachers, so that mathematical ideas are conveyed with clarity and precision. STEM sentences are used to give the children opportunity to practice using and apply mathematical vocabulary to different concepts.
- Sufficient time is spent on key concepts (e.g. multiplication and division) to ensure learning is well developed and deeply embedded before moving on.
- Programmes of study and lesson content are carefully sequenced (through use of White Rose small steps), in order to develop a coherent and comprehensive conceptual pathway through mathematics.

- Where necessary, teachers use their own professional judgement informed by formative assessment to decide when necessary to recap on concepts that children have not grasped.
- Contexts and representations are carefully chosen to develop reasoning skills and to help children link concrete ideas to abstract mathematical concepts.
- Difficult points and potential misconceptions are identified and strategies are used to address them as learning points.
- Making comparisons is an important feature of developing deep knowledge. Questions such as 'What's the same, what's different?' are often used to draw attention to essential features of new concepts.
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Maths in the Early Years

Maths is one of the seven areas of the early years foundation stage and is used to develop a pupil's confidence and ability with number and their understanding of shapes, space and measures. Children will develop their understanding through planned, purposeful play, through a mix of adult-led and child-initiated play and through part of daily routines (e.g. counting to 20 while washing hands, counting children in the morning). Each week in Nursery the children receive a whole carpet Number focussed time and Shape, Space and Measure focussed time. Each day in Reception includes a short Maths whole-class input and an adult led small group activity once a week. In class, there is a Maths area in the continuous provision and opportunities for maths are provided throughout. Outdoors, there is a maths area and an activity set up for the children to access if they choose.

Maths in Key Stage 1

In KS1 Maths there are 5 lessons per week, these lessons comprise:

- A recap on previous learning – Flash Back 4
- Whole class counting activities.
- Guided practice – giving children the chance to work collaboratively on short activities before looking at strategies as a class.
- Independent / Small Group – children complete activities to apply what they have learnt.

Maths in Key Stage 2

In KS2 Maths there are 5 lessons per week, these lessons comprise:

- A recap on previous learning – Flash Back 4
- Guided practice – giving children the chance to work collaboratively on short activities before looking at strategies as a class.
- Independent / Small Group – children complete activities to apply what they have learnt.

In addition to this, a short afternoon session consolidates fluency skills in a 'Ten in ten' activity, recapping on previous learning – in particular, written methods. Additional time is also given, within the weekly timetable to practice the recall of multiplication tables.

Assessment:

Assessment has two main purposes

- Assessment of learning (also known as summative assessment).
- Assessment for learning (also known as formative assessment).

At Lovers' Lane Primary School, we recognise that AfL lies at the heart of promoting learning and raising standards of attainment. We further recognise that effective AfL depends on actually using the information gained. Where possible, instant feedback is given and live marking takes place within a lesson.

In KS1 and KS2 pre-topic tests are used to assess children's existing knowledge and identify any gaps in previous learning which need to be addressed. These are completed again post-topic in a different colour pen to show progress made or further work required. In addition, half-termly assessments are carried out (see assessment schedule) and include White Rose Maths end of term assessment, PUMA Maths assessment (which provide a standardised score), Testbase Y3-5 (for end of the summer term) and for Year 2 and Year 6 old SATS assessments are used. In addition, in KS2, each half term multiplication knowledge is assessed in identify gaps and track progress.

Resources:

Resources are regularly audited and replenished. Although the Maths Lead take responsibility for this, it is expected that staff will report damages or used consumables to the Maths Lead. Most resources will be kept in individual classroom, although each Key Stage stock cupboard will house any resources which are used intermittently.

Inclusion:

At Lovers' Lane, we aim to enable all children to achieve to their full potential. This includes children of all abilities, social and cultural backgrounds, EAL speakers and children with SEND. All planning should take account of the needs of all children in a teacher's class.

Teachers are encouraged to provide opportunities for children are working at greater depth, by challenging their thinking in a variety of ways. Children are provided opportunities to gain a deeper understanding (rather than just increasing the size of numbers) through open ended questioning and development of reasoning skills to encourage children to make connections and find efficient methods of finding a solution.

For those children needing further support, on-the-spot intervention is given by Teachers / TAs carrying out live marking and support both through guided practice and independent activities. Gaps identified through use of pre-topic test and through analysis of assessments are closed through building on previous learning points within a lesson and through use of 'Ten in ten' maths questions, taught outside the Maths lesson in KS2 and as an introduction to the Maths lesson in KS1. Where appropriate, groups of children may be

taken to 'mop up' any misconceptions following a Maths lesson or to give pre-learning activities before introducing a new Maths topic.

For those children who receive SEND provision through 'Individual Provision Map', targets are specific to key 'ready to progress' criteria (DFE guide). These criteria are listed as 'Power statements' which are used to identify the needs of each pupil and assess their progress (if working below their year group expectations).

Monitoring, Evaluation and Feedback:

Monitoring standards of teaching and learning within Mathematics is the primary responsibility of the Maths Leader. Half-termly monitoring is carried out

Monitoring will be achieved through:

- Work scrutiny.
- Learning walks.
- Observations.
- Pupil voice.
- Teacher voice.
- Reflective teacher feedback.
- Learning environment monitoring.
- Dedicated Mathematics Leader and Assessment Leader time.

Evaluation and Feedback will be achieved through:

- Dedicated Maths Leader time.
- Using recognised standards documentation for end-of-year expectations.
- Written feedback on evaluation of monitoring activities to be provided by the Maths Leader in a timely manner.
- Feedback on whole school areas of development in regard to Maths to be fed back through insets / AOB / staff meetings.

Roles and Responsibilities of Maths Lead:

- Raising the profile of Mathematics for all stakeholders
- Ensure the Maths curriculum is progressive and follows the National Curriculum objectives.
- Monitoring the standards of Maths and feeding back to staff in a timely fashion so they can act on areas for development
- Ensuring assessment systems are in place for Maths.
- Maintaining overall consistency in standards of Maths across the school.
- Reporting on Maths at specific times of the year to the Governing Body / Head / Staff.
- Auditing the needs of the staff in terms of training / CPD.
- Actively supporting staff with their day-to-day practice.

- Seeking out opportunities to inspire staff in developing their practice through modelling and sharing new ideas, approaches and initiatives.
- Attending training and keeping abreast with the latest advice.
- Creating action plans for Maths and supporting a long-term vision which feeds into the whole school development plan.
- Keep an up-to-date log of resources available to staff.
- Reviewing the Maths curriculum and develop it as needed.