Longford Primary Academy

Member of staff responsible: D Collier
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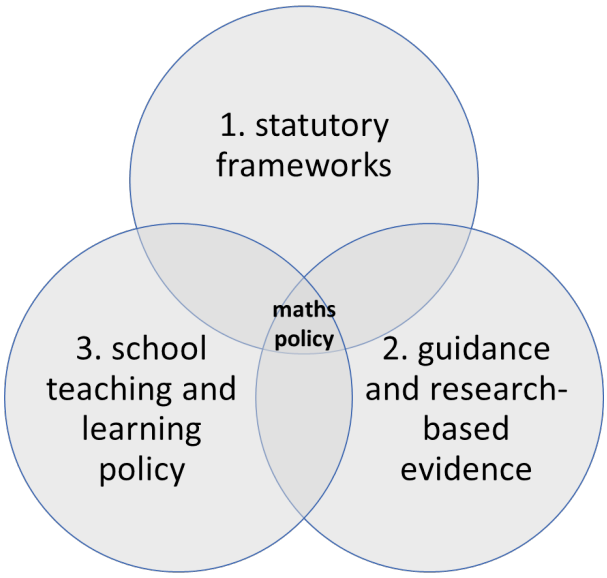
Mathematics Policy

Statement of intent

At Longford, our aim is to ensure that all children leave being ready to succeed at secondary school in mathematics, allowing them to continue their mathematical journey, become numerically literate and apply their knowledge in everyday life. We understand this to mean:

- all pupils leave with the knowledge and skills needed to tackle maths problems confidently, competently and reliably (regardless of their starting point)
- that this journey begins in EYFS (closing the school-entry gap in knowledge and experiences) and continues through school with a systematic, planned approach building on prior knowledge.

Our school's mathematics policy is underpinned by three key sources.



Aims

This policy aims for children to:

- become fluent in the fundamentals of Mathematics through varied and frequent practice of increasingly complex problems over time.
- develop the ability to recall and apply knowledge rapidly and accurately.
- develop the ability to solve problems through decision making and reasoning in a range of contexts.
- develop mathematical language through speaking and listening, practical activities and recording work.

1. Legal framework

This policy has due regard to all relevant statutory and good practice guidance including, but not limited to, the following:

1. Statutory frameworks:

- DfE (2014) 'National curriculum in England: Mathematics programmes of study'
- DfE (2023) 'Statutory framework for the early years foundation stage'

2. Guidance and research-based evidence:

- Improving Mathematics in the Early Years and Key Stage 1 (EEF, 2020)
- Improving Mathematics in Key Stage 2 and 3 (EEF, 2021)
- Research Review Series: Mathematics (Ofsted, 2021)
- Mathematics Guidance: Key Stages 1 & 2 (DfE, 2020)

2. Responsibilities

The subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of maths, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all maths-related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of maths to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.

The classroom teacher is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an annual basis to parents.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject.

The special educational needs coordinator (SENCO) is responsible for:

- Liaising with the subject leader in order to implement and develop maths throughout the school.
- Organising and providing training for staff regarding the maths curriculum for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of mathematical objectives in pupils' individual education plans.
- Advising staff on the use of teaching assistants in order to meet pupils' needs.

3. Teaching and Learning

At Longford Primary Academy, we have adopted a teaching for mastery approach in mathematics.

Underpinning principles:

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- Mathematical learning behaviours are developed so that pupils focus and engage fully as learners who reason and seek to make connections.
- Teachers continually develop their specialist knowledge for teaching mathematics, working collaboratively to refine and improve their teaching alongside making use of quality textbook materials.
- Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time, through the use of Power Maths.

Lesson design

- Lesson design links to prior learning to ensure all can access the new learning and identifies carefully sequenced steps in progression to build secure understanding.
- Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
- Fluency and understanding are developed in tandem because each supports the development of the other.
- It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' fluency and develop their understanding.

In the classroom

- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- The structure of individual lessons follows a process of 'Activate' (accessing prior knowledge), 'Discover' (exploration of new learning/concepts), 'Practice' (including guided and independent) and 'Reflect' (ensuring the key learning has been identified).
- Adult-led direct instruction will, at different times, feature demonstration, explanation, discussion, interaction and questioning.
- Follow-up pupil practice is carefully designed to provide an accessible route for all pupils to achieve success.
- Teachers continually use their professional judgement to ensure all pupils experience an appropriate balance of new content as well as space for planned consolidation practice.
- Lessons are designed to enable pupils to think, reason and apply their knowledge to solve problems.
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.
- Time is spent developing deep understanding of the key ideas that are needed to underpin future learning.
- Through us of the Mastering Number Programme, key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

Nursery & Reception: Maths is taught as a whole class daily lesson and guided maths sessions take place each day. In Nursery this is done through the use of songs and rhymes, Ten Town and Master the Curriculum as curriculum guidance. In Reception, Mastering Number (NCETM) is used to deliver daily sessions, which address the outcomes of the Statutory Framework for the Early Years Foundation Stage' and is supplemented with other activities to expose children to shape, space and measure. Maths games are played across the phase and there are mathematical opportunities offered daily throughout the learning environment, both inside and outdoor.

Year 1-6: There is a daily maths lesson, planned using Power Maths as the main curriculum guidance and supplemented by relevant resources/activities, based on teachers' professional judgement. In Years 1 &

2, a separate Mastering Number session takes place in order to develop children's knowledge and understanding of additive rules and relationships. In Years 4, 5 & 6, a separate Mastering Number @ KS2 session is used to develop and cement children's recall and use of multiplication facts and multiplicative rules and relationships. Digital technology is incorporated to lessons to remove barriers to learning for children and provide access to a range of mathematical resources.

4. Planning

The National Curriculum (September 2014) is the basis for implementing the statutory requirements for Mathematics. Power Maths (DfE approved High Quality Textbook) is used by teachers to ensure coverage of objectives (see appendix 1). Pupils who grasp concepts rapidly will be challenged through being offered deeper problems before being taught any new content. Those who are not sufficiently confident will consolidate their understanding through additional practice before moving on.

Basic Maths skills & vocabulary–

We place a strong emphasis on the teaching of basic Maths skills, knowledge and understanding, based on the low school-entry points of the majority of our pupils.

- Mastering Number (NCETM) is used in all age phases to develop children's basic maths skills and teach them to use these skills effectively and flexibly. For some identified children, this may mean a more streamed approach.
- Developing mathematical vocabulary is key to supporting children's understanding of mathematical structures. At Longford, children are exposed to precise mathematical vocabulary from Nursery and this is continued through their school journey. Teacher, support staff and children are all expected to use precise vocabulary, supported by stem sentences.

5. Cross-Curricular Links

The teaching of Mathematics contributes significantly to children's understanding of other curriculum areas. Links are planned and taught appropriately.

6. Marking and Feedback of Mathematics

Children's work is marked and feedback given according to the school's agreed marking policy. Skills sessions and flexible interventions are utilised to address misconceptions and secure learning. They are also used for pre-teach. This allows children to keep-up not catch-up.

7. Resources

Everyday basic mathematical resources are kept within each classroom for access freely. Other mathematical resources are stored centrally in the Maths store cupboard. If new or additional resources are required then these can be ordered by the Mathematics coordinator subject to budget.

8. Assessment

Assessment takes place in line with the school's agreed assessment policy. Assessment is regarded as an integral part of teaching and learning and is a continuous process. Where children have accessed a concept or topic previously, a pre-unit assessment will be completed to identify gaps in prior learning. Each unit is ended with an end of unit assessment.

Each term pupil progress meetings are held with the Senior Leadership Team and class teachers where attainment and progress of each class is discussed and additional needs are identified.

9. Monitoring

Teaching staff monitor their pupils through observation, discussion, teacher assessment, marking work and testing.

The teaching of Mathematics is monitored through: lesson observations, scrutiny of work, scrutiny of planning, in-school and Trust wide moderation and tracking children's progress using internal data.

10. Inclusion

All children have equal access to the Mathematics curriculum. Our school strives to meet the needs of pupils with special educational needs, with disabilities, those who are very able, gifted and talented and those learning English as an additional language.
Further guidance can be found in the school's SEND and Inclusion Policy and the More Able, Gifted and Talented Policy.

11. Linked policies:

- Teaching & Learning Policy
- Feedback & Assessment Policy
- SEND & Inclusion Policy

Appendix 1 – Yearly overview for Mathematics

Year 1 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Book A	Number – number and place value	1	Numbers to 10	14
	Number – addition and subtraction	2	Part-whole within 10	7
(Term 1)	Number – addition and subtraction	3	Addition awithin 10	4
	Number – addition and subtraction	4	Subtraction within 10	8
	Geometry – properties of shape	5	2D and 3D shapes	5
Textbook B / Practice Book B	Number – number and place value	6	Numbers to 20	12
	Number – addition and subtraction	7	Addition and subtraction within 20	11
(Term 2)	Number – number and place value	8	Numbers to 50	7
	Measurement	9	Introducing length and height	4
	Measurement	10	Introducing weight and volume	7
Textbook C / Practice Book C	Number – multiplication and division	11	Multiplication and division	9
	Number – fractions	12	Halves and quarters	4
(Term 3)	Geometry – position and direction	13	Position and direction	5
	Number – number and place value	14	Numbers to 100	6
	Measurement	15	Money	3
	Measurement	16	Time	5

Year 2 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Book A	Number – number and place value	1	Numbers to 100	17
	Number – addition and subtraction	2	Addition and subtraction (1)	13
(Term 1)	Number – addition and subtraction	3	Addition and subtraction (2)	12
	Geometry – properties of shape	4	Properties of shapes	12
Textbook B / Practice Book B	Measurement	5	Money	10
	Number – multiplication and division	6	Multiplication and division (1)	8
(Term 2)	Number – multiplication and division	7	Multiplication and division (2)	10
	Measurement	8	Length and height	5
	Measurement	9	Mass, capacity and temperature	8
	Statistics	10	Statistics	7
Textbook C / Practice Book C	Number – fractions	11	Fractions	15
	Geometry – position and direction	12	Position and direction	5
(Term 3)	Measurement	13	Time	8
	Number – addition and subtraction	14	Problem solving and efficient methods	12

Year 3 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Workbook A (Term 1)	Number – number and place value	1	Place value within 1,000	13
	Number – addition and subtraction	2	Addition and subtraction (1)	10
	Number – addition and subtraction	3	Addition and subtraction (2)	13
	Number – multiplication and division	4	Multiplication and division (1)	5
	Number – multiplication and division	5	Multiplication and division (2)	13
Textbook B / Practice Workbook B (Term 2)	Number – multiplication and division	6	Multiplication and division (3)	13
	Measurement	7	Length and perimeter	11
	Number – fractions	8	Fractions (1)	10
	Measurement	9	Mass	7
	Measurement	10	Capacity	6
Textbook C / Practice Workbook C (Term 3)	Number – fractions	11	Fractions (2)	8
	Measurement	12	Moneys	5
	Measurement	13	Time	12
	Geometry – properties of shapes	14	Angles and properties of shapes	9
	Statistics	15	Statistics	7

Year 4 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Workbook A (Term 1)	Number – number and place value	1	Place value – 4-digit numbers (1)	8
	Number – number and place value	2	Place value – 4-digit numbers (2)	8
	Number – addition and subtraction	3	Addition and subtraction	16
	Measurement	4	Measure – area	5
	Number – multiplication and division	5	Multiplication and division (1)	12
Textbook B / Practice Workbook B (Term 2)	Number – multiplication and division	6	Multiplication and division (2)	16
	Measurement	7	Length and perimeter	6
	Number – fractions	8	Fractions (1)	9
	Number – fractions	9	Fractions (2)	8
	Number – fractions (including decimals and percentages	10	Decimals (1)	12
Textbook C / Practice Workbook C (Term 3)	Number – fractions (including decimals and percentages	11	Decimals (2)	7
	Measurement	12	Money	6
	Measurement	13	Time	5
	Geometry – properties of shapes	14	Geometry – angles and 2D shapes	8
	Statistics	15	Statistics	6
	Geometry – position and direction	16	Geometry – position and direction	6

Year 5 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Workbook A (Term 1)	Number – number and place value	1	Place value within 1,000,000 (1)	8
	Number – number and place value	2	Place value within 1,000,000 (2)	6
	Number – addition and subtraction	3	Addition and subtraction	12
	Number – multiplication and division	4	Multiplication and division (1)	10
	Number – fractions (including decimals and percentages)	5	Fractions (1)	8
	Number – fractions (including decimals and percentages)	6	Fractions (2)	11
Textbook B / Practice Workbook B (Term 2)	Number – multiplication and division	7	Multiplication and division (2)	10
	Number – fractions (including decimals and percentages)	8	Fractions (3)	7
	Number – fractions (including decimals and percentages)	9	Decimals and percentages	15
	Measurement	10	Measure – perimeter and area	8
	Statistics	11	Graphs and tables	6
Textbook C / Practice Workbook C (Term 3)	Geometry – properties of shapes	12	Geometry – properties of shapes	12
	Geometry – position and direction	13	Geometry – position and direction	6
	Number – fractions (including decimals and percentages)	14	Decimals	15
	Number – number and place value	15	Negative numbers	4
	Measurement	16	Measure – converting units	10
	Measurement	17	Measure – volume and capacity	3

Year 6 Overview

Textbook	Strand	Unit		Number of lessons
Textbook A / Practice Workbook A (Term 1)	Number – number and place value	1	Place value within 10,000,000	8
	Number – addition, subtraction, multiplication and division	2	Four operations (1)	8
	Number – addition, subtraction, multiplication and division	3	Four operations (2)	12
	Number - fractions	4	Fractions (1)	9
	Number - fractions	5	Fractions (2)	9
	Measurement	6	Measure – imperial and metric measures	5
Textbook B / Practice Workbook B (Term 2)	Ratio and proportion	7	Ratio and proportion	9
	Algebra	8	Algebra	11
	Number - fractions (including decimals and percentages)	9	Decimals	9
	Number - fractions (including decimals and percentages)	10	Percentages	8
	Measurement	11	Measure – perimeter, area and volume	11
Textbook C / Practice Workbook C (Term 3)	Statistics	12	Statistics	11
	Geometry – properties of shapes	13	Geometry – properties of shapes	12
	Geometry – position and direction	14	Geometry – position and direction	5
	Number – addition, subtraction, multiplication and division	15	Problem solving	14