



LITTLE ASTON PRIMARY ACADEMY

MATHEMATICS POLICY

Policy reviewed and updated by	Mrs S Goheh Maths Subject Leader / Curriculum Development Group 1	Date: January 2025
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Purpose

The purpose of mathematics extends beyond computation; it is a fundamental tool for understanding and navigating the world. Through mathematics, pupils develop critical thinking and problem-solving skills, enabling them to analyse situations logically and make informed decisions. Mathematics nurtures creativity and innovation, it encourages pupils to explore various solutions to complex problems. Proficiency in mathematics fosters confidence and independence, preparing pupils for real-life challenges and future educational and career opportunities.

Intent

At Little Aston Primary Academy, we are committed to ensuring that every pupil develops a deep and secure understanding of mathematics, equipping them with the skills necessary to thrive. Our intent in teaching mathematics revolves around these key principles:

1. **Curricular Alignment:** Our mathematics curriculum is aligned with the National Curriculum, ensuring progression and breadth of learning. We aim to instil a love for mathematics, fostering curiosity and resilience in problem-solving.
2. **Deep Understanding and Application:** We strive for pupils to acquire mathematical knowledge, develop fluency and understand its real-world context. This ensures that pupils can efficiently and accurately recall key number facts and procedures, reduce their cognitive load so they can think deeply about concepts and problems and have the flexibility to move between different contexts and representations of mathematics, recognise relationships, make connections, explain their ideas and choose appropriate methods and strategies to solve problems.
3. **Inclusive Learning:** We know the diverse needs of our and adapt our teaching to promote access and success for everyone, including those with special educational needs and disabilities (SEND).
4. **Cultural Relevance:** Mathematics has a rich history across different cultures. We integrate culturally relevant examples to broaden pupils' appreciation of mathematics in a global context, fostering inclusion.
5. **Mathematical Language:** We emphasise the importance of rich mathematical vocabulary and encourage pupils to articulate their reasoning clearly, which enhances their understanding and confidence.

Curriculum Implementation

Implementation starts with effective teaching to improve pupil achievement. Staff are supported in delivering high-quality teaching and learning to achieve the best outcomes for all pupils. Teaching approaches ensure long-term retention of knowledge, fluency in key skills, and confident use of metacognitive strategies.

Cognitive strategies include mathematics-specific strategies or memorisation techniques such as methods to solve problems.

Metacognitive strategies are what we use to monitor or control our cognition, for example checking whether our approach to solving a mathematics problem worked or considering which cognitive strategy is the best fit for a task.

In Sparkletots and Reception, the [EYFS Statutory Framework 2024](#) sets standards for the learning, development and care expectations of pupils from birth to five years old. This is



supported by the [Development Matters non-statutory guidance 2023](#) as well as the White Rose Medium Term plans for EYFS Mathematics.

Our progressive mapped out mathematics curriculum covers all of the skills, knowledge and understanding in the [National Curriculum programmes of study for Key Stage 1 and 2](#).

We use a range of strategies that actively engage pupils, promote higher-order thinking, and provide opportunities for collaborative learning:

1. **Mastery-Based Instruction:** We employ a mastery approach to teaching mathematics, ensuring that all pupils work through concepts in depth before moving on. This includes regular assessment and feedback to monitor progress and address misconceptions. New learning builds upon prior knowledge which is regularly revisited. All learning is broken down into small connected steps. All lessons begin with a focus on arithmetic.

Repetition of key ideas (for example using STEM sentences when responding to questions) helps to verbalise and embed mathematical ideas and provides pupils with a shared language to think about and communicate in mathematics.

Pupils with SEND and lowest 20% pupils have primary needs met and they receive planned regular interventions and support to meet these needs.

Mathematical vocabulary is progressively taught, displayed clearly on working walls and referred to in every lesson.

2. **Opportunities for extra fluency practice:** (instant recall of key facts such as number bonds, times tables, division facts, addition and subtraction facts) form part of both the daily mathematics lesson and outside of lessons as appropriate.

Daily SODA sessions are used to ensure that children are able to retain previously taught skills.

3. **Concrete-Pictorial-Abstract (CPA) Approach:** We use this pedagogical model to teach all pupils new mathematical concepts. Pupils begin with practical experiences using concrete materials, which transition to pictorial representations, and finally to abstract notation.
4. **Rich Problem-Solving Tasks:** Lessons are designed around high-quality problem-solving tasks that promote reasoning and exploratory discussions. Problems are scaffolded to meet varying levels of ability. Contexts and representations are carefully chosen to develop reasoning skills and to help pupils link concrete ideas to abstract mathematical contexts.

Key questions are planned to challenge thinking and pupils are expected to use precise mathematical vocabulary and stem sentences to explain their reasoning and learning.

Pupils work collaboratively and independently when solving problems which require them to persevere and develop resilience.



5. **Cross-Curricular Links:** Mathematics is embedded across the curriculum, enabling pupils to see the connections between mathematical concepts and other subjects, enhancing relevance and application.
6. **Professional Development:** Our staff engage in regular training sessions focused on effective pedagogical strategies for teaching mathematics, ensuring that teachers are knowledgeable and confident in their practice.
7. **Resources:** White Rose Maths, White Rose Maths Infinity, NCETM Teaching for Mastery, Mastering Number at KS2, Number Stacks Intervention, Oak National Academy and NCETM curriculum prioritising materials are the main schemes which inform the learning blocks in our long term curriculum maps and planning.

An agreed calculation policy is implemented to ensure progression in written and mental calculations.

Pupils use resources including TimesTable Rockstars and RM Easimaths in Reception and Key Stage 1 to support the development of key mathematical skills, particularly key facts and times tables.

Fluency is implemented through repeating, reinforcing and revising key skills; daily arithmetic takes place in all classes through strategies including a daily fluent in 5 KS2 session or using resources like Times Tables Rock Stars, Maths Bot or Arithmetic Ninja.

The Maths co-ordinator also provides up-to-date digital web-based and hard copy resources, including those provided by the NCETM to support the teaching of Mastery in Mathematics.

8. **Regular Assessment and Feedback:** We employ formative assessments, including quizzes and observational assessments in lessons, to inform teaching and provide immediate feedback to pupils, allowing for adaptive teaching.

Pre and post unit assessments along with termly assessments so that teaching closely matches learning needs and pupil outcome in mathematics are carefully tracked.

Teacher's identify potential misconceptions and plan strategies to address them in advance of lessons. If pupils need further support, adults will complete a short intervention at the earliest appropriate time. These are reviewed in pupil progress reviews / class action plans, IEPs and SEND monitoring plans.

Key Planning Questions

- What do you want your children to know by the end of the unit?
- What prior knowledge is needed to access the new learning?
- How will the components of the learning journey be sequenced to ensure knowledge is embedded at each stage for pupils to have a secure understanding of the objectives?

Retention

- Daily SODAs are used to ensure retention of previously taught skills.
- Times tables and other key maths skills are a focus within daily lessons.
- Times tables form part of homework tasks for KS1 and KS2.



Impact of the Mathematics Curriculum at Little Aston Primary Academy

The implementation of our mathematics curriculum has resulted in significant positive outcomes for our pupils:

1. **Pupil Progress and Attainment:** Data evidences that the vast majority of our pupils meet or exceed age-related expectations in mathematics. Our assessments reflect consistent progress for all pupils, including those from disadvantaged backgrounds.

Pupil's work in books demonstrate high standards and pride; the components of teaching sequences demonstrate good coverage of fluency, reasoning and problem solving.

Feedback and interventions support pupils to achieve their potential and standards in Mathematics are consistently above national in each year group.

2. **Confidence and Enthusiasm:** Pupil voice surveys demonstrate high levels of engagement and enjoyment in mathematics. Most pupils express enthusiasm for mathematics and monitoring evidences high levels of pupil engagement.

Pupils are confident, competent and have a detailed knowledge of Maths concepts, using acquired skills and knowledge and applying them to new learning. They speak positively about the subject and persevere with challenges.

Pupils are confident to 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem. They know and understand their strengths and targets for development in maths

3. **Application of Skills:** Observations and books evidence that pupils are able to apply mathematical concepts to real-world problems. They demonstrate the ability to explain their reasoning and methods clearly to peers and teachers.

Pupils solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science.

4. **Positive Attitudes to Learning:** We have cultivated a culture where mistakes are seen as learning opportunities, resulting in pupils who are resilient, and willing to tackle challenging problems without fear of failure.
5. **Formative and summative assessment:** This is ongoing, addresses misconceptions and provides further opportunities to consolidate skills and to move learning forward.

Formal assessment of the mathematical skills taught occurs at the end of each term in Years 1 -6 using AQA quality assured, termly summative Testbase Standardised Tests. These closely reflect the style and format of national curriculum tests, assess age-related expectations and inform targeted and adaptive teaching. Deeper insights into pupils' performance, gap analysis and reporting tools are provided through MERiT.

In Years 2 and 6, past statutory assessments are used.



6. **Community Engagement:** Our mathematics curriculum extends beyond the classroom through parental/carer engagement workshops and community initiatives aimed at fostering a love for mathematics eg. Participation in the NSPCC Number Day.

Monitoring and Evaluation

The subject leader for Mathematics works closely with Senior Leaders to monitor teaching and learning in mathematics, including pupil outcomes. Support, challenge and training is provided for staff as a result of monitoring. Monitoring also informs subject priorities within our Academy Improvement Plan.

Monitoring includes:

- pupil voice capture through discussion and questionnaires
- work scrutiny
- pupil progress reviews / class action plans/ SEND IEPs and monitoring plans
- data analysis including national tests and reports eg IDSR
- learning walks
- planning scrutiny
- lesson observations

Moderation takes place across the school and within SUAT to ensure accuracy of assessment judgements, consistency and progression.

Appendix 1: [ELG Breakdown and progression Sparkletots to KS1.](#)

Appendix 2: [Reception Termly Mathematics Assessment Tracker](#)

Appendix 3: [Mathematics guidance: key stages 1 and 2 Non-statutory guidance for the national curriculum in England](#)

Appendix 4: Oak National Academy [KS1](#) Units

Appendix 5: Oak National Academy [KS2](#) Units

Appendix 6: Progression Map : [Number and Place Value Y1 to Y6](#)

Appendix 7: Progression Map: [Addition and Subtraction Y1 to Y6](#)

Appendix 8: Progression Map: [Multiplication and Division Y1 to Y6](#)

Appendix 9: Progression Map: [Fractions Y1 to Y6](#)

Appendix 10: Progression Map: [Ratio and Proportion Y6](#)

Appendix 11: Progression Map: [Algebra Y1 to Y6](#)

Appendix 12: Progression Map: [Measurement Y1 to Y6](#)

Appendix 13: Progression Map: [Geometry, Properties of Shapes Y1 to Y6](#)

Appendix 14: Progression Map: [Geometry, Position and Direction Y1 to Y6](#)

Appendix 15: Progression Map: [Statistics](#)

Appendix 16: Stem Sentences [Addition and Subtraction](#)

Appendix 17: Stem Sentences [Multiplication and Division](#)

Appendix 18: [Illustrated Maths Dictionary](#)