EPWORTH
EDUCATION TRUST

Mathematics Strategy

Introduction

This strategy sets out Epworth Education Trust's approach to ensuring that every child becomes a competent, confident mathematician who develops both an enjoyment of mathematics and an appreciation of its place in the world.

Mathematics is a fundamental part of everyday life, and we want all pupils to develop the skills, knowledge and confidence required to approach this essential subject successfully.

"Without mathematics, there's nothing you can do. Everything around you is mathematics. Everything around you is numbers." - Shakuntala Devi

To support children in developing a deep and secure understanding, we ensure they have regular opportunities to practise and consolidate explicitly taught skills. Throughout their primary journey, children experience concepts through a carefully sequenced concrete–pictorial–abstract (CPA) approach. This allows them to build strong foundations, make meaningful connections and embed learning over time.
"The only way to learn mathematics is to do mathematics." — Albert Einstein
This belief underpins our commitment to practical engagement and purposeful practise.

Our strategy is research-informed and aligns closely with the National Centre of Excellence in the Teaching of Mathematics (NCETM) and the guidance provided by the Education Endowment Foundation (EEF). We follow a teaching for depth approach, often referred to as mastery, which enables all pupils to access and master the mathematics curriculum. This approach draws from a range of evidence-based sources and is designed to ensure secure, long-term understanding for every child.

Our curriculum fully aligns with the Purpose and Programme of Study in the National Curriculum and the ambition of the Early Years Foundation Stage, ensuring high-quality mathematical provision from the earliest stages of learning. Our core primary scheme is Oak National Academy primary maths curriculum which aligns both in sequence and recommended duration to the units in the Curriculum Prioritisation materials from the National Centre of Excellence in the Teaching of Mathematics (NCETM). They also correspond to the specific statements within the ready-to-progress criteria within the Department for Education's non-statutory guidance.

Aims

The Epworth Education Trust Mathematics Strategy aims to ensure that every child, regardless of starting point, need or context, makes strong progress and achieves well. We are committed to developing confident, inspired and resilient mathematicians who feel challenged, curious and successful.

Across all phases, from Early Years to the end of Key Stage 2, our strategy ensures that children:

Secure Strong Foundations and Achieve Well

• Achieve the outcomes set out in the EYFS Statutory Framework and the National Curriculum, reaching expected attainment at the end of each key stage and being fully prepared for the next stage in their learning.
• Make strong progress from their individual starting points, with a clear focus on achievement for all.

Develop Deep Understanding in Early Mathematics

Aligned with the EYFS aims, children will:

• Develop a strong grounding in number so all children develop the necessary building blocks to excel mathematically, counting confidently and understanding the numbers to 10, including the relationships and patterns within them.
• Experience rich opportunities to build and apply early mathematical understanding using manipulatives, structured models and varied representations.
• Develop spatial reasoning skills across shape, space and measure.
• Build positive attitudes and interests in mathematics, spotting patterns, noticing connections, 'having a go', talking about their thinking, and embracing mistakes as part of learning.

Become Fluent, Confident Mathematicians

Reflecting the National Curriculum aims, children will:

• Become fluent in the fundamentals of mathematics through varied and frequent practice, developing conceptual understanding and the ability to recall and apply knowledge accurately and efficiently.
• Develop fluency with number and the number system, including secure recall of multiplication facts to 12 × 12 and confident use of the four operations.

Reason Mathematically

Reflecting the National Curriculum aims, children will:

• Follow lines of enquiry, make conjectures, explore relationships and generalise.
• Use mathematical language to justify, prove and explain their thinking.
• Enjoy intellectual challenge and develop the resilience needed to grapple with new ideas.

Solve Problems Purposefully and Creatively
Reflecting the National Curriculum aims, children will:
• Apply their knowledge to a wide range of routine and non-routine problems.
• Break problems down, work systematically, and persevere when solutions are not immediate.
• Confidently use and apply mathematics across the curriculum and in real-life contexts.

Develop Positive Attitudes towards Mathematics
• Experience enjoyment, curiosity and confidence in mathematics.
• Build a sense of ownership, independence and collaboration, working both individually and with others.
• Develop the mindset needed to see themselves as capable, successful mathematicians.

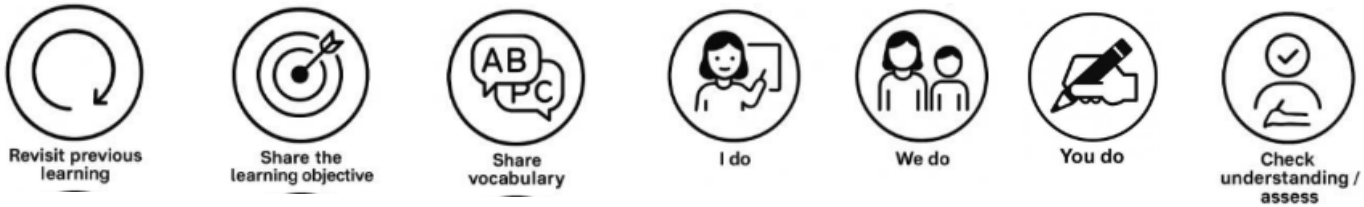
The Teaching of Mathematics

Pedagogy

Our approach to the teaching of mathematics aligns fully with the Epworth Education Trust Teaching and Learning Model, and this document should be read alongside this strategy. The model is research-informed and underpins teaching across all phases.

Every mathematics lesson should follow a clear pedagogical structure:

- **Revisit and Review:** activating prior knowledge and revisiting key concepts. *In the context of mathematics lessons, this should include daily counting and retrieval of key mathematical facts, as well as proximal and distal review.*
- **Clarifying Intended Learning:** including vocabulary and the specific concept being addressed.
- **Explicit Modelling → Guided Practice → Independent Practice** (I do → We do → You do / My turn → Our turn → Your turn). *The terminology differs slightly in some of our schools, but the principle remains the same.*
- **Assessment:** to identify misconceptions, adapt teaching and check understanding.



These stages will always be present. Assessment will be throughout and interwoven. Intended learning and vocabulary will always be made explicit. The stages of modelling, guided and independent practice and revisiting prior learning may be at different stages, depending on the lesson and may vary for groups of children.

For further detail of the mathematics lesson structure, please see the 'Teaching and Learning Lesson Structure for Mathematics' document created by the Epworth maths team.

Mastery Approach

We follow a Teaching for Mastery approach. Our expectation is that the vast majority of children move through the programmes of study at broadly the same pace.

- Progression is based on the security and depth of pupils' understanding.
- Pupils who grasp concepts rapidly are provided *with further challenge* within the concept, rather than acceleration into new content.
- Pupils needing more time receive additional, targeted practice to secure understanding and catch up promptly.

At the heart of our pedagogy is the belief that all children can learn mathematics and that high-quality mathematics education provides essential foundations for understanding the world and functioning confidently within it.

<u>What Mastery Means (Taken from NCETM website)</u>

Underpinning principles

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- Mathematical learning behaviours are developed such 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.

- Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time.

Lesson design

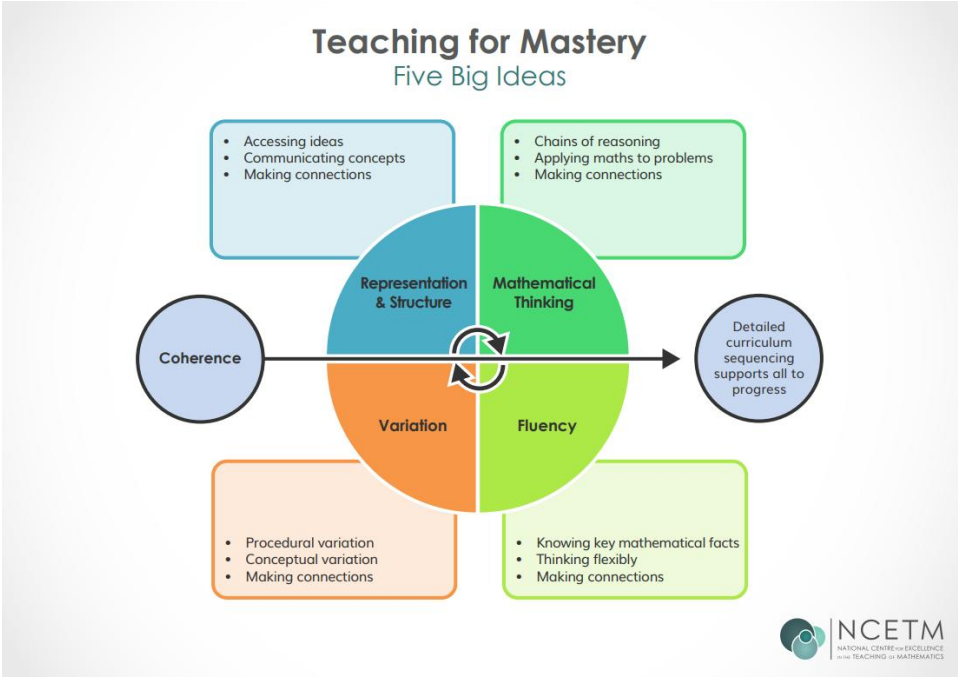
- Lesson design links to prior learning to ensure all can access the new learning and identifies carefully-sequenced steps in progression to build secure understanding.
- Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.
- Procedural fluency and conceptual 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' procedural fluency and develop their conceptual 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.
- In a typical lesson, the teacher leads back-and-forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling 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.
- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.
- 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.

<u>Five Big Ideas of Mastery</u>

Epworth school's also use the Five big Ideas of Mastery from NCETM:



Coherence

Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply and communicate in a range of contexts.

Representation and Structure

Teachers carefully select representations of mathematics to expose mathematical structure. The intention is to support pupils in 'seeing' the mathematics, rather than using the representation as a tool to 'do' the mathematics. These representations become mental images that students can use to think about and discuss mathematics, supporting them to achieve a deep understanding of mathematical structures and connections.

Mathematical Thinking

Mathematical Thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising. Pupils should actively engage in mathematical thinking in all lessons, discussing and communicating their ideas using precise mathematical language.

Fluency

Efficient, accurate recall of key number facts and procedures is essential for fluency, freeing pupils' minds to think deeply about concepts and problems, but fluency demands more than this. It requires pupils to have the flexibility to move between different contexts and representations of mathematics, to recognise relationships and make connections, to explain their ideas and to choose appropriate methods and strategies to solve problems.

Variation

The purpose of variation is to draw closer attention to a key feature of a mathematical concept or structure through varying some elements while keeping others constant. Through variation the teacher focuses thinking and discussion on the key feature in question.

Conceptual variation involves varying how a concept is represented to draw attention to critical features. Often more than one representation is required to look at the concept from different perspectives and gain comprehensive knowledge.

Procedural variation considers how the student will 'proceed' through a learning sequence. Purposeful changes are made in order that pupils' attention is drawn to key features of the mathematics, scaffolding students' thinking to enable them to reason logically and make connections.

Curriculum Design

Our curriculum design is shaped by the EEF guidance for Early Years, Key Stage 1 and Key Stage 2, and grounded in research on developing strong mathematical foundations from NCETM. Our core scheme in Reception is NCETM Mastering Number. Our core scheme for the Primary Phase is Oak Academy which aligns in sequence and duration to the NCETM prioritisation materials and also aligns with the DfE Ready to Progression documentation.

Key Reading / documents:

Improving Mathematics in the Early Years and Key Stage 1 | EEF

Improving Mathematics in Key Stages 2 and 3 | EEF

Five Big Ideas in Teaching for Mastery | NCETM

Early Years | NCETM

Supporting the use of NCETM Curriculum Prioritisation materials | Oak National Academy *(NCETM to Oak unit mapping)*

Curriculum Prioritisation materials (NCETM)

National Centre of Excellence in the Teaching of Mathematics (NCETM)

Department for Education's non-statutory guidance. (Ready to Progress Criteria)

KS1-2 maths curriculum unit sequence | Oak National Academy

All necessary resources for the implementation of the EET mathematics strategy are available vis the Whole Staff Team – Trust Curriculum – Maths

Overview of Curriculum Journey

- **In Nursery**, we use 'Story Time Maths' to secure early foundations through story, rhyme and high-quality adult interaction in continuous provision, aligned with Statutory Guidance for the Early Years Foundation Stage and Development Matters.
- **In Reception**, we follow the NCETM Mastering Number programme to build secure number sense, supplemented by Epworth-designed units ensuring coverage of shape, space and measures, mirroring the Story Time Maths approach used in nursery.
- **Across the primary years**, concepts are taught in carefully sequenced small steps, aligned with NCETM Curriculum Prioritisation plan and supported through Oak Academy resources, in a daily mathematics lesson.
- **In KS1**, daily Mastering Number continues alongside the mathematics lesson, strengthening number fluency and deep conceptual understanding. This also provides an opportunity to revisit units on time, geometry and statistics in a spiral manner.
- **In KS2**, a daily fluency session, alongside a daily mathematics lesson, supports the retention and recall of essential knowledge (including place value, number facts and operations) and revisits units on time, geometry and statistics in a spiral manner.

To facilitate this approach, schools are strongly advised to continually engage with their local maths hubs.

Epworth Education Trust Intentional additionality – Building Beyond the Scheme

Across Epworth schools, we follow a high-quality, research-informed scheme of learning to ensure consistency, progression of small steps, and coherence. To maximise impact and respond to the needs of our children and communities, we build in a layer of deliberate additionality (*some of which has been shared in the Curriculum Overview above*). This additionality includes carefully planned additional learning opportunities informed by PiXL – our Trust-wide assessment approach, supplementary resources designed to support challenge, and wider mathematical experiences that extend and deepen the offer from the core scheme. These enhancements ensure that all children develop secure fluency, rich reasoning, and a genuine enjoyment of mathematics within a shared Trust approach.

Key elements of intentional additionality include:

EYFS

• The use of ***Story Time Maths in Nursery*** to enhance the mathematical understanding of pre-school children through a high-quality mathematics curriculum based on story books.

• Use the ***additional SSM Story Time Maths units in Reception classes,*** created by the Epworth Maths Team to ensure children develop strong foundations in shape, space and measure alongside number.

• As Mastering Number is number-focused, these Story Time Maths materials provide the necessary broader mathematical experience required for a full, balanced curriculum.

Key Stage 1

• ***A daily 20-minute Mastering Number session*** in addition to the main mathematics lesson, ensuring deep conceptual understanding of number and strong number fluency.

• Mastering Number runs for 31 weeks (four sessions per week). In the remaining weeks, schools should ***revisit shape, space and measure in a spiral sequence*** to secure these concepts in long-term memory, using PiXL assessments to target teaching appropriately.

• The fifth session each week provides an ***opportunity to use PiXL assessment insights*** to revisit and address gaps in fundamental knowledge as needed utilising the PiXL 'Therapies' or 'Securing the Fundamentals' materials.

Key Stage 2

• ***A daily 20-minute maths fluency session*** focusing primarily on securing number facts, place value, and the four operations utilising the ***PiXL 'Therapies' or 'Securing the Fundamentals'*** materials informed by PiXL assessments.

• While our mastery approach builds deep learning over time, we recognise the need for regular retrieval to prevent forgetting. These fluency sessions ensure children practise and revisit essential content frequently.

• Using PiXL assessments to inform planning, schools should also build in ***planned retrieval of time, geometry (properties of shape; position and direction) and statistics every term so these aspects are revisited regularly in a spiral manner*** and retained over time.

Trust-Wide Challenge Materials

• Challenge resources developed by Epworth Specialist Leaders in Mathematics are available for use across schools to extend pupils' thinking, deepen reasoning, and provide opportunities for richer problem-solving, leading to children who feel challenged and building a love of mathematics.

Adaptation of suggested lesson materials

• There is a clear expectation across the Trust that ***teachers adapt Oak National Academy materials*** to meet the specific needs of their children. Lessons should never be followed mechanically. Instead, teachers must use assessment information and professional judgement to make informed decisions about the level of scaffolding, challenge and quantity of input required. To avoid cognitive overload, teachers should carefully

consider the number of slides, representations and models used within a lesson. Not all representations need to be shown at once, and they should be selected purposefully based on what will most effectively support understanding. As the Trust pedagogical structure moves from modelling to guided and independent practice, staff need to ensure the modelled aspects reflect what children then do independently. Equally, if children have already secured the intended endpoint, this should be identified through checking, and the majority of the lesson time should shift to appropriate challenge. While Oak provides worksheets, these are not always the most suitable method for securing learning. A broad range of practical tasks and recording approaches should be used across the sequence of lessons. Worksheets, when chosen, should be used sparingly and selected with care, ensuring they genuinely support conceptual understanding rather than provide unnecessary volume. The emphasis remains on high-quality teaching, rich discussion and meaningful mathematical activity, shaped skilfully by the teacher. *Guidance is available on the Whole Staff teams area for year groups regarding adaptations.*

Coverage of National Curriculum

• A small number of statutory National Curriculum elements—specifically Roman numerals and statistics—are not covered within the NCETM Curriculum Prioritisation materials. As these are statutory requirements, all schools must ensure that they are explicitly planned for and taught. These areas should be incorporated within the Trust's additional mathematics sessions or meaningfully linked to learning in other subjects where appropriate, such as statistics within science. Leaders should ensure clear mapping so that coverage is guaranteed across the key stage and pupils meet all statutory expectations alongside the core mastery curriculum.

Curriculum Detail by Phase

Early Years: Building Strong Foundations

Early Years provision plays a pivotal role in establishing secure mathematical foundations and ensuring every child becomes confident, fluent and enthusiastic about mathematics. As emphasised by the NCETM, the early years are a crucial period: early mathematical knowledge strongly predicts later academic and social success, while children who begin behind often find it difficult to catch up without targeted, high-quality teaching.

"Children are born ready, able and eager to learn. They actively reach out to interact with other people, and in the world around them. Development is not an automatic process, however. It depends on each unique child having opportunities to interact in positive relationships and enabling environments." Development Matters 2012

In Nursery, mathematics begins through story, which holds a privileged place in young children's minds and experiences. Schools with nursery classes are encouraged to use the *Story Time Maths* materials researched by SHINE, which have demonstrated positive impact across the North-West, particularly in schools where outcomes need to improve for disadvantaged learners. This approach introduces mathematical ideas through carefully chosen stories, enriched with songs, rhymes and planned provision enhancements. Adult–child interactions are intentionally mathematical, and the weekly plans include clear guidance for both whole-group sessions, mathematical play and targeted support for children

who need additional scaffolding. These experiences align with Development Matters and follow the EEF's recommendation that young children should have dedicated mathematical input as well as opportunities to apply concepts throughout the day.

In Reception, the curriculum is structured around the NCETM's six key areas of early mathematics—Cardinality and Counting, Comparison, Composition, Pattern, Shape and Space, and Measures. These areas underpin early mathematics and form the conceptual basis for progression through primary school and beyond. Staff in Early Years are expected to understand these key concepts and their associated progressions so that provision is intentional, sequenced and responsive to children's developmental needs.

Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents

Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other

Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers

Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships

Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking

Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

Children in Reception participate in the daily Mastering Number programme from the NCETM, delivered across 31 weeks and designed to secure deep number sense. This focuses on cardinality, comparison and composition, with carefully structured representations and activities that promote fluency and flexibility with number. Because Mastering Number is purely number-focused, the Trust has developed supplementary half-termly units to ensure strong foundations in pattern, shape and space and measure. These units build on the story-led approach from Nursery,

and the same pedagogical principles—story, representation, structured talk and high-quality play—are applied. Mathematics in Reception is delivered through short adult-led sessions, small-group tasks and rich opportunities for intentional and targeted mathematical interactions within continuous provision. Adults engage in purposeful mathematical interactions that extend children's thinking, ask probing questions and model precise vocabulary. Children who require more support and practise are identified and prioritised. Across the environment, mathematical opportunities are maximised and built into routines, play and child-led exploration. This approach aligns with the Strong Foundations research, which highlights mathematics as a key foundational skill essential for future learning.

"When children join Reception, what they already know differs greatly. Some will need additional teaching. They will need opportunities to develop their language and communication, to learn what their peers already know. This may include children with special educational needs and/or disabilities (SEND). Early education must equip all children, without fail, with the knowledge and skills they need to make progress in Reception, through key stage 1 and beyond." Strong Foundations

Key Stage One

As children transition into Key Stage 1, they continue to build on the strong foundations laid in Early Years. Children receive a daily one-hour mathematics lesson supported by the NCETM Curriculum Prioritisation materials and aligned Oak Academy resources. Concepts are broken down into coherent, manageable small steps, with teachers supported to address misconceptions through clear modelling and the consistent use of concrete, pictorial and abstract representations.

In addition to the daily mathematics lesson, all children in KS1 participate in a 20-minute Mastering Number session every day. This programme aims to secure firm foundations in number sense, fluency and flexibility with number by the end of Year 2. The consistency between Reception and Key Stage 1 helps strengthen the transition and ensures conceptual continuity.

Across the 31-week Mastering Number sequence, four sessions are delivered each week. The fifth session is intentionally designed as a review and assessment opportunity, allowing teachers to use PiXL tools to identify gaps, revisit essential content and reinforce key ideas. During the remainder of the academic year, teachers systematically revisit shape, measure and statistics so pupils experience a spiral approach that prevents learning from being lost.

The Key Stage 1 curriculum focuses on developing confidence and mental fluency with whole numbers, counting, place value and the four operations. Children work with numerals, number words and a range of practical resources, including manipulatives and measuring tools. They also explore the properties of 2D and 3D shapes, compare measures, work with time and money, and use precise mathematical vocabulary. Where assessments show that children have gaps, this foundational knowledge must be secured through additional, targeted support as a matter of urgency. PiXL materials provide clear intervention guidance (therapies) which teachers and teaching assistants must use to support pupils at risk of falling behind.

Lower Key Stage Two

As children move into Lower Key Stage Two, teaching continues to build on the strong foundations established in Key Stage 1. Children receive a daily one-hour mathematics lesson supported by the NCETM Curriculum Prioritisation materials and aligned Oak Academy resources. This ensures that concepts are introduced in coherent small steps and represented through consistent concrete, pictorial and abstract (CPA) approaches.

In addition to the daily lesson, pupils participate in a 20-minute fluency session each day. This session provides regular opportunities for retrieval, rehearsal and consolidation of key number number facts, methods and mental strategies. The focus in these sessions is Place Value, the Four Operations and multiplication facts. PiXL 'Therapies' and 'Securing the Fundamentals' materials should be used. As pupils begin to work with increasingly large numbers and more complex structures, this rehearsal helps secure automaticity so that children can focus on reasoning and problem solving during the main lesson.

A core focus in Lower Key Stage Two is the development of multiplication and division fluency. Children engage regularly with Times Tables Rock Stars, and teachers use heat maps to identify gaps and plan targeted support. Alongside this, teaching develops children's ability to solve a broader range of problems, including those involving simple fractions and decimals. Pupils also refine their accuracy when drawing, measuring and analysing shapes, and begin to describe relationships and properties using increasingly precise mathematical vocabulary.

By the end of Year 4, children are expected to have memorised all multiplication tables up to 12 × 12 and to apply them with confidence and fluency. Vocabulary is taught explicitly to support pupils' growing ability to articulate their reasoning and explain their methods clearly. Where children are at risk of falling behind, teachers and teaching assistants use PiXL materials and NCETM guidance to provide structured small-group intervention.

Upper Key Stage Two

In Upper Key Stage Two, the curriculum aims to deepen children's understanding of the number system and ensure they are well prepared for the transition to secondary mathematics. Children continue to receive a daily one-hour mathematics lesson and the additional 20-minute fluency session, which provides essential time for retrieval, rehearsal and consolidation. Ongoing practise ensures mental and written methods remain secure and efficient, particularly as the mathematical content becomes more sophisticated.

Teaching in this phase strengthens connections across the curriculum, particularly between multiplication and division, fractions, decimals, percentages and ratio. Children solve a wider range of increasingly complex problems, applying their knowledge flexibly and choosing efficient strategies. The foundations established in arithmetic support pupils as they are introduced to the language and structures of algebra, initially as generalisations and rules, and later as tools for solving problems.

Geometry and measures build on prior learning, enabling pupils to classify shapes with increasing precision, calculate using area, perimeter and volume, and use accurate vocabulary to describe transformations and relationships. Throughout the phase, teachers promote precise mathematical language and model the clear communication of reasoning.

By the end of Year 6, children are expected to be fluent in all written methods for the four operations, including long multiplication and division, and secure in their work with fractions, decimals and percentages. Regular times-table practice continues, ensuring fluency remains automatic and supports success across the wider curriculum. For children requiring additional support, PiXL materials and NCETM guidance provide structured intervention pathways.

Mathematics across the Curriculum

At Epworth Education Trust, we are committed to ensuring that mathematical knowledge, skills and language are continually reinforced across the wider curriculum. Mathematics is not a stand-alone subject; it underpins learning in science, design and technology, computing, geography and many aspects of everyday school life. While our core curriculum is structured through the NCETM materials, we recognise that certain statutory elements of the National Curriculum, statistics and Roman numerals, are not explicitly included within the NCETM Primary Curriculum Design. To ensure full coverage, schools will intentionally teach and practise these areas within our long-term plan but also should maximise opportunities through appropriate subjects. For example, statistics could be embedded meaningfully within science investigations and data handling in geography or computing, while Roman numerals may be introduced through history or within number and place value units. This cross-curricular approach enables pupils to apply mathematical understanding in authentic contexts, deepening learning and supporting retention. Our expectation is that children regularly encounter, discuss and use mathematical concepts beyond the daily maths lesson, ensuring mathematics is understood as a practical, powerful and relevant discipline. Leaders should ensure this is the case.

Approach to Mixed Age Classes

The National Curriculum states:
"The programmes of study for mathematics are set out year-by-year for key stages 1 and 2. Schools are, however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, schools therefore have the flexibility to introduce content earlier or later than set out in the programme of study… All schools are also required to set out their school curriculum for mathematics on a year-by-year basis and make this information available online."

Our Trust Approach

For schools with mixed Year 3/4 or Year 5/6 classes, delivering a coherent and connected curriculum can be challenging. To ensure high-quality learning and clear progression, Epworth Education Trust adopts the NCETM two-year rolling programme, available through Maths Hubs.

Mixed-Age Whole-Class Teaching Over a Two-Year Cycle

The rolling programme provides a structured and fully sequenced pathway through the Lower and Upper Key Stage 2 curriculum. It is built around:

- the NCETM Curriculum Prioritisation materials
- the DfE *Mathematics Guidance: KS1 and KS2* and its ready-to-progress criteria
- a mastery approach that supports depth, coherence and shared understanding

Each mixed-age class follows a clearly planned sequence across two academic years:

- Year A and Year B cycles for both Years 3/4 and Years 5/6
- All National Curriculum objectives covered across the two-year period
- Whole-class teaching, with all pupils accessing the same lesson
- No split planning and no requirement to run separate year-group content

This approach enables rich discussion, mathematical reasoning and collaborative learning. Pupils move through content together, building secure foundations and deep, connected understanding.

Curriculum Alignment and Appropriate Flexibility

The programme is fully aligned with the National Curriculum, which requires pupils to meet the expectations by the end of each key stage, rather than year by year. This provides the flexibility needed to sequence content meaningfully in mixed-age contexts.

The NCETM's two-year cycle offers a clear, coherent and manageable route that honours this flexibility while ensuring consistency and progression across the Trust.

Early Years and Key Stage 1

Nursery, Reception, Year 1 and Year 2 are taught in discrete year groups across all Epworth schools. This ensures that pupils secure the essential early mathematical foundations in number, shape, space and measure, which are crucial for later success. Strong mastery of these concepts in the early years is non-negotiable and supports long-term progress and achievement.

Inclusion and SEND

At Epworth Education Trust, we strongly believe that every child can achieve highly in mathematics, whatever their starting point. High expectations, strong modelling, and carefully sequenced teaching sit at the heart of our approach. For pupils with SEND, our ambition remains the same, we adapt the route, not the destination.

Our schools must ensure that every child receives the right level of support to secure strong mathematical foundations, make meaningful progress, and experience success. The urgency of catch-up where possible is central to our ethos; early intervention and sustained high-quality teaching provide the greatest long-term benefit to our learners.

PiXL B2 *(Children who require a bespoke approach - 18+ Months Below Age-Related Expectation)*

For a small number of pupils, typically those assessed as B2 within the PiXL framework, high-quality classroom provision must be complemented by a personalised approach. These pupils are working significantly below age-related expectations and require:

- A bespoke curriculum, personalised to their developmental mathematical stage.
- Assessment and planning using PIVATs, ensuring next steps are finely tuned, sequenced and achievable.
- Close collaboration with the SENCo, wider professionals (e.g., EPs, OT, Speech & Language) and families.
- A heavy focus on number, pattern, and early mathematical structures, including secure development of cardinality, comparison, composition, and subitising.
- Story-based mathematics initially (e.g., Story Time Maths) to contextualise concepts, build language, and strengthen conceptual links alongside Mastering Number materials.
- Opportunities for highly scaffolded CPA learning, with repetition and overlearning where required.

These pupils may make progress in smaller steps, and maintaining motivation, enjoyment and confidence is paramount. Our goal remains to help each child move forward from their unique starting point and celebrate every gain.

PiXL B1 *(Key Marginal Group)*

Pupils identified as B1 are working below age-related expectations but are *within reach* of achieving them with the right targeted support. For this group:

- Timely, focused intervention is essential, aligned to the PiXL therapies and RAG analysis.
- Daily opportunities for fluency practice ensure core skills become secure.
- Quality first teaching (QFT) with precise modelling, clear vocabulary and worked examples is critical.

- Mini-assessment cycles (e.g., PLCs, 3-in-3s) should be used to check what has 'stuck' and adapt provision.

The aspiration is that the majority of B1 pupils will reach ARE through well-planned teaching, rapid feedback, and structured intervention.

Adaptive Teaching for All SEND Learners

Across the curriculum, teachers should:

- Use manipulatives and pictorial models to scaffold understanding.
- Break learning into manageable steps with clear success criteria.
- Reduce cognitive load through consistent representations and explicit instruction.
- Provide repetition, rehearsal and retrieval to embed knowledge securely.
- Make key vocabulary accessible, rehearsed, and consistently modelled.
- Ensure learning is meaningful, concrete and connected to real-life contexts.

Strong partnerships with families are essential, ensuring children receive consistent support in school and at home.

Assessment

At Epworth Education Trust, we recognise the power of high-quality assessment to transform children's mathematical progress. This is why all our schools utilise PiXL to ensure forensic knowledge to understand precisely what each child can and cannot yet do, enabling them to shape learning that offers timely support, targeted challenge and ambitious next steps. This is reflective of the EEF's recommendations for effective mathematics in the Early Years and the primary phase: meaningful assessment is not an endpoint but a vital part of the teaching and learning cycle.

Assessment at Epworth is continuous, purposeful and responsive. Daily formative assessment through questioning, observation, pupil talk, modelling and the analysis of independent work, provides immediate insight into learning and misconceptions. This informs adaptations within lessons and ensures that every mathematics session begins from a secure understanding of prior knowledge. Summative assessment, including periodic PiXL assessments, provides valuable reference points that inform curriculum planning, targeted intervention and professional dialogue.

All Trust schools use PiXL to support assessment for learning, giving staff access to Personal Learning Checklists (PLCs), diagnostic tools and tailored therapies. This consistency strengthens teacher judgement, ensures progression across year groups, and enables leaders to track attainment and progress at child, cohort and school level.

Our assessment practice also ensures that children are well prepared for statutory assessments, including the end of Reception Early Learning Goals, the Year 4 Multiplication Tables Check, and the Year 6 end-of-Key-Stage SATs. Preparation is embedded within high-quality daily teaching, not delivered as a separate or narrowed curriculum. Through well-sequenced teaching, regular rehearsal of key skills and a focus on deep understanding, pupils develop the knowledge and confidence they need to be successful.

Ultimately, assessment is integral to our mathematics vision: it informs teaching, drives improvement, and ensures that every child is known, valued, and challenged to achieve highly from their starting point.

Calculation Policy -and the CPA Approach

Our Calculation Policy outlines the Trust-wide approach to the progression of key mathematical operations—addition, subtraction, multiplication and division—and exemplifies how the Concrete–Pictorial–Abstract (CPA) approach underpins effective teaching in each area. This shared policy ensures consistency of practice across all Epworth Education Trust schools, supporting coherent progression for pupils and providing clear expectations for staff at every phase.

At the heart of our policy is a commitment to helping children build deep, secure conceptual understanding. New concepts are introduced using the CPA approach, enabling learners to develop competence, confidence and fluency:

- **Concrete** – Pupils engage with concrete objects and manipulatives (such as tens frames, dienes, bead strings and place-value counters) to explore structures, patterns and relationships. This supports all learners, particularly those with SEND, EAL, or limited prior experiences, in making sense of mathematical ideas.
- **Pictorial** – Pupils progress to pictorial representations, including drawings, bar models, number lines and diagrams. These visual forms help bridge understanding and allow pupils to reason, make connections and solve increasingly complex problems. Pictorial methods remain available beyond the initial learning phase to support mathematical reasoning.
- **Abstract** – Once a secure foundation is established, pupils move confidently to abstract representations, including formal written methods and symbolic notation. Abstract fluency is built gradually and purposefully, ensuring that pupils retain conceptual understanding rather than adopting procedures in isolation.

CPA should run alongside each other and complement each other.

Our Calculation Policy also emphasises the need for flexibility: children may move back and forth between the concrete, pictorial and abstract stages as required to embed understanding, address misconceptions or apply skills in unfamiliar contexts. Teachers use professional judgement, supported by assessment and Trust guidance, to identify appropriate starting points and next steps.

Through the consistent use of the CPA model, we aim to develop mathematically fluent, confident learners who can reason effectively, articulate their thinking and apply their understanding to solve problems independently.

Manipulatives and Representations

The NCETM identifies representation and structure as a core principle of effective mastery teaching. Consistent, purposeful use of manipulatives helps children to:

- See mathematical structures
- Make connections across concepts
- Reason with increasing independence
- Deepen understanding before moving to abstract methods

Across all schools, manipulatives are not an 'extra'—they are a core entitlement.

Trust-Wide Principles

- Manipulatives should be available to all pupils, not only those who struggle.
- Teachers should model with manipulatives during input before expecting independent use.
- Representations must remain consistent within each year group and across phases.
- Teachers draw from the NCETM's recommended materials to ensure a coherent journey.
- Manipulatives should support both fluency and reasoning.
- Over-reliance should be avoided; manipulatives are gradually withdrawn as understanding deepens.

Examples of Core Manipulatives by Phase

We would recommend kit boxes for each year group that are readily available in classes.

Early Years & KS1:
tens frames, double-sided counters, Numicon, bead strings, cubes, counting sticks, part-part-whole models.

Lower KS2:
dienes, place-value counters, bar models, number lines, arrays, fraction strips.

Upper KS2:
place-value counters, algebra tiles, bar models, ratio tables, number line jottings.

The Calculation Policy provides detailed guidance on the progression of models and representations across each operation and year group and guidance on which concrete resources to have to hand. This consistency supports high-quality teaching, accurate assessment and smooth transitions for pupils as they move through the Trust.

Environment and Presentation

A well-designed learning environment supports clarity, independence and retrieval.

Working Walls

All classrooms should maintain a live, interactive mathematics display that evolves throughout the unit. Working walls must include:

- Key vocabulary for the unit (and for all four operations somewhere in the classroom)
- CPA model(s) for the current concept, clearly displayed
- Stem sentences and sentence structures
- Key facts appropriate to the year group (e.g., number bonds, multiplication facts, place value reminders)
- Worked examples, procedural steps or success criteria, co-constructed where appropriate

Working walls are tools for thinking and must reflect the learning journey, not decorative displays.

Books and Written Work

To support precision and mathematical accuracy:

- All children use squared books to aid spatial organisation, place value alignment and calculation accuracy.
- One digit per box is modelled and expected where appropriate.
- Layout must be consistent across classes, modelled explicitly by teachers.
- Worksheets should be well-considered and only used where they support children's thinking and learning. There should be a considered balance of worksheets and pupil recording.
- Reasoning should be visible, including:
    - jottings
    - bar models
    - representations
    - mathematical explanations
- Quality interactions and models matter more than the quantity of written tasks.

Family and Community Engagement

Families play a vital role in children's mathematical success. Epworth schools are committed to building strong partnerships with parents to increase confidence, support home learning, and celebrate the joy of mathematics.

Early Years: Story Time Maths

Parents and carers are invited to participate in Story Time Maths sessions, experiencing:

- The mathematical language introduced through stories

- How early concepts are modelled using manipulatives
- Simple games and activities to continue at home

This strengthens early foundations and promotes positive attitudes toward mathematics from the very beginning.

Workshops Across the Primary Phase

Across KS1 and KS2, schools will provide workshops for parents that:

- Explain the CPA approach
- Model how mathematical vocabulary supports reasoning
- Demonstrate current calculation methods
- Share examples of fluency routines
- Provide opportunities for parents to try activities themselves

These workshops build shared understanding and reduce confusion around methods parents may not have been taught at school.

Home Learning

Home learning should be:

- Purposeful
- Minimal but meaningful
- Linked to the fluency or procedural content currently taught
- Reinforced through carefully chosen platforms (e.g., TT Rockstars, Purple Mash, SAT Bootcamp where relevant)

Schools will share unit overviews to inform families about:

- What pupils are learning
- Key vocabulary
- Suggested activities
- Upcoming concepts

This helps create consistency and confidence for families supporting learning at home.

Staff CPD

Staff professional development is central to the successful implementation of our maths strategy. Leaders should ensure staff CPD goes hand-in-hand with its introduction.

Early Years practitioners must engage with Strong Foundations training to understand varied starting points, the importance of purposeful interactions, and the role of talk and modelling in developing early mathematical thinking. All EYFS staff should be confident in the NCETM Six Principles and how these underpin progression in early number. STORYTIME MATHS

KS1 staff must build on this knowledge, ensuring they understand the experiences children bring from EYFS and how these relate to mastery teaching, particularly the NCETM Five Big Ideas.

Across all Key Stages, staff should have a secure understanding of:

- The Epworth Teaching and Learning Model as the core framework for all learning,
- The Epworth Calculation Policy and the application of the CPA approach,
- The expected learning journey and how mathematical vocabulary is introduced, used and modelled.

The Epworth Maths Team, including Epworth Specialist Leaders for Mathematics, provide training, resources and challenge to support all schools in meeting the intent of this strategy.

This Trust-wide offer should be complemented by external engagement: ***all schools are encouraged to work actively with their local Maths Hub to further enhance subject knowledge and pedagogy.***

Monitoring

Effective monitoring is essential to ensure the successful implementation and sustained impact of our maths strategy. Leaders at all levels must have a clear, accurate understanding of how the strategy is being enacted in classrooms and how it is improving outcomes for pupils.

Monitoring should draw on a range of activities, including:

- Learning walks and lesson visits focused on the CPA approach, modelling and vocabulary,
- Book looks to evaluate progression, representation, reasoning and fluency,
- Pupil voice to understand experience, confidence and attitudes towards mathematics,
- Data analysis using PiXL PLCs, therapies and diagnostic assessments,
- Review of interventions, including the quality of Additional 20-minute daily sessions and targeted PiXL therapies,
- Moderation of mathematics outcomes across Key Stages

Alongside the support of Epworth Specialist Leaders for maths, schools should continue to utilise the expertise of PiXL specialists and local Maths Hubs to support diagnostic analysis, strengthen subject knowledge and verify the accuracy of leader evaluations.

This strategy represents a significant shift of direction for Epworth Education Trust. A sample of schools will pilot the revised approach during 2025–26, enabling detailed evaluation of implementation readiness, impact on teaching practice and early pupil outcomes. Insights from these schools will shape refinements prior to full Trust-wide rollout.

The EEF Implementation Guidance is being used to structure this process, ensuring that the change is introduced in a staged, evidence-informed and sustainable way. Trust Leaders will develop clear implementation plans alongside school leaders, provide appropriate training and support, and monitor fidelity and impact closely.

Through rigorous monitoring, targeted support and alignment with the EEF model, we will ensure that this strategy leads to high-quality mathematics teaching, improved outcomes and greater equity for all pupils across Epworth Education Trust.