



Mathematics Policy

**This policy was reviewed on behalf of the school by our current
Mathematics Lead: Adam Chase**

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Last reviewed: September 2026

Date to be reviewed: September 2027

Mathematics Policy

This policy is reviewed on an annual cycle. An interim review may take place following significant statutory or curriculum changes, or an important milestone in the school's Teaching for Mastery development.

1. Intent: Our Vision for Mathematics

At Old Hall Primary School, we believe that all pupils can learn mathematics. Our ambition is for every child to develop a deep, secure, connected and flexible understanding of mathematics and to see themselves as a mathematician.

Mathematics at Old Hall develops pupils' fluency in essential mathematical knowledge alongside their ability to reason, solve problems and make connections. Pupils learn not only how to carry out mathematical procedures, but why they work and when they can be used. The curriculum is designed so that knowledge develops coherently over time, with new learning building on secure foundations.

We want pupils to be curious about mathematics, to notice patterns and relationships and to communicate their thinking using increasingly precise mathematical language. Mistakes and misconceptions are treated as valuable opportunities for learning. Pupils are encouraged to persevere, consider alternative approaches and develop confidence when mathematics is challenging.

Through the school's partnership with North West One Maths Hub, participation in a Teaching for Mastery Continuing Group and use of NCETM materials, Old Hall continues to develop its Teaching for Mastery approach.

Intended outcomes

- Pupils recall important mathematical facts accurately and increasingly efficiently.
- Pupils understand mathematical structures and relationships rather than merely memorise procedures.
- Pupils calculate accurately and select efficient strategies.
- Pupils use precise mathematical vocabulary.
- Pupils explain, reason and justify mathematical ideas.
- Pupils select and use appropriate representations.
- Pupils notice patterns and make connections.
- Pupils apply mathematics in familiar and unfamiliar situations.
- Pupils solve increasingly complex mathematical problems.
- Pupils demonstrate resilience and learn from errors and misconceptions.
- Pupils develop confidence and a positive mathematical identity.

What mastery means at Old Hall

Mastery is not defined by speed, completing a worksheet or moving rapidly onto more advanced content. A pupil demonstrates increasing mastery when their understanding is secure, connected and flexible and they can represent, explain and apply their mathematics in different contexts.

2. Curriculum Organisation

2.1 Curriculum entitlement

All pupils are entitled to an ambitious and coherent mathematics curriculum. The curriculum is based on the statutory National Curriculum and is supported by NCETM Curriculum Prioritisation and professional development materials. Oak National Academy materials may also be used where they align appropriately with the school's agreed curriculum and intended mathematical journey.

Detailed curriculum content and sequencing from Reception to Year 6 are set out in the school's separate Mathematics Curriculum Overview.

- Teachers identify the key mathematical knowledge pupils need to learn.
- Teachers consider the prerequisite knowledge required.
- Teachers build new learning on what pupils already know.
- Teachers teach content through appropriately small and connected steps.
- Teachers provide sufficient time for important concepts to become secure.
- Teachers deliberately revisit and retrieve important prior learning.
- Teachers identify misconceptions and gaps and respond appropriately.

Teachers exercise professional judgement when adapting the pace or sequence. Additional time may be given to important concepts where assessment indicates that this is necessary while maintaining the coherence and ambition of the curriculum.

2.2 Progressing together

Wherever appropriate, the class progresses through the curriculum together. This supports shared mathematical discussion and gives all pupils access to important mathematical ideas. Progressing together does not mean that every pupil receives identical support, representations or questions. Teaching is responsive to pupils' emerging understanding.

2.3 Challenge through depth

Pupils who grasp concepts rapidly are normally challenged to deepen rather than accelerate their understanding. Depth may include explaining and justifying, comparing methods, identifying similarities and differences, finding multiple possibilities, making connections, identifying patterns, conjecturing, generalising, proving and solving unfamiliar or increasingly complex problems.

Pupils are not routinely moved onto content from subsequent year groups simply because they complete work quickly.

3. Teaching for Mastery

Teaching for Mastery provides an important pedagogical framework for mathematics at Old Hall. The school recognises that implementing Teaching for Mastery is a continuing process of professional development rather than a completed initiative. Some practices are securely established while others continue to be developed and refined through participation in the North West One Maths Hub Continuing Group, collaborative professional development and evaluation.

The approach is informed by the NCETM Five Big Ideas: Coherence, Representation and Structure, Mathematical Thinking, Fluency and Variation.

3.1 Coherence

Learning is organised into small, connected steps that build upon prior knowledge and enable pupils to recognise relationships between mathematical ideas. Teachers maintain sight of the overall

mathematical journey. Small steps are not isolated activities but form part of a coherent progression towards more sophisticated understanding.

3.2 Representation and Structure

Teachers select representations because they reveal important mathematical structure. Manipulatives, diagrams and other representations help pupils to see and understand the mathematics, develop useful mental images and make connections between ideas.

3.3 Mathematical Thinking

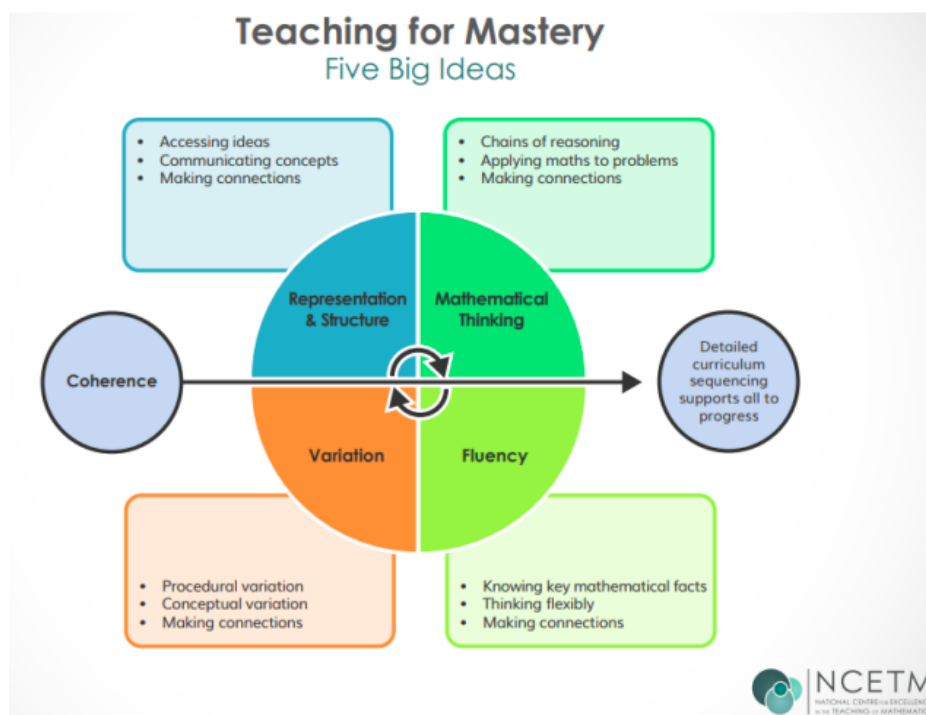
Mathematical thinking is part of everyday mathematics teaching. Pupils are encouraged to notice, compare, identify patterns and relationships, make connections, conjecture, explain, justify, reason and generalise. Teachers provide opportunities for pupils to communicate their mathematical thinking and expect increasing precision in mathematical language.

3.4 Fluency

Fluency involves more than speed. Pupils develop secure and increasingly efficient recall of important facts and procedures while also developing flexibility. They learn to recognise relationships, select efficient methods, move between representations and use known mathematics to derive or solve unfamiliar mathematics.

3.5 Variation

Teachers deliberately select and sequence examples so that pupils attend to important mathematical features and relationships. Conceptual variation presents a concept in different ways, including examples and non-examples where appropriate, so that pupils understand its essential features. Procedural variation carefully varies calculations, examples or questions so pupils consider relationships between them and notice what changes and what remains constant. Variation supports intelligent practice, where pupils think about the mathematics within a sequence rather than completing disconnected repetitive questions.



4. Mathematics Teaching at Old Hall

Mathematics is taught regularly and given sufficient curriculum time for pupils to develop secure understanding.

- Reception: Mastering Number Monday to Thursday, with Friday providing a particular focus on shape, space and measure.
- Years 1 to 5: five main mathematics lessons each week alongside an additional daily 15-minute Mastering Number session.
- Year 6: daily mathematics teaching, using Mastering Number at KS2 as an autumn-term refresher before additional fluency time develops an increased arithmetic focus.

Main mathematics lessons are normally approximately one hour. Additional Mastering Number or arithmetic provision is approximately 15 minutes. These timings describe normal provision rather than prescribing identical lesson structures.

4.1 Features of effective mathematics teaching

- A clear mathematical focus.
- Purposeful retrieval and activation of relevant prior knowledge.
- Small, connected steps.
- Carefully chosen examples.
- Explicit teacher explanation and modelling.
- Frequent questioning and checks for understanding.
- Interactive exchanges between pupils and teachers.
- Opportunities for pupils to think, discuss and explain.
- Carefully selected representations.
- Guided practice.
- Independent practice.
- Fluency, reasoning and problem solving.
- Attention to likely and emerging misconceptions.
- Opportunities to compare methods and make connections.

These are characteristics of effective teaching, not a compulsory lesson template. Lessons are interactive and responsive. Teachers use explanation, questioning, demonstration, discussion, guided practice and independent practice as appropriate. The direction and pace of teaching are adjusted in response to pupils' understanding. Reasoning and problem solving are integrated into mathematics teaching and are not treated simply as activities pupils encounter after completing fluency work.

5. Mathematical Talk and Vocabulary

Mathematical language supports mathematical understanding. Teachers explicitly teach important vocabulary and model its accurate use. Pupils have regular opportunities to verbalise their thinking and listen and respond to the mathematical ideas of others.

- Teachers model precise mathematical language.
- Teachers explicitly teach new mathematical vocabulary.
- Teachers model complete mathematical sentences where appropriate.
- Teachers use stem sentences where they help pupils articulate important mathematical structures or relationships.
- Teachers provide appropriate thinking and processing time.

- Teachers encourage pupils to compare representations and methods.
- Teachers challenge imprecise mathematical vocabulary and address misconceptions.
- Teachers progressively reduce language scaffolds as pupils become more independent.
- Pupils are encouraged to explain how and why.
- Pupils are encouraged to listen carefully to others.
- Pupils are encouraged to agree or disagree mathematically and justify their view.
- Pupils are encouraged to build on another pupil's reasoning.
- Pupils are encouraged to compare different strategies.
- Pupils are encouraged to use increasingly precise mathematical vocabulary.

Structured mathematical talk is particularly valuable where pupils have SEND, EAL or less developed oral language. Teachers ensure that language demands do not unnecessarily prevent pupils from demonstrating or developing mathematical understanding.

6. Fluency and Number

Fluency includes accurate and increasingly efficient recall of important facts, but is wider than recall alone. Fluent mathematicians recognise relationships, select appropriate methods, use known facts to derive unknown facts and apply their knowledge flexibly.

- Subitising.
- Counting and cardinality.
- Number sense.
- Number bonds.
- Addition and subtraction facts.
- Secure place-value understanding.
- Multiplication and division facts.
- Related and inverse facts.
- Mental calculation strategies.
- Efficient written methods.
- Fractional understanding.
- Connections between fractions, decimals and percentages.

Detailed progression in mental and written calculation is contained within the school's separate Calculation Policy.

6.1 Mastering Number

Mastering Number supports the school's development of secure number sense and fluency and complements rather than replaces the main mathematics curriculum.

- Reception: Mastering Number, Monday to Thursday.
- Years 1 and 2: Mastering Number.
- Year 3: Mastering Number.
- Years 4 and 5: Mastering Number at KS2.
- Year 6: Mastering Number at KS2 as an autumn-term refresher, followed by an increased arithmetic focus.

7. Representations and Manipulatives

Manipulatives and representations are tools for mathematical thinking. They are not reserved for younger pupils or pupils experiencing difficulty. Teachers select representations deliberately to reveal important structures and relationships and explicitly connect concrete materials, pictorial representations, mathematical language and abstract notation.

- Counters.
- Numicon.
- Cubes.
- Base-10 equipment.
- Place-value counters.
- Tens frames.
- Number lines.
- Part-whole models.
- Arrays.
- Bar models.
- Fraction representations.
- Geometric and measuring equipment.

Movement towards abstraction is determined by pupils' understanding rather than their age. Pupils may move flexibly between concrete, pictorial and abstract representations when this supports thinking.

8. Inclusion, SEND and Adaptive Teaching

Old Hall is committed to an ambitious and inclusive mathematics curriculum. Pupils with SEND have access to high-quality classroom teaching and the same important mathematical ideas as their peers wherever appropriate. Adaptation focuses first on removing barriers to learning rather than reducing mathematical ambition.

8.1 High-quality inclusive teaching

- Explicit instruction.
- Breaking learning into manageable steps.
- Teacher modelling.
- Worked examples.
- Carefully chosen representations.
- Scaffolding.
- Visual support.
- Explicit teaching of vocabulary.
- Structured mathematical talk.
- Appropriate processing and thinking time.
- Guided practice.
- Flexible grouping.
- Frequent checks for understanding.
- Opportunities for retrieval and overlearning where appropriate.

Scaffolding is designed to increase access while supporting pupils towards greater independence.

8.2 Understanding barriers

When a pupil experiences difficulty, staff consider the nature of the barrier before deciding how to respond. A difficulty may relate to mathematical knowledge or prerequisite understanding, mathematical language, broader receptive or expressive language, attention, working memory, processing, recording or motor demand, or previous experience. Adaptations are chosen in response to the identified need rather than through assumptions based simply upon a pupil's label or attainment.

8.3 Responsive support

When assessment shows that a pupil is not yet secure, teachers respond promptly. Appropriate responses may include further teacher modelling, returning to an appropriate representation, additional guided practice, smaller steps, pre-teaching, additional opportunities for rehearsal, same-day or next-day support, and carefully planned small-group or individual intervention.

The purpose is wherever possible to help pupils keep up and reconnect with high-quality classroom teaching, rather than establishing a permanently separate curriculum. Interventions do not routinely remove pupils from important classroom mathematics and their impact is reviewed.

8.4 Individualised provision

Some pupils with complex SEND may require a more individualised mathematical pathway. Where this is appropriate, provision is developed collaboratively between the class teacher, SENDCO, pupil and family and, where relevant, other professionals. Provision and effective adaptations are recorded through the school's SEND Support Plans, IEPs or other agreed SEND documentation as appropriate. Even when curriculum content is significantly adapted, teaching continues to prioritise meaningful mathematical understanding, appropriate representation, communication and application.

9. Assessment, Feedback and Responsive Teaching

Assessment is integral to mathematics teaching. Its primary purpose is to identify what pupils understand, what remains insecure and what teaching should happen next.

9.1 Formative assessment

- Questioning.
- Observation.
- Mini-whiteboards.
- Pupil explanations.
- Hinge questions.
- Guided practice.
- Analysis of errors.
- Independent tasks.
- Low-stakes retrieval.
- Discussion.
- Pupil self-assessment where appropriate.

Teachers do not assess understanding solely through whether an answer is correct. They consider whether pupils understand why a method works, can explain or represent their thinking, recognise connections and apply their learning. Assessment information may lead teachers to alter an explanation, revisit previous knowledge, introduce another representation, provide additional practice or adjust the pace or sequence of teaching.



9.2 Summative assessment

- Years 1 to 5 use agreed Testbase assessments.
- Year 6 uses appropriate SATs practice and assessment materials.
- Two formal data drops take place during the academic year in accordance with the school's Assessment Policy.
- Attainment information is recorded using iTRACK.
- Statutory assessments are completed in accordance with current requirements.

Summative information is considered alongside teachers' knowledge of pupils' everyday mathematical understanding. A test score is not, by itself, a definition of mastery. Assessment information is used to identify curriculum strengths, areas requiring revisiting and pupils who may require further support or challenge.

9.3 Feedback

Feedback in mathematics is timely, specific and proportionate. Much of the most effective feedback takes place during the lesson through questioning, discussion, modelling and immediate responses to misconceptions. Written feedback is used where it contributes meaningfully to pupils' understanding, reflection or next steps. Teachers are not expected to produce extensive written comments where pupils' work and classroom dialogue already provide sufficient information and feedback.

10. Planning and Professional Judgement

Effective mathematics planning begins with understanding the mathematics rather than completing a planning format.

- Teachers identify the intended mathematical learning.
- Teachers establish relevant prerequisite knowledge.
- Teachers study appropriate NCETM curriculum and professional development materials.
- Teachers anticipate difficult points and likely misconceptions.
- Teachers select examples and representations deliberately.
- Teachers consider important vocabulary and questions.
- Teachers provide appropriate opportunities for guided and independent practice.
- Teachers adapt resources for the pupils being taught.
- Teachers use formative assessment to adjust subsequent teaching.

NCETM materials provide the principal support for the agreed curriculum sequence. Oak National Academy resources may complement these where they align with the intended mathematical learning.

The resource is not the lesson. Teachers are responsible for understanding the mathematical journey and using professional judgement to bring it to life for their pupils. Published slides, worksheets or other materials do not replace teachers' subject knowledge, explanation, questioning or responsiveness.

Planning is recorded in an agreed and manageable format. Teachers are not expected to generate documentation that does not improve teaching or pupils' learning.

11. Professional Development and Maths Hub Partnership

Old Hall recognises that high-quality mathematics teaching depends upon strong teacher subject knowledge and continuing professional development. The school works with North West One Maths Hub and participates in a Teaching for Mastery Continuing Group. Staff use relevant NCETM and Maths Hub professional development to develop and refine classroom practice.

- Collaborative planning.
- Professional discussion.
- Exploration of mathematical representations.
- Lesson visits and peer observation.
- Coaching.
- Discussion of pupil work.
- Pupil voice.
- Engagement with ncetm professional development materials.
- Mastering number training and development.

Teaching for Mastery is understood as a continuing process of professional learning. Leaders evaluate honestly which practices are established and which require further development. Consistency means developing shared principles, language and expectations; it does not remove teachers' professional judgement or their responsibility to respond to the pupils they teach.

12. Roles and Responsibilities

Headteacher and Senior Leadership Team

- Ensure mathematics has appropriate curriculum time and resources.
- Support implementation of the school's mathematical vision.
- Enable appropriate professional development.
- Support the Mathematics Subject Leader in curriculum development.
- Monitor the overall quality and impact of mathematics provision.

Mathematics Subject Leader

- Lead the continuing development of mathematics across the school.
- Ensure curriculum coherence and progression.
- Support implementation of Teaching for Mastery.
- Facilitate appropriate professional development.
- Work with the Maths Hub and relevant external partners.
- Support staff with curriculum and subject knowledge.
- Monitor teaching, learning and pupils' mathematical experience.

- Evaluate strengths and priorities for development.
- Work alongside the SENDCO and senior leaders to evaluate inclusion.
- Review resources and their effective use.
- Keep leaders and governors appropriately informed.

Class Teachers

- Implement the agreed mathematics curriculum.
- Develop secure knowledge of the mathematics they teach.
- Use formative assessment to make responsive teaching decisions.
- Ensure pupils with SEND and EAL can access ambitious mathematics.
- Use representations and mathematical language purposefully.
- Provide appropriate support and challenge.
- Engage with mathematics professional development.

Teaching Assistants and Support Staff

- Work under the direction of the class teacher.
- Use agreed mathematical language and representations.
- Support pupils' thinking rather than routinely providing answers.
- Encourage increasing independence.
- Communicate relevant assessment information and misconceptions to teachers.
- Engage in appropriate professional development.

SENDCO

- Work with teachers, leaders and families to identify barriers experienced by pupils with SEND.
- Advise on appropriate adaptations.
- Support individualised provision where necessary.
- Contribute to relevant SEND Support Plans and IEPs.
- Review the effectiveness of additional provision and intervention.

Governors

- Provide appropriate strategic support and challenge, ensuring that the mathematics curriculum remains ambitious, inclusive and effectively led.

13. Monitoring, Evaluation and Impact

Monitoring is designed to support improvement rather than generate unnecessary evidence. It considers the relationship between the intended curriculum, the mathematics pupils experience and what pupils ultimately know, understand and can do. No single evidence source is used in isolation.

Monitoring may draw upon

- Focused lesson visits.
- Pupil discussions.
- Work scrutiny.
- Professional discussion with teachers.
- Planning and lesson resources.
- Assessment information.
- Intervention records.
- Staff voice.
- Review of pupils with send.

- Moderation.
- Reviews of resources and representations.

Curriculum:

- Are pupils learning the intended mathematics?
- Does new learning build coherently on previous knowledge?
- Is important mathematical knowledge being remembered over time?
- Is curriculum progression coherent across year groups?

Teaching:

- Are explanations, examples and representations exposing mathematical structure?
- Are pupils thinking and talking mathematically?
- Are teachers checking understanding effectively?
- Are misconceptions identified and responded to promptly?

Fluency and depth:

- Are pupils developing secure and flexible number knowledge?
- Can pupils make connections and apply what they know?
- Are pupils who grasp concepts rapidly deepening their understanding rather than simply accelerating through content?

Inclusion:

- Do pupils with SEND access ambitious mathematics?
- Are barriers identified accurately?
- Are adaptations purposeful?
- Does additional support increase pupils' success and independence?
- Are interventions helping pupils reconnect with classroom learning?

Professional development:

- Is professional development improving teacher knowledge?
- Is Maths Hub participation leading to meaningful developments in classroom practice?
- Are effective practices increasingly consistent across the school?

Findings from monitoring inform professional development, curriculum refinement and the Mathematics Subject Leader's priorities.

14. Policy Review

This policy is reviewed formally every two years. The next scheduled review is September 2028. An earlier or interim review may take place where there are significant changes to statutory requirements, substantial changes to the school's mathematics curriculum, relevant developments in NCETM or Maths Hub work, or important findings arising from school evaluation or monitoring.

The policy is a statement of the school's agreed principles and expectations. Detailed curriculum sequencing, calculation progression and assessment procedures remain within their respective supporting documents.

This policy links with the following policies and procedures:

- Teaching and Learning policy

- SEN/SEND policy and information report
- Marking and Feedback policy
- Assessment policy
- Inclusion policy
- Behaviour and Anti-Bullying policy
- Early Years Foundation Stage (EYFS) policy

This policy will be reviewed and updated on an annual basis.