Maths and Calculation Policy

Primary: Years 1–5 | Revised policy for school approval
Approval date: 6th October 2026 Review date: 6th October 2028

1. Purpose and aims

We aim to develop confident mathematicians who understand mathematical concepts, calculate fluently and apply their knowledge to solve problems. Pupils learn to explain and justify their thinking, make connections between ideas and check whether answers are reasonable.

2. Curriculum and progression

Teaching follows the school's year-group skills frameworks and termly curriculum overviews, which set out topics, objectives, key vocabulary and home support. Learning builds progressively across number, calculation, fractions, measurement, geometry and statistics. White Rose resources and end-of-unit assessments support learning. Content may be refined in response to pupils' needs and curriculum review.

The combined Year 5/6 overview supports planning; Year 5 expectations must be checked against the agreed sequence rather than treating all combined content as Year 5 requirements.

3. Teaching and inclusion

Teachers connect concrete resources, pictorial representations and abstract notation so pupils understand the mathematics behind a procedure. Pupils may revisit objects and diagrams whenever these help their understanding. Models are selected to suit the concept, rather than used as a fixed sequence that every pupil must move through at the same pace.

The Concrete–Pictorial–Abstract (CPA) approach connects three ways of representing mathematics. Concrete: pupils handle objects such as counters, cubes or place-value equipment. Pictorial: pupils use drawings, ten frames, part–whole models, arrays or number lines. Abstract: pupils use numerals, symbols and equations. Teachers explicitly link these representations; for example, pupils combine two groups of counters, draw the groups, then record an addition equation. Pupils can move between all three to explain and deepen their understanding.

Learning includes practical applications such as measuring, cooking, shopping, time and interpreting data. Scaffolds, worked examples and vocabulary support access; deeper questions require explanation, justification and application. Chilli levels describe task challenge and support, rather than fixed labels for pupils.

4. Mathematical language and reasoning

Teachers explicitly teach topic vocabulary and model clear mathematical explanations. Bilingual vocabulary resources and sentence stems support access to English mathematical language and discussion. Pupils are encouraged to explain, agree, challenge respectfully, clarify and build on others' ideas.

Questioning draws on the higher-order thinking ladder: Remember, Understand, Apply, Analyse, Evaluate and Create. KS1/KS2 prompts, plenary questions and reasoning reflection tools help pupils compare strategies, identify misconceptions and evaluate solutions. Year-group target ladders make next steps visible.

Assessment, homework and review

5. Assessment and next steps

Assessment informs teaching and identifies what pupils understand, what needs revisiting and where further challenge is appropriate. Teachers use:

- Entry tickets to check current understanding at the start of learning and adapt teaching.
- White Rose end-of-unit assessments to identify topic-specific gaps.
- NTS Mathematics assessments three times a year to review attainment and progress over time.
- Classroom discussion, explanations and recorded work to check understanding during learning.

Teachers use this evidence to plan recap, additional support and deeper practice. The My NTS Targets sheet provides space to record next steps and actions after each of the three assessment points. Pupils use reasoning self-assessment and reflection tools to explain their progress and identify questions they still have.

6. Homework

Homework consolidates learning through chilli-differentiated Maths booklets and IXL practice. Tasks range from supported consolidation to independent application and deeper reasoning. Teachers select suitable tasks in response to current understanding. Termly overviews offer practical home activities; Year 2 guidance also recommends short, regular TT Rockstars practice for times-table fluency.

IXL's diagnostic tool identifies strengths and areas for development and informs a personalised action plan of recommended skills. Pupils complete diagnostic questions independently so results reflect their own understanding. Practice supports the next steps identified by the diagnostic and classroom assessment.

Families are encouraged to support regular practice, ask children to explain their methods and communicate difficulties to the class teacher. Homework frequency and time expectations follow the school's agreed homework arrangements.

7. Responsibilities and review

Class teachers plan for progression, use assessment to respond to gaps and model consistent calculation language and representations. The Maths Lead supports consistency through planning review, discussion of assessment evidence and samples of pupils' work. Primary leadership reviews the policy with the Maths Lead as curriculum arrangements develop.

Supporting documents

Year-group skills frameworks and termly curriculum overviews; target ladders; bilingual vocabulary and sentence stems; higher-order thinking and questioning tools; reasoning reflection guides; My NTS Targets sheet; chilli-differentiated homework examples.

Before approval: complete the termly overview set; confirm Year 5 allocation within the combined Year 5/6 framework, final chilli terminology and homework arrangements.

Calculation: methods and progression

8. Shared principles

Teach understanding alongside fluency. Connect each written method to place value and familiar models. Use the equals sign to mean “the same value”, and teach the relationship between inverse operations. Explain exchanging in terms of place value; when multiplying or dividing by 10, 100 or 1,000, explain how digit values change rather than relying on “add a zero”.

Pupils choose mental methods where efficient, estimate when appropriate and check answers using inverse operations or another representation. Written work should show clear alignment of place-value columns. Introduce more formal methods when pupils can explain the underlying relationships; retain models to address misconceptions.

Year	Addition and subtraction	Multiplication and division
1	Objects, drawings, part–whole models and number lines. Number bonds and related facts within 20; one-step and missing-number problems.	Equal groups, arrays and sharing/grouping with objects and pictures; teacher-supported one-step problems.
2	Tens/ones representations and number lines support mental and emerging written methods with two-digit numbers. Use inverse relationships to check.	Arrays, repeated addition and grouping/sharing. Recall 2, 5 and 10 table facts and related division facts.
3	Mental strategies and column addition/subtraction up to three digits, linked to place value and exchanging. Estimate and check with inverse operations.	Recall 3, 4 and 8 tables. Develop two-digit × one-digit calculations from models and mental strategies towards formal recording.
4	Column addition/subtraction up to four digits where appropriate. Solve two-step problems and justify method choices.	Recall facts to 12 × 12; use factor pairs and derived facts. Formal two-/three-digit × one-digit multiplication, linked to models.
5	Extend mental and formal written calculation with larger whole numbers and decimals, aligning place values. Apply methods to multi-step problems.	Develop efficient written multiplication and division, including remainders, and scaling by 10, 100 and 1,000. Confirm exact method scope against the Year 5 sequence.

Fractions and decimals

Use equal parts of shapes and quantities in Year 1; develop thirds, quarters and equivalence in Year 2. In Year 3, use diagrams and number lines for equivalent fractions, quantities and same-denominator addition/subtraction. Year 4 extends equivalence and connects fractions with decimal tenths and hundredths. Confirm Year 5 methods against year-specific planning.

Termly overviews and detailed modelled calculation examples accompany this concise progression policy.