

MATHEMATICS · WHOLE SCHOOL

# Calculation Policy: Addition & Subtraction

Y1-Y6 written methods progression

## Why this matters

A coherent calculation policy is the difference between children who can compute reliably by Y6 and children who reach Y6 with a confused mix of half-remembered methods. The progression below is aligned to the UK National Curriculum 2014 and to the most-widely used mastery approaches. USE THIS DOCUMENT to: • Audit your current calculation policy. Are there gaps? Repetition? • Brief new staff joining your school. • Compare across year groups in staff meetings. • Send a simplified version home to parents so they understand the methods. WHAT'S NOT IN THIS DOCUMENT: detailed progression for fluency facts (number bonds, times tables) — those need their own policy. This focuses purely on WRITTEN METHODS for addition and subtraction.

## Y1 — Foundations

Concept	Methods used
Add and subtract within 20	Counters, ten-frames, fingers, Numicon. Children physically move objects.
Number bonds to 10 and 20	Visual: ten-frame; abstract: $5+5=10$ , $6+4=10$ ...
Counting on / back	On a number line, fingers, beadstring.
Recording	Pictures, tally marks, then the formal abstract: $7+5=12$ , $12-5=7$ .



**Y1 — Worked example**


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**Y2 — Building number sense**

Concept	Methods used
Add and subtract within 100	Partitioning into tens and ones. Empty number line. Base-10 blocks.
2-digit + 1-digit	Partition: $34 + 7 = 30 + 4 + 7 = 30 + 11 = 41$
2-digit + 2-digit	Partition both: $23 + 14 = (20+10) + (3+4) = 30 + 7 = 37$
Subtraction	Counting back; finding the difference; partitioning.
Recording	Empty number line for jumping. Partitioned written form.

**Y2 — Worked example**


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**Y3 — Introducing column methods**

Concept	Methods used
Add and subtract within 1,000	Column addition (no regrouping → with regrouping).
3-digit numbers	Column method introduced. Partitioning still encouraged for mental approach.
Subtraction with regrouping	Column subtraction with 'borrowing' / 'exchanging'.
Estimation	Round and check: is my answer reasonable?
Recording	Vertical column method becomes standard. Place value clearly aligned.

### Y3 — Worked example

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### Y4 — Securing the column method

Concept	Methods used
Add and subtract numbers up to 4 digits	Column method, fluent.
Multi-step word problems	Identify the calculations needed; calculate in steps; check.
Inverse operations	Use addition to check subtraction and vice versa.
Mental strategies alongside written	Round-and-adjust; partitioning; near doubles.



**Y4 — Worked example**


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**Y5 — Extending to larger and decimal numbers**

Concept	Methods used
Add/subtract whole numbers >4 digits	Column method extended.
Add/subtract decimals	Same column method. Critical: align the decimal points.
Mixed amounts of decimal places	Pad with zeros: $3.7 + 2.45 \rightarrow 3.70 + 2.45$
Multi-step problems including money and measure	Solve with decimal place value.

**Y5 — Worked example**


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**Y6 — Mastery and application**

Concept	Methods used
Solve multi-step problems with all four operations	Choose appropriate methods; estimate; check.
Negative numbers	Add and subtract through zero (e.g. $5 - 8 = -3$ ).



Concept	Methods used
Mental and written methods choice	Pupil decides: when does mental work? when do I need to write it down?
Algebraic thinking	Find missing values: $35 + \blacksquare = 100$
Convert between units	Add/subtract amounts in different units (e.g. 1.4 km + 600 m).

## Y6 — Worked example

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## Vocabulary by year group

Year	Vocabulary expected
Y1	add, plus, more, total, take away, less, minus, equal, sum
Y2	tens, ones, partition, calculate, difference, inverse, exchange
Y3	regroup, carry, exchange, column method, estimate, round
Y4	round to nearest 10/100/1000, inverse operation, multi-step
Y5	decimal point, tenths, hundredths, place value, padding
Y6	negative number, integer, BIDMAS/order of operations



**Common misconceptions and how to address them**

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**Implementation checklist**

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