



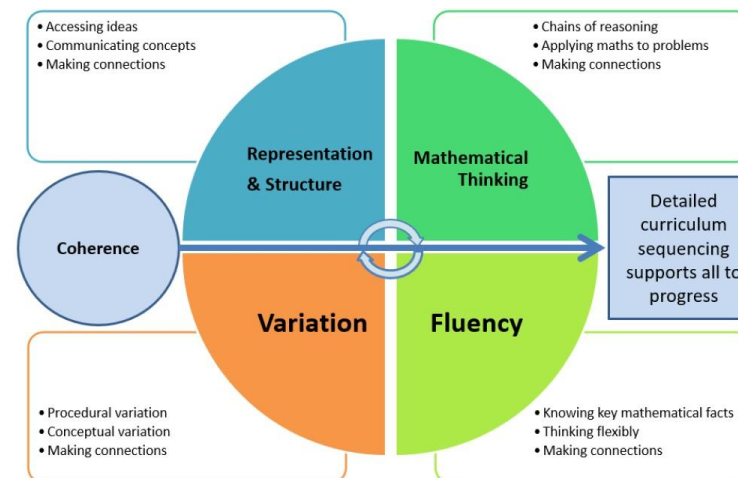
Devonshire Primary Academy
Year 3 Mathematics Long Term Plan 2026-
2027



The Five Big Ideas of Teaching for Mastery

Coherence - small connected steps build deep understanding.
Representation and Structure - manipulatives and images expose the maths.
Mathematical Thinking - pupils explain, reason and justify.
Fluency - secure recall and flexible, efficient strategies.
Variation - careful examples draw attention to key concepts.

Teaching for Mastery



Shape Thread Through Year 3

Shape is developed through right angles, fractions of shapes, parallel and perpendicular sides, polygons and time. Pupils revisit geometry through representations, turns, measures and classification rather than as a single isolated block.

Mapping: U3 right angles; U8-U9 fractions of shapes and number lines; U10 parallel and perpendicular sides in polygons; U11 clock turns and time.

Fluency Thread Through Year 3

Fluency is developed through mental calculation, secure place value to 1,000, column methods, 2, 4 and 8 times-table facts, and repeated practice with unit and non-unit fractions.

Mapping: U1 bridging 10; U2 place value/counting; U4 mental calculation; U5 and U7 written methods; U6 times tables; U8-U9 fractions; U11 time facts.

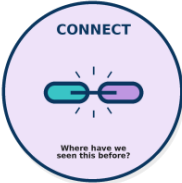
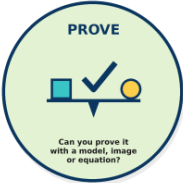
Year 3 disciplinary knowledge and reasoning

These six recurring statements describe how pupils work mathematically. Revisit them in every unit. The selected buttons identify explicit teaching opportunities; other reasoning processes remain available throughout each lesson.

Build on KS1 by explaining connections, deriving facts, comparing efficiency and checking problems with more than one step.

ing process	Year group statement
ent	I can link representations and explain what they show.
patterns and connect	I can identify patterns and use relationships to find new facts.
and justify	I can use mathematical vocabulary to explain my reasoning and justify it with examples.
efficient strategies	I can compare strategies and choose an efficient approach.
nd solve problems	I can use known facts to solve problems with more than one step.
nd refine	I can check whether my solution is reasonable and improve it.

Existing year group buttons

 Connect this idea to previous learning and related facts.	 Justify a claim using a model, known facts or an argument.	 Explore what changes when a condition changes.	 Check accuracy and whether the answer makes sense.
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Teach the processes through modelling, dialogue and supported practice. Pupils may explain through speech, actions, objects, drawings or communication aids. Encourage perseverance and a willingness to revise an approach.

Autumn Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Autumn 1 Unit 1 - Adding and subtracting across 10	Use strategies for adding and subtracting across 10 accurately.	Numbers can be partitioned to bridge 10. Known bonds support efficient mental calculation across a boundary.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT add and subtract across 10 using efficient strategies.	Small steps: revisit bonds to 10; bridge through 10; count on/back; use missing numbers; explain strategy choices. NCETM Link Oak 1 Teaching Guide	Y2 calculations within 20; number bonds; bridging 10.	Resilience, accuracy and sharing strategies respectfully.

Recurring disciplinary statements

I can link representations and explain what they show.

I can identify patterns and use relationships to find new facts.

I can use mathematical vocabulary to explain my reasoning and justify it with examples.

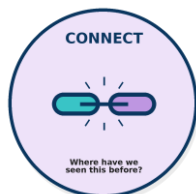
I can compare strategies and choose an efficient approach.

I can use known facts to solve problems with more than one step.

I can check whether my solution is reasonable and improve it.

Vocab	Minuend, subtrahend, bridge 10, addend, difference, inverse.
Previous Knowledge Needed	Y2 addition and subtraction facts to 20 and efficient strategies within 20.

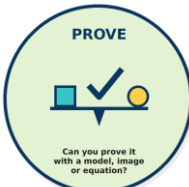
Explicit reasoning buttons and unit prompts

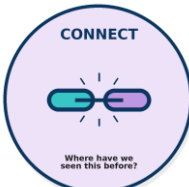
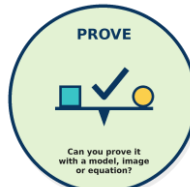


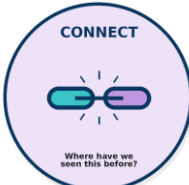
CONNECT Which number bond helps you bridge 10?



CHECK Use the inverse to check and explain any correction.

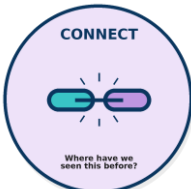
Spring Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Spring 1 Unit 3 - Right angles	Recognise right angles as a property of shape and turn.	An angle is created by a turn around a fixed point. Right angles can be identified, compared and used to describe shapes and turns.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT identify and compare right angles.	Small steps: make turns; identify right angles; compare angles; find right angles in shapes and the environment. NCETM Link Oak 7 No teaching guide	Y2 quarter, half and three-quarter turns; shape vocabulary.	Curiosity, precision and respectful discussion.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Angle, fixed point, right angle, property, diagonal, at a point.						
Previous Knowledge Needed	Y2 position and direction, turns and properties of 2-D and 3-D shapes.						
Explicit reasoning buttons and unit prompts  PROVE Explain why an angle is greater than, less than or equal to a right angle.  CHALLENGE If the shape is rotated, does its right angle change? Explain.							

Spring Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Spring 1 Unit 4 - Manipulating the additive relationship and securing mental calculation	Use additive relationships to rearrange, adjust and calculate mentally.	Addition and subtraction are connected. Numbers can be adjusted, redistributed and rearranged to make calculations more efficient.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT use additive relationships to calculate mentally.	Small steps: adjust numbers; redistribute; use compensation; rearrange equations; compare efficient methods. NCETM Link Oak 8 , Oak 9 Teaching Guide	Place value to 1,000; bonds to 100; bridging strategies.	Independence, perseverance and explaining reasoning clearly.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Adjust, redistribute, rearrange, reorder, equation, equivalent.						
Previous Knowledge Needed	Y2 inverse relationships and addition/subtraction of two-digit numbers.						
Explicit reasoning buttons and unit prompts  CONNECT How does a known additive relationship simplify this calculation?  PROVE Show why your adjusted calculation has the same result.							

Spring Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Spring 2 Unit 5 - Column addition	Add numbers with up to three digits using column addition where appropriate.	Column addition aligns place value. Exchanging/regrouping supports accurate addition when totals cross 10 or 100.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT use column addition accurately.	Small steps: align place value; add without exchange; add with exchange; estimate and check answers. NCETM Link Oak 10 Teaching Guide	Mental addition; place value to 1,000; complements to 100.	Accuracy, self-checking and responsibility for improvement.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Column, exchange, regroup, total, estimate, inverse.						
Previous Knowledge Needed	Y2 two-digit addition using concrete, pictorial and mental methods.						
Explicit reasoning buttons and unit prompts  CONNECT Connect the written exchange to what happens to the place values.  CHECK Estimate or use subtraction to check a column addition.							

Spring Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Spring 2 Unit 6 - 2, 4, 8 times tables	Recall and use multiplication and division facts for the 2, 4 and 8 times tables.	The 4 and 8 times tables are connected through doubling. Arrays and equal groups show multiplication and division relationships.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT use the 2, 4 and 8 times tables.	Small steps: count in 2s, 4s and 8s; build arrays; use doubling; derive division facts; solve scaling problems. NCETM Link Oak 11 Teaching Guide	Y2 2, 5 and 10 times tables; equal groups and arrays.	Fluency, teamwork and celebrating improvement.

Vocab	Adjacent, scaling, array, multiple, product, factor.
Previous Knowledge Needed	Y2 multiplication and division facts for 2, 5 and 10.

Spring Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Spring 2 Unit 7 - Column subtraction	Subtract numbers with up to three digits using column subtraction where appropriate.	Column subtraction aligns place value. Exchanging/regrouping supports accurate subtraction across tens and hundreds.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT use column subtraction accurately.	Small steps: subtract without exchange; exchange from tens/hundreds; solve missing numbers; check using inverse. NCETM Link Oak 12 Teaching Guide	Mental subtraction; place value to 1,000; complements to 100.	Perseverance, accuracy and learning from errors.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Column subtraction, exchange, regroup, mental strategy, difference.						
Previous Knowledge Needed	Y2 subtraction of two-digit numbers and inverse checking.						
Explicit reasoning buttons and unit prompts  CONNECT Connect each exchange to an equivalent way of partitioning the number.  CHECK Use addition to check the difference.							

Summer Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Summer 1/2 Unit 9 - Non-unit fractions	Recognise, represent and work with non-unit fractions with small denominators.	A non-unit fraction has more than one equal part. Fractions can be placed on number lines and used to solve problems.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT understand and use non-unit fractions.	Small steps: build non-unit fractions; compare fractions; count in fractions; solve fraction problems. NCETM Link Oak 17 , Oak 18 Teaching Guide 1 , Teaching Guide 2	Unit fractions; division facts; equal sharing.	Confidence, fairness and reasoning with evidence.

Recurring disciplinary statements

I can link representations and explain what they show.

I can identify patterns and use relationships to find new facts.

I can use mathematical vocabulary to explain my reasoning and justify it with examples.

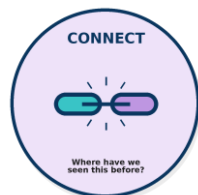
I can compare strategies and choose an efficient approach.

I can use known facts to solve problems with more than one step.

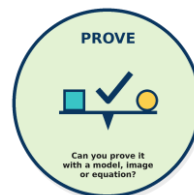
I can check whether my solution is reasonable and improve it.

Vocab	Non-unit fraction, proper fraction, generalisation, additive, substitute.
Previous Knowledge Needed	Unit fractions and Y2 fractions of shapes, sets and quantities.

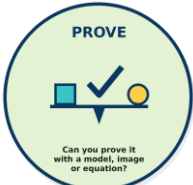
Explicit reasoning buttons and unit prompts

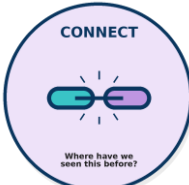


CONNECT Connect repeated unit fractions to a non-unit fraction.



PROVE Show why two fraction representations have the same value.

Summer Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Summer 2 Unit 10 - Parallel and perpendicular sides in polygons	Identify and describe parallel and perpendicular sides in polygons.	Polygons can be classified using their side properties, including parallel and perpendicular sides.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT identify parallel and perpendicular sides.	Small steps: identify lines; sort polygons; find parallel sides; find perpendicular sides; justify classifications. NCETM Link Oak 19 No teaching guide	Right angles; 2-D shape properties; vocabulary of sides and vertices.	Curiosity, accuracy and respectful mathematical talk.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Parallel, isometric, perpendicular, compound, polygon.						
Previous Knowledge Needed	Y2 shape properties and Year 3 right angles.						
Explicit reasoning buttons and unit prompts  PROVE Justify a classification using parallel or perpendicular sides.  CHALLENGE If a polygon is turned, do these side relationships change?							

Summer Term							
Threshold Concept	Endpoint (taken from skeleton document)	Substantive Knowledge	Disciplinary Knowledge	WALT	Suggested Activity/small Steps	Retrieval	SMSC and BV
Summer 2 Unit 11 - Time	Tell and write the time from analogue clocks and compare durations.	Time can be read accurately using hours, minutes and seconds. Durations can be compared and calculated.	Represent Notice and connect Explain and justify Select strategies Apply Check and refine Year group statements below.	WALT tell, record and compare time.	Small steps: read analogue time; use minutes past/to; compare durations; solve time problems. NCETM Link Oak 20 No teaching guide	Y2 time to 5 minutes and number of minutes in an hour.	Responsibility, organisation and real-life problem solving.
Recurring disciplinary statements I can link representations and explain what they show. I can identify patterns and use relationships to find new facts. I can use mathematical vocabulary to explain my reasoning and justify it with examples. I can compare strategies and choose an efficient approach. I can use known facts to solve problems with more than one step. I can check whether my solution is reasonable and improve it.							
Vocab	Minutes past/to, quarter past/to, interval, Roman numerals.						
Previous Knowledge Needed	Y2 quarter past/to, intervals of time, minutes in an hour and hours in a day.						
Explicit reasoning buttons and unit prompts  CONNECT Connect clock times to a timeline for the same interval.  CHECK Use the start time and duration to check the finishing time.							

Appendix: Progression Document Coverage Grid

Included with the Year 3 Mathematics Long Term Plan as a whole-school coverage check

Key: ✓ = explicit coverage in the strengthened LTPs; T = threaded/revisited through retrieval, fluency or reasoning; — = not statutory or not age-appropriate for that year.

Progression document endpoint / strand	Y1	Y2	Y3	Y4	Y5	Y6	Coverage note in strengthened LTPs
Number: Counting	✓	✓	✓	✓	✓	✓	Counting develops from 0-100 to 10,000,000, negative numbers and powers of 10.
Number: Representing	✓	✓	✓	✓	✓	✓	Concrete, pictorial and abstract representations, place value charts, number lines and measures.
Number: Comparing	✓	✓	✓	✓	✓	✓	Compare/order from quantities and two-digit numbers through to large numbers and decimals.
Number: Place value	✓	✓	✓	✓	✓	✓	Y1 early PV; Y2 tens/ones; Y3 1,000; Y4 10,000; Y5 1,000,000; Y6 10,000,000.
Number: Solving problems	✓	✓	✓	✓	✓	✓	Problem solving built into unit small steps, retrieval and reasoning expectations.
Add/Subtract: Complexity	✓	✓	✓	✓	✓	✓	From one-step practical problems to multi-step whole number and decimal problems.
Add/Subtract: Methods	✓	✓	✓	✓	✓	✓	Mental strategies, bridging, bar models, column methods and efficient written strategies.
Add/Subtract: Checking	✓	✓	✓	✓	✓	✓	Use of inverse operations, estimation, comparison and justification appears across the sequence.
Add/Subtract: Using number facts	✓	✓	✓	✓	✓	✓	Number bonds, facts within 20, complements, derived facts, efficient mental fluency.
Multiply/Divide: Complexity	T	✓	✓	✓	✓	✓	Y1 grouping/sharing threaded; Y2 onwards explicit arrays, equal groups, scaling and contexts.
Multiply/Divide: Methods	T	✓	✓	✓	✓	✓	Arrays, grouping, partitioning, written methods, short/long multiplication and division.
Multiply/Divide: Checking	T	T	✓	✓	✓	✓	Reasonableness, inverse relationships, remainders and strategy choice strengthened in KS2.
Multiply/Divide: Facts	T	✓	✓	✓	✓	✓	2, 5, 10 facts; 3, 4, 8; 6, 7, 9, 11, 12; then factors, multiples and primes.
Fractions: Counting in fractional steps	T	✓	✓	✓	✓	✓	Starts through equal parts and is developed through fractions on number lines and sequences.
Fractions: Recognising fractions	✓	✓	✓	✓	✓	✓	Halves/quarters secured, then unit/non-unit fractions, mixed numbers and improper fractions.
Fractions: Decimals	—	—	T	✓	✓	✓	Prepared through fractions; explicit decimals from Y4 and deepened in Y5/Y6.
Fractions: Equivalence	T	✓	✓	✓	✓	✓	Equal parts, fractions of shapes, equivalent fractions, decimals and percentages.
Fractions: Addition and subtraction	—	T	T	✓	✓	✓	Early composition prepares for explicit fraction calculation in UKS2.
Fractions: Multiplication/division of decimals	—	—	—	T	✓	✓	Decimal place value and scaling lead into multiplying/dividing decimals in Y5/Y6.
Fractions: Problem solving	✓	✓	✓	✓	✓	✓	Reasoning and application through sharing, measures, percentages, ratio and proportion.

Progression document endpoint / strand	Y1	Y2	Y3	Y4	Y5	Y6	Coverage note in strengthened LTPs
Shape: Identifying shapes/properties	✓	✓	✓	✓	✓	✓	Shape threaded and explicitly taught across all year groups at increasing depth.
Shape: Drawing and constructing	T	T	✓	✓	✓	✓	From practical construction to accurate drawing, composition/decomposition and coordinates.
Shape: Comparing and classifying	✓	✓	✓	✓	✓	✓	Sorting/comparing shapes progresses into classifying polygons, angles and 3-D properties.
Shape: Angles	T	T	✓	✓	✓	✓	Turns in KS1 prepare for right angles, angle comparison, measuring and reasoning.
Position, direction and movement	✓	✓	✓	✓	✓	✓	Position/turns in KS1 progress into coordinates, translation/reflection and grids.
Measures	✓	✓	✓	✓	✓	✓	Length, mass, capacity, time, money, perimeter, area, volume and unit conversion covered.
Statistics: Interpret/construct/present data	T	✓	✓	✓	✓	✓	Y2 explicit statistics strengthened; KS2 develops charts, graphs, tables and pie charts.
Statistics: Solving problems	T	✓	✓	✓	✓	✓	Data handling used for comparison, interpretation, two-step questions and mean.
Algebra: Equations	T	T	T	T	T	✓	Missing-number work and generalisation build towards explicit Y6 algebra.
Algebra: Formulae	—	—	—	T	T	✓	Perimeter/area relationships prepare for explicit formulae and volume in Y6.
Algebra: Sequences	T	T	T	T	T	✓	Counting patterns, multiples and term-to-term thinking build towards Y6 sequences.
Mathematical behaviours	✓	✓	✓	✓	✓	✓	Reasoning, explaining, justifying, representing and problem solving are embedded throughout.

Sequencing Rationale

Curriculum decision	Why this strengthens the plan
KS1 fluency protected	Number composition, counting, number bonds, place value and additive structures are prioritised before rushing breadth.
Shape and measures threaded	Shape/measure content is not removed; it is revisited through manipulatives, part-whole models, money, time, position and practical contexts.
KS2 reasoning strengthened	Multiplicative reasoning, scaling, fractions, decimals, ratio, statistics and algebraic thinking receive more deliberate space.
Challenge through depth	More complex learners are stretched through reasoning, non-routine problem solving and justification rather than acceleration.
Statutory coverage protected	Content moved within a key stage remains covered by the end of the relevant key stage and is mapped in the grid above.

This appendix is designed to support subject leadership monitoring, SLT scrutiny and governor/Ofsted conversations about curriculum coverage, progression and intentional sequencing.