FOSTER'S PRIMARY SCHOOL

CALCULATION POLICY

Review Date 01/09/2027

Signed:

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This calculation policy is aligned with the National curriculum in England: mathematics programmes of study (DfE, 2014; updated 2021) and informed by Teaching mathematics in primary schools and Mathematics guidance: key stages 1 and 2 (DfE, 2020; updated 2021). It establishes a consistent and progressive approach to calculation across Foster's. Carefully selected manipulatives and representations expose mathematical structure and connections, while written methods develop from secure conceptual understanding towards efficient and fluent calculation.

Early learning in number and calculation in Nursery and Reception follows the current Statutory framework for the early years foundation stage (EYFS) for group and school-based providers and is informed by Development Matters (DfE, 2023), which is non-statutory curriculum guidance. The policy builds progressively on EYFS knowledge, skills and representations to secure continuity into Key Stage 1.

This document sits alongside and links directly to the *Shared and Progressive Mathematical Language* document, which has been developed to support the consistent use and progression of precise mathematical vocabulary across the school. Together, these documents aim to strengthen pupils' mathematical understanding, fluency, reasoning, and confidence when communicating mathematically. Opportunities for mathematical talk are embedded throughout teaching to support pupils in explaining their thinking, justifying methods, and articulating mathematical ideas using precise mathematical language.

The policy is organised into addition, subtraction, multiplication and division. Each section begins with a year-group progression overview. Opening statements summarise statutory expectations and related applications. White Rose Maths small steps support Foster's sequencing and exemplification but do not replace statutory curriculum entitlement. Foster's REPRESENT • REHEARSE • REASON approach defines how the mathematics is taught. Year-group summary boxes translate these principles into agreed expectations for representation, rehearsal, reasoning, language and method. Representations, sentence stems and questions support conceptual understanding, reasoning and purposeful mathematical discussion. Where skills are divided across a page, difficulty progresses from left to right. The same year-group implementation format is used across all four operations so that expectations for representation, rehearsal, reasoning, mathematical language, recording, checking and responsive teaching can be compared consistently.

Foster's approach to teaching calculation

The three teaching principles

REPRESENT Make the mathematics visible	REHEARSE Build accuracy and automaticity	REASON Explain, justify and solve
Select concrete resources, images, models, language and notation that expose mathematical structure and connections. Representations remain available in every year group and are used responsively whenever they reveal structure, support reasoning or address a misconception.	Provide purposeful, spaced and connected practice so pupils calculate accurately, recall key facts flexibly and choose efficient strategies. Automaticity means accurate, flexible and efficient recall, not speed alone.	Require pupils to explain relationships, justify method choices, solve contextual and non-routine problems, compare strategies, diagnose errors and generalise. Prompts such as "How do you see it?", "Which number is most efficient to start from?", "Why is the denominator unchanged?" and "How could you estimate first?" are REASON opportunities.

Adaptive teaching and inclusion

All pupils, including pupils with SEND, pupils learning English as an additional language and pupils with gaps in prior learning, are entitled to access ambitious mathematics. Teachers adapt teaching through careful choice of representation, small-step sequencing, explicit language, targeted rehearsal, questioning and scaffolding. Manipulatives and images are not reserved for younger pupils or those working below age-related expectations; they remain available whenever they expose structure or remove a barrier. Adaptation supports pupils to work towards shared mathematical goals without reducing the depth of the mathematics.

Foster's implementation tools

Daily arithmetic practice, entry Tickets, connection knowledge, live-response information, books and digital platforms such as Magma are implementation tools. They help teachers identify readiness, make connections, select representations and plan responsive teaching. They do not replace professional judgement, high-quality instruction or statutory curriculum entitlement.

Progression in REASON

Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Notice, act out, describe and compare mathematical situations.	Connect objects and images to equations and known facts; explain simple choices and solve contextual and missing-number problems.	Explain exchanges, compare strategies, diagnose errors and justify efficient methods.	Select efficient methods, generalise, diagnose errors and justify conclusions using appropriate mathematical evidence.

Progression of Skills Overview- Addition

Year Group	Skills
Nursery	• Subitise to 3 • Count how many • Make numbers to 5 • Add 1 more (through songs and rhymes)
Reception	• Conceptually subitise to 5 • Find 1 more • Explore the composition of numbers within 10 • Combine 2 groups • Add more
Year 1	• Add together • Add more • Secure bonds within 10 • Related facts within 20 • Missing-number problems
Year 2	• Add 1s to any number (related facts) • Add three 1-digit numbers • Add across a 10 • Add multiples of 10 • Add 10s to any number • Add two 2-digit numbers (without exchange) • Add two 2-digit numbers (with exchange) • Missing-number problems
Year 3	• Add 1s, 10s and 100s to a 3-digit number • Add numbers with up to 3 digits (without exchange) • Add numbers with exchange across 10 or 100 • Complements to 100 • Add fractions with the same denominator within 1 whole • Calculate the duration of events
Year 4	• Add 1s, 10s, 100s and 1,000s to a 4-digit number • Add numbers with up to 4 digits using column addition where appropriate • Add decimal numbers in the context of money • Add fractions and mixed numbers with the same denominator beyond 1 whole
Year 5	• Add using mental strategies • Add whole numbers with more than 4 digits • Add decimals with up to 2 decimal places • Complements to 1 • Add fractions with related denominators (one denominator is a multiple of the other)
Year 6	• Add integers up to 10 million • Add decimals with up to 3 decimal places • Order of operations • Intervals across zero • Add fractions with different denominators and mixed numbers

<table>
<tr><td>Nursery</td><td colspan="2">• Develop a secure early understanding of numbers to 5 through subitising, counting, cardinality and composition.
• Focus on noticing and representing small quantities, perceptual subitising and counting.
• At Foster's, Nursery children develop early additive thinking by composing small quantities, combining groups and noticing one more through songs, routines and purposeful play.</td></tr>
<tr><td>Progression of Skills</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Subitise to 3

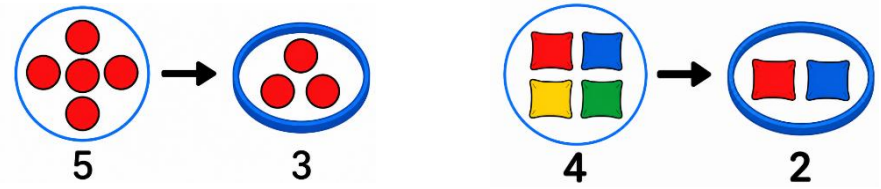
Perceptually subitise quantities up to 3 without counting.

REPRESENT • REHEARSE • REASON — Make the whole and its parts visible, revisit varied arrangements and explain how the quantity was seen.</td><td colspan="2">REHEARSE — How many do you see?

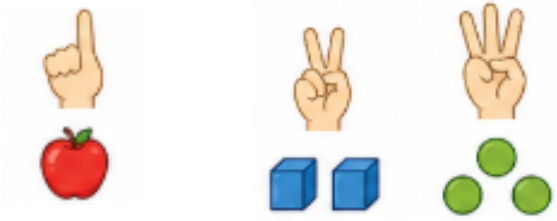
• I see…
• There are 1/2/3 _____.
• Point to the page with 1/2/3 _____.
• Show me 1/2/3 _____.</td></tr>
<tr><td>Count how many

Count objects using one-to-one correspondence, understanding that the final number said tells how many are in the set (the cardinal principle).

REPRESENT • REHEARSE — Keep one-to-one correspondence and cardinality visible while rehearsing the stable counting sequence.</td><td>REPRESENT — How many are there?

• There are ____.</td><td>REASON — Count out … from a larger group. E.g. Collect 3 beanbags for a game.

• I will count out ____.
• There are ____
• I will stop at ____</td></tr>
<tr><td>Make numbers to 5

Make numbers to 5 in different ways using fingers, objects and structured representations.

REPRESENT • REASON — Expose the part-whole structure and explain what changes and what remains invariant.</td><td>REPRESENT — Show me…
</td><td>REASON — Make the same number in different ways and notice how smaller parts compose the whole. Link each numeral to its quantity.

</td></tr>
<tr><td>Add 1 more</td><td colspan="2">REPRESENT • REHEARSE • REASON — Start with __.</td></tr>
</table>

Use stories, songs and rhymes to begin with a starting set, add one object and recognise that the new total is the next number in the counting sequence. **REPRESENT • REHEARSE • REASON —** Act out the change, rehearse precise one-more or one-less language and explain the new quantity.	Add one more. How many are there now? How do you know? 

REPRESENT • REHEARSE • REASON in Nursery at Foster's

REPRESENT — Make the mathematics visible: Begin with meaningful real objects, actions, stories and small collections. Keep each part and the combined whole visible through objects, fingers, dot cards and five frames.

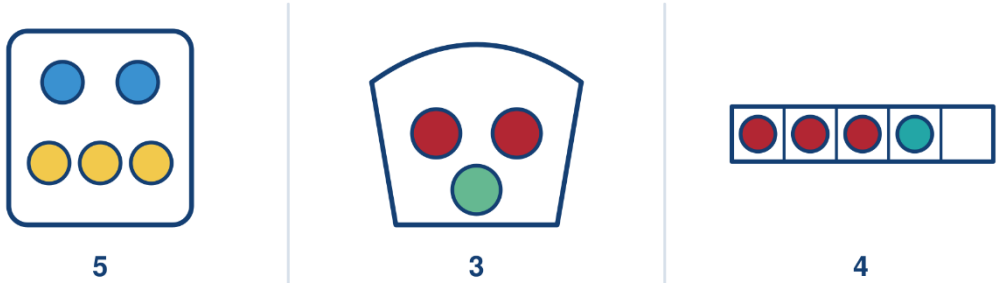
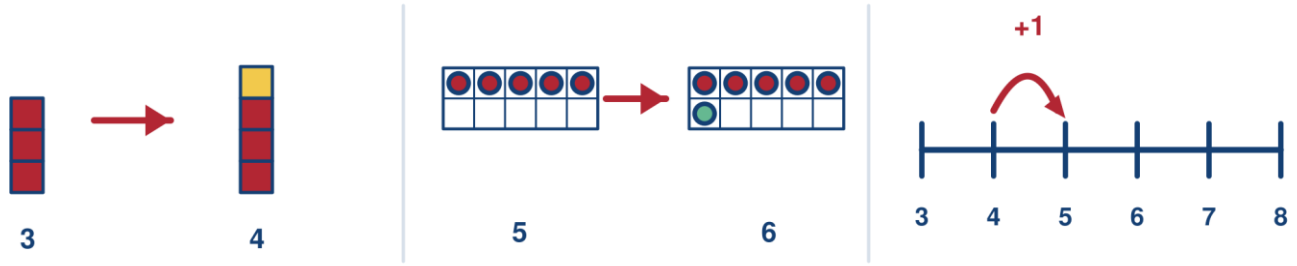
Progression in strategy: Move from noticing and composing small quantities to combining a group and finding one more. Formal addition notation is not expected.

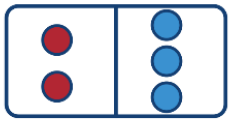
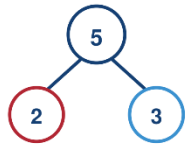
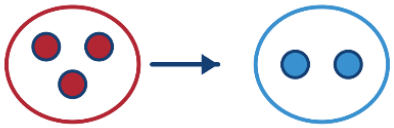
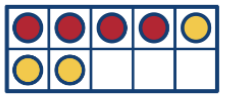
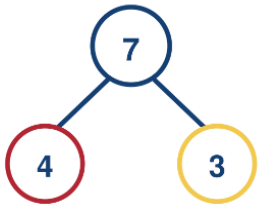
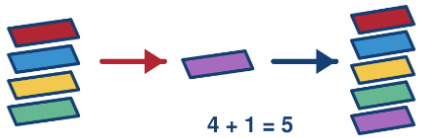
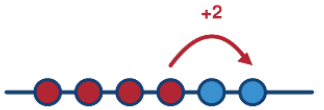
Mathematical language: Model add, more, altogether, total, part, whole, same and equal.

REHEARSE — Build accuracy and automaticity: Use short, playful opportunities to revisit subitising, counting, composition and one more in songs, routines and provision.

Recording, checking and responsive teaching: Use observation, questioning and children's actions to decide whether to revisit or vary a representation. Children may record through objects, movement, pictures or marks.

REASON — Explain, justify and solve: Children explain how a quantity was composed, what changed when one was added and how they know the new total.

Reception	• Have a deep understanding of numbers to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. **At Foster's, these end-of-Reception assessment expectations are developed through White Rose small steps, Numberblocks, daily number routines, purposeful play and responsive adult interaction.** **At Foster's, Reception children connect composition, combining and augmentation to part-whole representations, precise talk and secure number bonds.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**
Conceptually subitise to 5 Recognise a quantity as a whole composed of parts, without counting every object. **REPRESENT • REHEARSE • REASON** — Make the whole and its parts visible, revisit varied arrangements and explain how the quantity was seen.	**REHEARSE —** What do you see?  **REASON-** How did you see the whole and parts?
Find 1 more Adding one gives the next counting number; the total is one more than the starting quantity. **REPRESENT • REHEARSE • REASON** — Act out the change, rehearse precise one-more or one-less language and explain the new quantity.	**REHEARSE —** One more is… 

Explore the composition of numbers within 10 Make, break and remake numbers in different ways. **REPRESENT • REASON** — Expose the part-whole structure and explain what changes and what remains invariant.	**REPRESENT — How many…?** How many…? How many altogether?  3 + 2 = 5  2 + 3 = 5	**REASON — How many ways can you make…?**  2 + 3 = 5  5 2 3 Encourage children to prove the same number in more than one way and explain what remains the same.
Combine 2 groups (aggregation) Bring two quantities together to find the whole. **REPRESENT • REASON** — Connect the concrete action, the part-whole structure and the equation explicitly.	**REPRESENT — There are ….** There are …. altogether.  2 + 3 = 5  3 + 2 = 5	**REASON — Explain the whole:** …. and …. make ….  4 + 3 = 7  7 4 3 Say: There are __ and __. There are __ altogether. __ and __ make __.
Add more (augmentation) Increase a starting quantity and describe what changes. **REPRESENT • REASON** — Connect the concrete action, the part-whole structure and the equation explicitly.	**REPRESENT — First… Then…. Now….**  3 + 2 = 5  4 + 1 = 5	**REASON —** I have …. I add …. more. Now I have…  3 + 2 = 5  +2 4 + 2 = 6 Say: First there were __. Then __ more were added. Now there are __.

REPRESENT • REHEARSE • REASON in Reception at Foster's

REPRESENT — Make the mathematics visible: Begin with meaningful real objects and actions. Move to structured images and marks only when these reveal the same mathematical structure.

Resources: Keep counters, natural objects, fingers, dot cards, dice, five/ten frames, part-whole models and Numicon available within teaching and provision.

Mathematical talk: Adults model and revisit the words more, altogether, total, part, whole, equal and same.

REHEARSE — Build accuracy and automaticity: Use short, playful opportunities to revisit subitising, counting and number bonds until children recall them accurately and flexibly.

Responsive teaching: Use observation, questioning and children's explanations to decide whether to revisit, vary a representation or extend the idea.

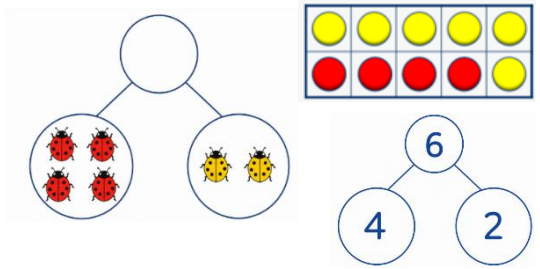
Recording: Children may represent thinking through objects, actions, pictures, marks or numerals. Formal written methods are not expected in Reception.

REASON — Explain, justify and solve: Children who are secure explain, compare and find different possibilities rather than simply moving to larger numbers.

<table>
<tr><td>Year 1</td><td colspan="3">• Read, write and interpret mathematical statements involving addition (+) and equals (=) signs.
• Represent and use number bonds and related subtraction facts within 20.
• Add one-digit and two-digit numbers to 20, including 0.
• Solve one-step problems involving addition, using concrete objects and pictorial representations, and solve missing-number problems such as 7 = ___ + 2.
At Foster's, pupils build from Reception part-whole understanding through White Rose small steps that connect concrete, pictorial and abstract representations, with frequent retrieval of number bonds.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add together (aggregation)

Combine two quantities to find the whole or total.

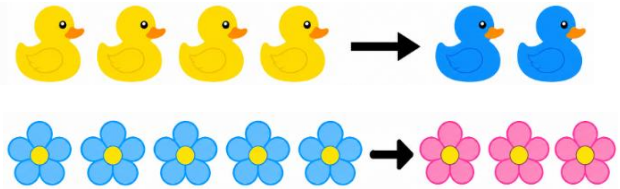
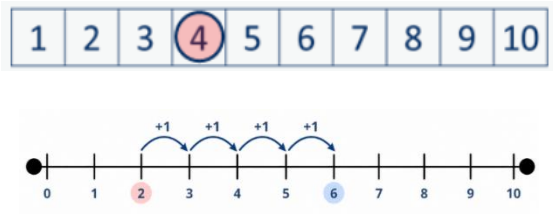
REPRESENT • REASON —
Connect the concrete action, the part-whole structure and the equation explicitly.</td><td>REPRESENT — Build and act it out
Use two groups of objects, counters, cubes or pupils.

There are __ and __.
There are __ altogether.</td><td>REASON — Reveal the structure
Use a part-whole model or two-colour ten frame.


__ is a part. __ is a part. __ is the whole.</td><td>REHEARSE — Record
__ plus __ is equal to __.
__ + __ = __ and __ = __ + __.

4 + 2 = 6
2 + 4 = 6
6 = 4 + 2
6 = 2 + 4</td></tr>
<tr><td>Add more (augmentation)

Increase a starting quantity and count on rather than recounting all.

REPRESENT • REASON —
Connect the concrete action, the part-whole structure and the equation explicitly.</td><td>REPRESENT — Tell a first-then-now story
Keep the starting quantity visible.

First __. Then __ more. Now __.</td><td>REHEARSE — Count on
Use a number track, bead string or number line.


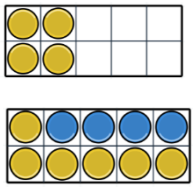
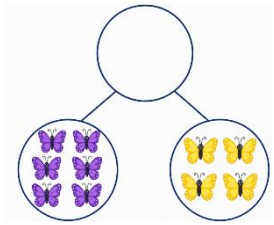
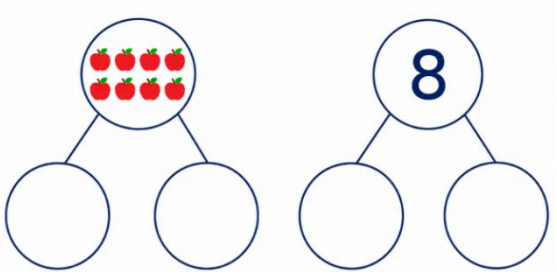
I start at __. I count on __. I land on __.</td><td>REHEARSE • REASON — Record
__ + __ = __ records the story.
Reorder addends to calculate efficiently.


4 + 2 = 6
2 + 4 = 6
6 = 4 + 2
6 = 2 + 4

Which number is most efficient to start from? Why?</td></tr>
</table>

<table>
<tr>
<td>Secure bonds within 10

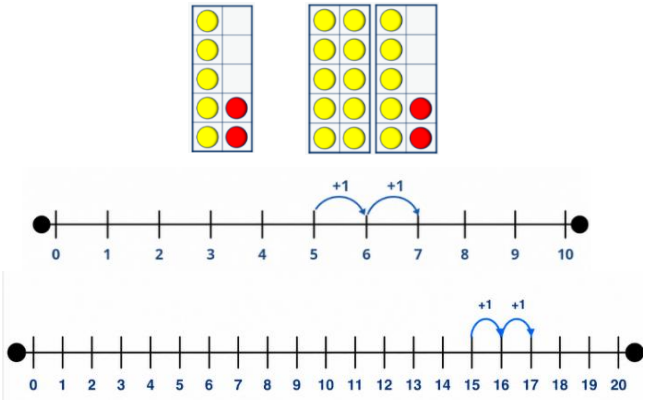
Systematically find, represent and recall all pairs for each number.
Include bonds for each number within 10
Encourage children to notice patterns.

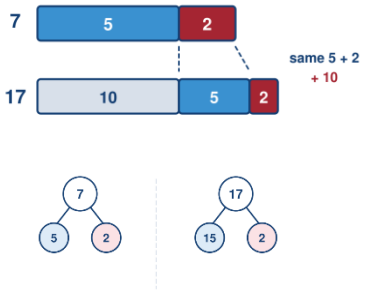
REPRESENT • REHEARSE • REASON — Connect known facts to the new calculation, rehearse flexibly and explain the relationship.</td>
<td>REPRESENT — Make and break apart
Use counters, fingers, two-colour ten frames and part-whole models.


__ is made of __ and __.</td>
<td>REHEARSE — Work systematically
Keep the whole fixed and change one part at a time.
… can be partitioned into … and …


What changes? What stays the same?</td>
<td>REHEARSE — Record the full set
Notice the commutative pairs and double.
… plus … is equal to …

6 + 0 = 6
5 + 1 = 6
4 + 2 = 6
3 + 3 = 6
2 + 4 = 6
1 + 5 = 6
0 + 6 = 6</td>
</tr>
<tr>
<td>Use related facts within 20

Use known bonds rather than returning to count-all strategies.

REPRESENT • REHEARSE • REASON — Connect known facts to the new calculation, rehearse flexibly and explain the relationship.</td>
<td>REPRESENT — Connect to a known bond
I know 5 + 2 = 7, so 15 + 2 = 17.


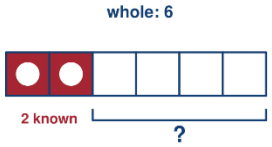
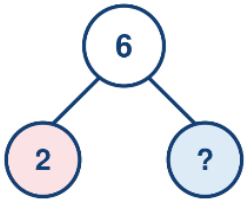
Use ten frames, bead strings or number lines to prove the link.</td>
<td>REASON — Compare
… more than … is …
so … more than … is


What is the same? What is different?
Which digits or quantities have changed?</td>
<td>REHEARSE — Record flexibly

5 + 2 = 7
15 + 2 = 17

7 = 5 + 2
17 = 15 + 2

REASON — What patterns do you notice?</td>
</tr>
</table>

Solve missing-number problems Use part-whole understanding and known facts to identify whether the unknown is a part or the whole. Make links to known facts. **REPRESENT • REASON —** Identify the role of the unknown, use the inverse and justify the completed equation.	**REPRESENT — Build the whole and known part** How many more are needed to make __?  Use counters, a part-whole model or a bar model.	**REASON —** If __ is the whole and __ is a part, the missing part is __.  Explain how you know without guessing.	**REASON — Record and check** 2 + __ = 6 ; __ = 2 + 4 6 = 2 + __  Check by recombining the two parts.

REPRESENT • REHEARSE • REASON in Year 1 at Foster's

REPRESENT — Make the mathematics visible: Pupils use objects, ten frames, bead strings, part-whole models, number tracks and number lines. Adults explicitly connect each representation to the same structure.

Progression in strategy: Move pupils from counting all to counting on and then to using known facts. Do not remove manipulatives according to a fixed timetable.

Mathematical language: Model add, plus, more, altogether, total, part, whole and equal to. Use 'equal to' to show that both sides have the same value.

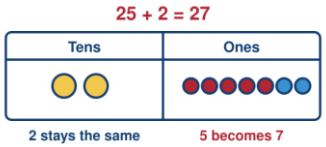
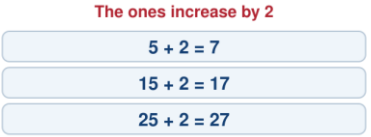
REHEARSE — Build accuracy and automaticity: Provide frequent, short retrieval of bonds within 10 and connected facts within 20. Retrieval should reveal and revisit patterns, not become isolated recall.

Recording and assessment: Pupils record equations in different orientations and show useful jottings. Teachers use observation, talk and live responses to identify whether a pupil is counting, counting on or using a known fact.

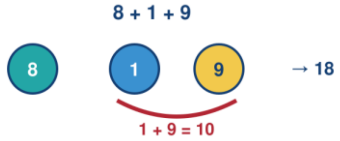
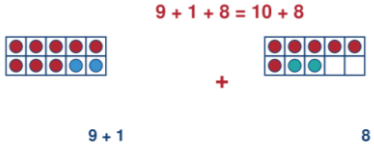
REASON — Explain, justify and solve: Secure pupils explain why a strategy works, compare methods, find all possibilities and solve missing-number problems rather than simply using larger numbers.

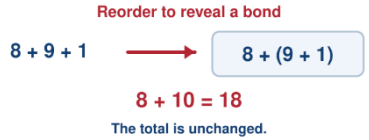
<table>
<tr><td>Year 2</td><td colspan="3">• Recall and use addition facts to 20 fluently, and derive and use related facts up to 100
• Add numbers using concrete objects, pictorial representations, and mentally,
including:
• a two-digit number and 1s
• a two-digit number and 10s
• 2 two-digit numbers
• adding 3 one-digit numbers
• Show that addition of two numbers can be done in any order (commutative).
• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
• Solve problems involving addition using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
At Foster's, Year 2 pupils connect secure facts within 20 to increasingly efficient mental and written strategies. White Rose small steps are used to make place-value structure, bridging through 10 and exchange explicit.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add ones using related facts
Use a known fact within 10 to add ones to any two-digit number.

REPRESENT • REHEARSE • REASON — Connect known facts to the new calculation, rehearse flexibly and explain the relationship.</td><td>REHEARSE — Recall and connect
I know 5 + 2 = 7, so 25 + 2 = 27.
Use ten frames or a bead string to prove the connection.

</td><td>REASON — Compare place value
What stays the same? Which digit changes?
The ones are increased by __.

</td><td>REASON — Generalise
5 + 2 = 7; 15 + 2 = 17; 25 + 2 = 27 ...
Continue the pattern and justify it.

</td></tr>
</table>

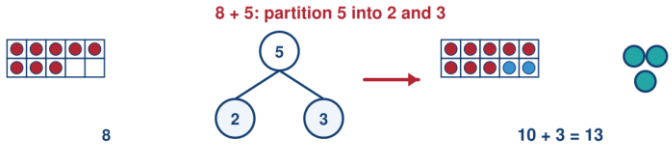
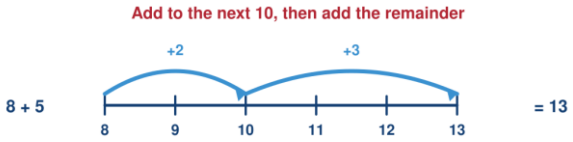
<table>
<tr>
<td>Add three 1-digit numbers
Reorder and regroup addends to use bonds to 10, doubles or near doubles.

REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td>
<td>REPRESENT — Choose a useful pair
Find a bond to 10, a double or a near double.
8 + 1 + 9 = 10 + 8 = 18.

</td>
<td>REPRESENT — Represent and regroup
Use counters, a ten frame or part-whole models.


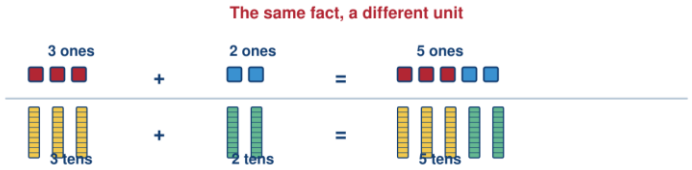
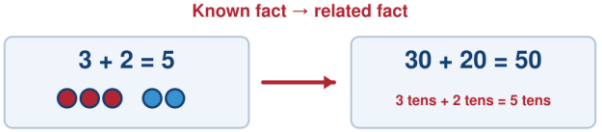
Reorder and regroup addends without changing the total.</td>
<td>REASON — Explain efficiency
Which two numbers would you combine first? Why?


Record the regrouped calculation.</td>
</tr>
<tr>
<td>Add across a 10

Partition the addend to complete the next multiple of 10 first.

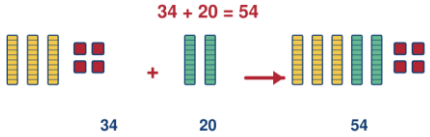
REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td>
<td colspan="2">REPRESENT — Make the next 10
Use a ten frame, bead string or number line.
Partition 5 into 2 and 3: 8 + 5 = 8 + 2 + 3.

</td>
<td>REASON — Record and explain
I add 2 to reach 10, then add the remaining 3.
8 + 5 = 13; 28 + 5 = 33.

</td>
</tr>
<tr>
<td>Add multiples of 10

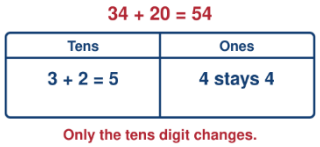
Unitise in tens and connect directly to a known fact within 10.

REPRESENT • REHEARSE • REASON — Use place value and known facts to select, apply and justify an efficient mental strategy.</td>
<td colspan="2">REPRESENT — Unitise in tens
3 ones + 2 ones = 5 ones, so 3 tens + 2 tens = 5 tens.
Use base-10 equipment or place-value counters.

</td>
<td>REHEARSE — Record the connection
3 + 2 = 5, so 30 + 20 = 50.
What is the same? What is different?

</td>
</tr>
</table>

<table>
<tr>
<td>Add tens to any number

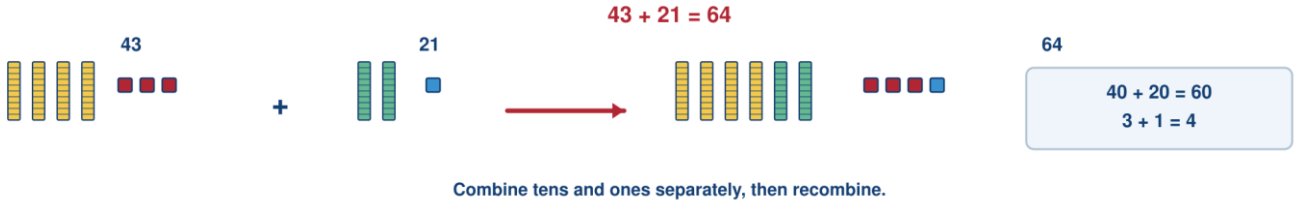
Increase the tens while recognising that the ones remain unchanged.

REPRESENT • REHEARSE • REASON — Use place value and known facts to select, apply and justify an efficient mental strategy.</td>
<td>REPRESENT — Build the number
Use base-10 equipment or place-value counters.
Add tens to the tens column; keep the ones unchanged.

</td>
<td>REHEARSE — Count in tens
Use a number line where helpful.
To add 30, add 10 three times.

</td>
<td>REHEARSE — Record
30 + 20 = 50, so 34 + 20 = 54.


REASON — Explain which digit changes and why.</td>
</tr>
<tr>
<td>Add two 2-digit numbers without exchange

Combine ones and tens separately before recombining the total.

REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td>
<td colspan="3">REPRESENT — Build, partition and recombine
Represent both numbers with base-10 equipment or place-value counters.
43 + 21 = 40 + 20 + 3 + 1 = 64.


Align tens and ones. Column recording supports place value; the compact algorithm is not the Year 2 endpoint.</td>
</tr>
</table>

Add two 2-digit numbers with exchange

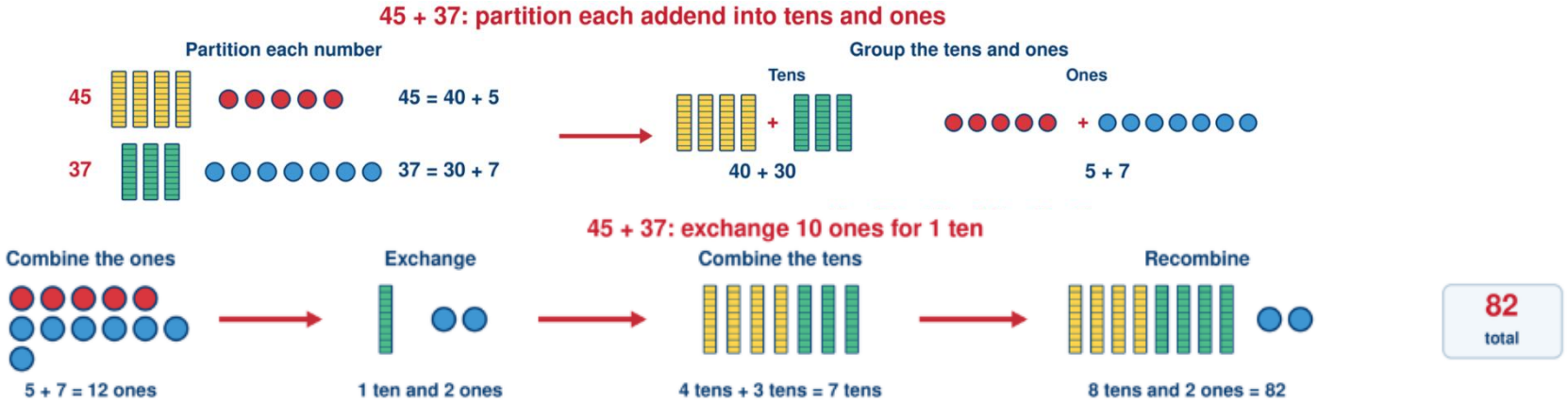
Exchange 10 ones for 1 ten, explain why the value is unchanged and connect this to aligned recording.

REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.

REPRESENT — Make the exchange explicit

Combine the ones first. Exchange 10 ones for 1 ten when necessary.

45 + 37: 5 ones + 7 ones = 12 ones = 1 ten and 2 ones.



Then combine the tens: 4 tens + 3 tens + 1 ten = 8 tens; the total is 82.

Solve missing-number problems

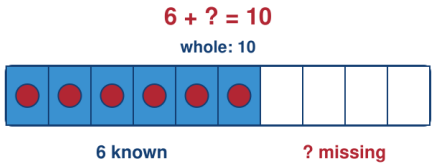
Use the inverse and part-whole structure to identify an unknown.

REPRESENT • REASON — Identify the role of the unknown, use the inverse and justify the completed equation.

REPRESENT — Represent

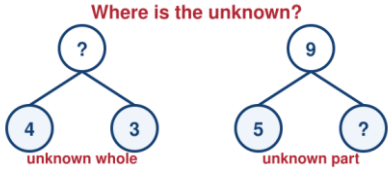
Use a part-whole model or bar model.

How many more are needed to make __?



REASON — Reason

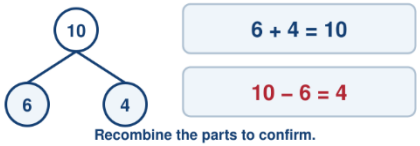
Identify whether the unknown is a part or the whole.



Explain rather than guess.

REASON — Use the inverse to check

6 + __ = 10; 10 - 6 = __.



Recombine the parts to confirm.

REPRESENT • REHEARSE • REASON in Year 2 at Foster's

REPRESENT — Make the mathematics visible: Use ten frames, bead strings, base-10 equipment, place-value counters, part-whole models, bar models and number lines. Explicitly connect each representation to the written calculation.

REHEARSE — Build accuracy and automaticity: Use purposeful retrieval of prior learning. Entry Ticket and live-response information should determine whether to proceed, revisit a connection or change the representation.

Connection Knowledge: Make the link from known facts to new calculations explicit: bonds within 10 support related facts, bridging through 10 and addition of multiples of 10.

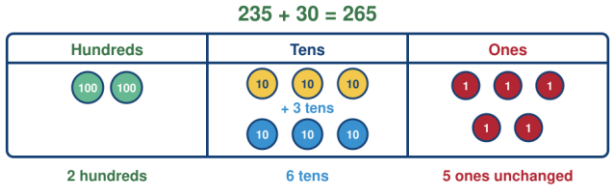
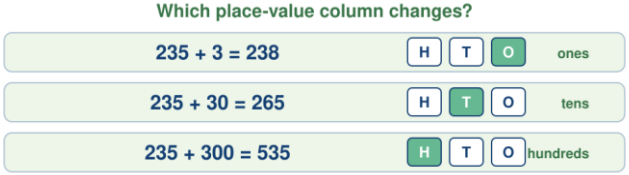
Language: Use add, sum, total, ones, tens, partition, regroup, exchange and equal to. Say 'exchange 10 ones for 1 ten', not 'carry the one'.

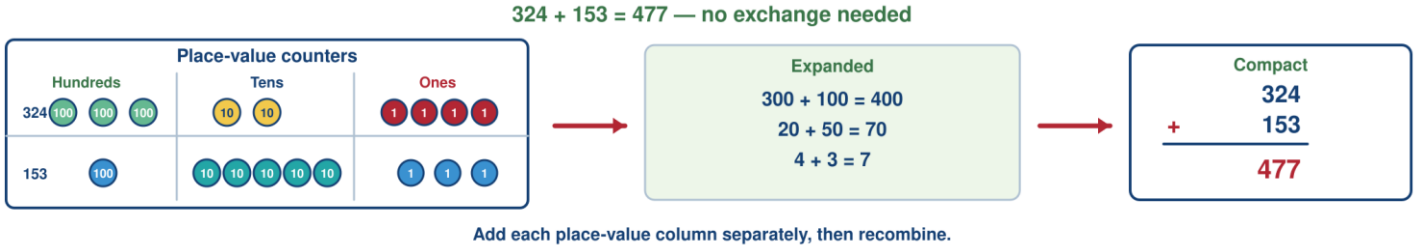
Recording: Pupils record sufficient working to reveal their thinking. Tens and ones must be aligned. Expanded recording remains until pupils can explain it and its connection to Year 3 column addition.

REASON — Explain, justify and solve: Secure pupils compare strategies, justify the most efficient approach, find errors and solve contextual and missing-number problems rather than simply moving to larger numbers.

<table>
<tr><td>Year 3</td><td colspan="2">• Add numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds.
• Add numbers with up to three digits, using formal written methods of columnar addition.
• Add fractions with the same denominator within 1 whole.
• Calculate the time taken by particular events or tasks.
• Estimate answers, use inverse operations to check and solve addition and missing-number problems using number facts and place value.
At Foster's, Year 3 marks the transition from expanded place-value recording to a secure formal written method. Pupils continue to select mental strategies when these are more efficient and must explain every exchange within column addition.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add 1s, 10s or 100s to a 3-digit number

Use place-value understanding and related facts to calculate mentally.

REPRESENT • REHEARSE • REASON —
Use place value and known facts to select, apply and justify an efficient mental strategy.</td><td>REPRESENT — Use place value
Build or draw the number using base-10 equipment, place-value counters or a place-value chart where needed.
The ones/tens/hundreds column increases by __.

</td><td>REASON — Generalise mentally
235 + 3; 235 + 30; 235 + 300.
Which digit changes? When would an exchange be needed?

</td></tr>
<tr><td>Add numbers with up to 3 digits without exchange
Connect expanded place-value recording to correctly aligned column addition.

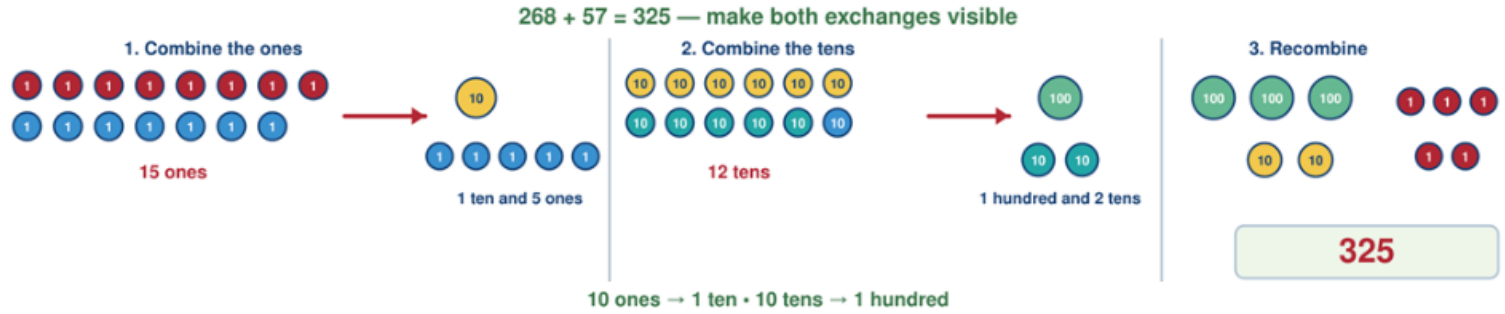
REPRESENT • REHEARSE • REASON —
Make each place-value change or exchange visible, record accurately and check reasonableness.</td><td colspan="2">REHEARSE — Move from expanded to compact
Represent with place-value counters, then record hundreds, tens and ones in aligned columns.
Begin with the ones (the least significant place). No exchange is required.
Estimate first and check using the inverse.

</td></tr>
</table>

Add across 10 or 100

Use the formal written method, including calculations requiring exchange in more than one place-value column and differently sized addends.

REPRESENT • REHEARSE • REASON —
Make each place-value change or exchange visible, record accurately and check reasonableness.

REPRESENT — Make every exchange visible
Combine the ones first; exchange 10 ones for 1 ten. Then combine the tens and exchange 10 tens for 1 hundred when needed.
Keep exchanged amounts clearly recorded in the correct place-value column.



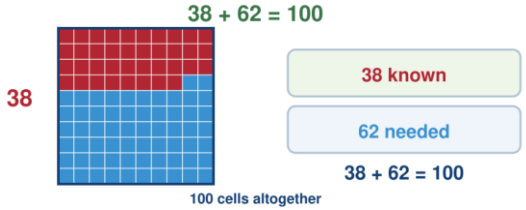
REASON- Pupils must explain the value of each digit, not recite a procedure.

Find complements to 100

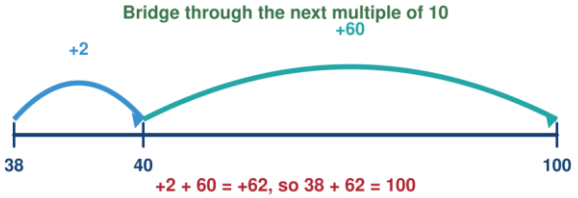
Use bonds and bridging through the next multiple of 10.

REPRESENT • REHEARSE • REASON —
Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.

REPRESENT — Use known facts
Pairs total 100: 38 + 62 = 100.
Use base-10 equipment, a hundred square or a number line where needed.



REASON — Bridge efficiently
Add to the next multiple of 10, then add to 100.
From 38: +2 to 40, then +60 to 100; total +62.



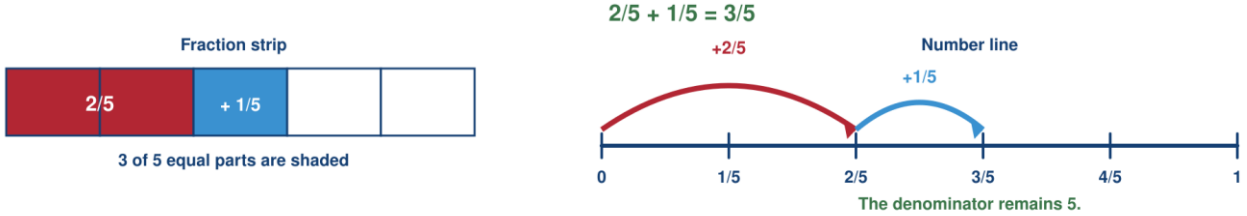
Add fractions with the same denominator within 1

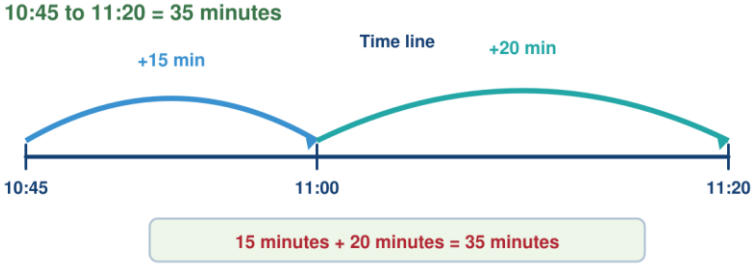
Combine equal parts while the size of each part remains unchanged.

REPRESENT • REHEARSE • REASON —
Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.

REPRESENT • REASON — Represent equal parts and explain the invariant
Use fraction strips, a bar model or a number line.
2 fifths + 1 fifth = 3 fifths; $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

The denominator stays the same because the size of each equal part is unchanged.



Calculate the duration of events Find elapsed time by bridging through an hour and using complements to 60. **REPRESENT • REHEARSE • REASON —** Represent the interval, use complements efficiently and explain each bridge through time.	**REPRESENT • REASON — Use a time line and justify the duration** Count from the start time to the next hour, then to the end time. From 10:45 to 11:00 is 15 minutes; from 11:00 to 11:20 is 20 minutes; total = 35 minutes. Do not treat time as a base-10 measure: 1 hour = 60 minutes.  

REPRESENT • REHEARSE • REASON in Year 3 at Foster's

REPRESENT — Make the mathematics visible: Use base-10 equipment and place-value counters to expose the structure of the column method. Move flexibly between the concrete model, an expanded calculation and the compact method.

Method choice: A formal method is not automatically the most efficient choice. Pupils should first notice whether a mental strategy, known fact or complement is more appropriate.

Language: Use addend, sum, total, column, place value, exchange, estimate, inverse, numerator, denominator and duration. Continue to avoid 'carry'.

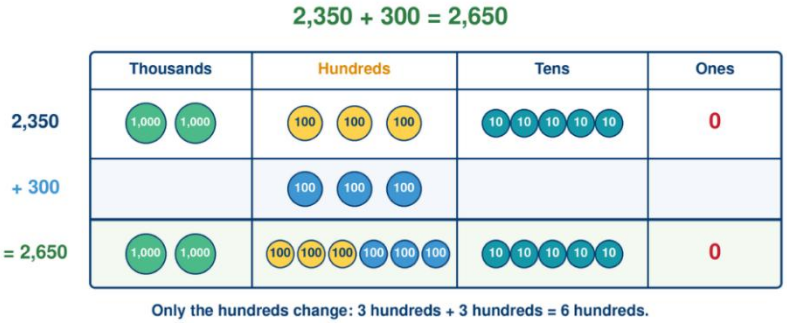
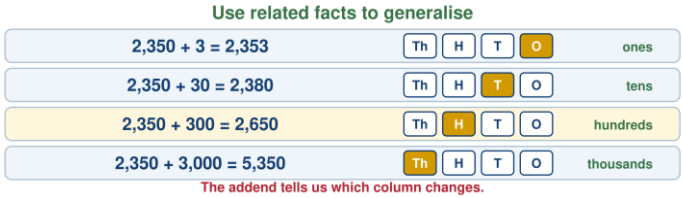
REHEARSE — Build accuracy and automaticity: Retrieve bonds, related facts and place-value knowledge purposefully. Make the connection between Year 2 expanded recording and Year 3 column addition explicit.

Recording and checking: Digits must be aligned by place value. Pupils estimate before calculating, show exchanges clearly and use the inverse or a second strategy to check reasonableness.

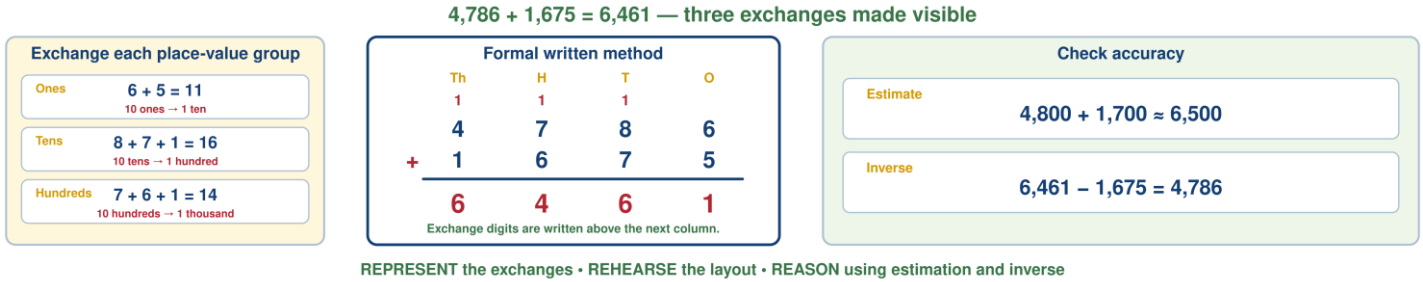
REASON — Explain, justify and solve: Use Entry Ticket and live-response information to select representations or revisit gaps. Secure pupils compare methods, diagnose errors and justify efficiency in contextual and missing-number problems rather than simply calculating with larger numbers.

<table>
<tr><td>Year 4</td><td colspan="2">• Add numbers with up to 4 digits using formal written methods of columnar addition where appropriate.
• Solve simple measure and money problems involving fractions and decimals to 2 decimal places.
• Add fractions with the same denominator.
• Estimate and use inverse operations to check answers, and solve two-step addition problems in contexts, deciding which operations and methods to use and why.
At Foster's, Year 4 pupils consolidate an efficient formal method for whole-number addition while continuing to choose mental strategies when appropriate. Place-value alignment, accurate exchange, estimation and checking remain non-negotiable.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add 1s, 10s, 100s and 1,000s to a 4-digit number

Use place-value structure and related facts to calculate mentally, including connected thousands where appropriate.

REPRESENT • REHEARSE • REASON —
Use place value and known facts to select, apply and justify an efficient mental strategy.</td><td>REPRESENT — Use place value and related facts
The ones/tens/hundreds/thousands column increases by __.
Use a place-value chart or counters only where these expose the structure or address a misconception.

</td><td>REASON — Generalise mentally
2,350 + 3; 2,350 + 30; 2,350 + 300; 2,350 + 3,000.
Which digit changes? Will an exchange be required?

</td></tr>
<tr><td>Add numbers with up to 4 digits

Use formal column addition, including calculations requiring exchange in more than one place-value column.

REPRESENT • REHEARSE • REASON —
Make each place-value change or exchange visible, record accurately and check reasonableness.</td><td colspan="2">REHEARSE — Apply the formal method accurately
Estimate first. Align every digit by place value and begin with the ones.
Exchange 10 ones for 1 ten, 10 tens for 1 hundred and 10 hundreds for 1 thousand when required.
Record exchanged amounts in the correct column and check using the inverse or a second method.

</td></tr>
</table>

Add decimals in the context of money

Partition pounds and pence and use number-line strategies rather than defaulting to a formal written method.

REPRESENT • REHEARSE • REASON — Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.

REPRESENT — Partition pounds and pence

£2.45 + £3.25 = (£2 + £3) + (45p + 25p) = £5.70.

Use coins, a bar model or a number line where helpful. Remember 100p = £1.

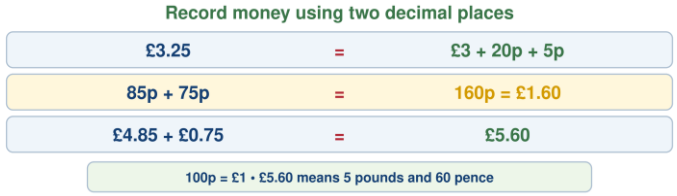


REHEARSE — Record money correctly

£3.25 = £3 + 20p + 5p.

Use two decimal places in money notation: write £5.70, not £5.7.

Exchange 100 pence for £1 when the pence total reaches or exceeds 100p.



Add fractions and mixed numbers with the same denominator beyond 1

Combine equal parts and exchange a complete set of fractional parts for a whole when needed.

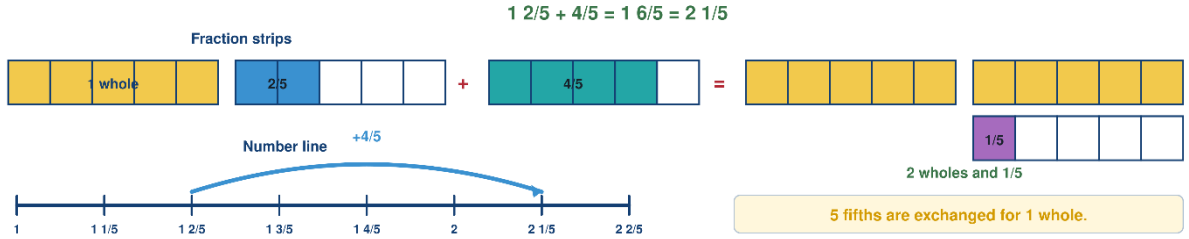
REPRESENT • REHEARSE • REASON — Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.

REPRESENT • REASON — Represent, exchange and justify

Use fraction strips, a bar model or a number line.

$1\frac{2}{5}+\frac{4}{5}=1+\frac{6}{5}5=2\ \frac{1}{5}$ because 5 is 1 whole.

The denominator remains unchanged because the size of each equal part has not changed.



REPRESENT • REHEARSE • REASON in Year 4 at Foster's

REPRESENT — Make the mathematics visible: Pupils should notice when a mental strategy is more efficient. Base-10 equipment and place-value counters remain available to reveal structure or address misconceptions, not as a stage pupils must permanently leave behind.

Formal recording: Digits must be aligned by place value. Exchanges are recorded in the correct column and explained using their value. Expanded recording should be revisited when understanding is insecure.

Language: Use addend, sum, total, place value, column, exchange, estimate, inverse, pounds, pence, decimal point, numerator, denominator, mixed number and whole.

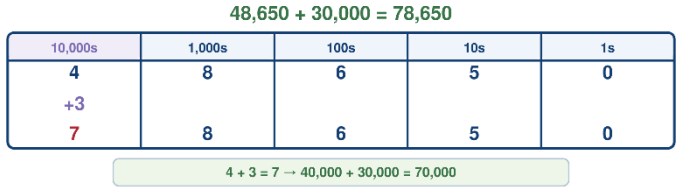
REHEARSE — Build accuracy and automaticity: Retrieve number bonds, complements and related facts purposefully. Make links from whole-number place value to money and from equal fractional parts to mixed numbers explicit.

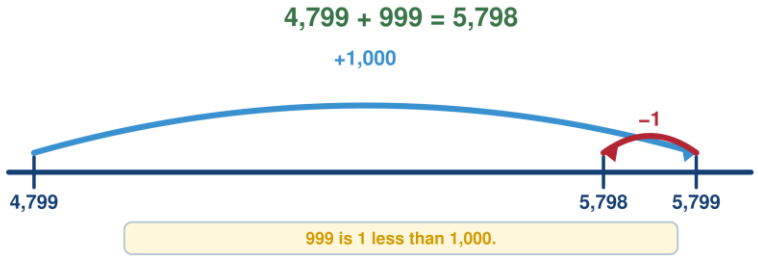
Checking and assessment: Pupils estimate before calculating and check using the inverse, a second strategy or the context. Use live responses to revisit alignment, exchange or representation where needed.

REASON — Explain, justify and solve: Secure pupils compare mental and written strategies, explain errors, construct examples with a specified number of exchanges and justify method choices and whether answers are reasonable in two-step contexts.

<table>
<tr><td>Year 5</td><td colspan="2">• Add whole numbers with more than 4 digits, including using formal written methods.
• Add numbers mentally with increasingly large numbers.
• Add decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1.
• Add fractions with the same denominator, and denominators that are multiples of the same number.
• Use rounding to check answers and solve multi-step addition problems in contexts, deciding which operations and methods to use and why.
At Foster's, Year 5 pupils select efficient mental or written methods and explain why they are appropriate. Accurate place-value alignment, equivalence, estimation and checking are expected across whole numbers, decimals and fractions.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add using mental strategies
Use place value, number bonds, related facts and compensation to calculate mentally with increasingly large numbers.

Include adding 1s, 10s, 100s, 1,000s and other powers of 10. Select the strategy from the structure of the calculation.

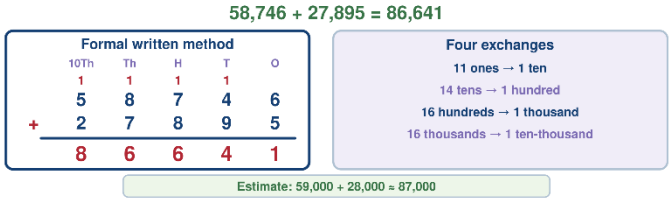
REPRESENT • REHEARSE • REASON — Use place value and known facts to select, apply and justify an efficient mental strategy.</td><td>REPRESENT — Use place value and related facts
48,650 + 300 = 48,950; 48,650 + 30,000 = 78,650; 48,650 + 30 = 48,680.


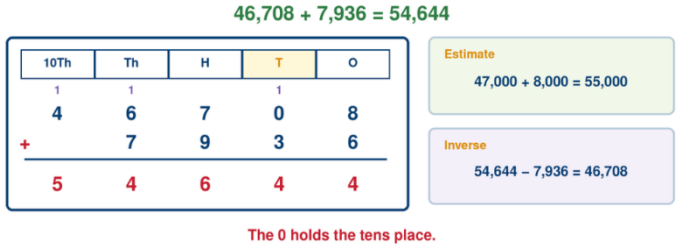
Use known bonds and adjust: 4,799 + 301 = 4,799 + 300 + 1.</td><td>REASON — Choose and justify an efficient method
Compensate when helpful: to add 999, add 1,000 then subtract 1.
Explain which digits change, whether an exchange is needed and why a mental method is efficient.

</td></tr>
</table>

<table>
<tr>
<td>Add whole numbers with more than 4 digits
Use formal column addition accurately, including calculations with several exchanges.

Encourage children to estimate and use inverse operations to check answers to calculations.

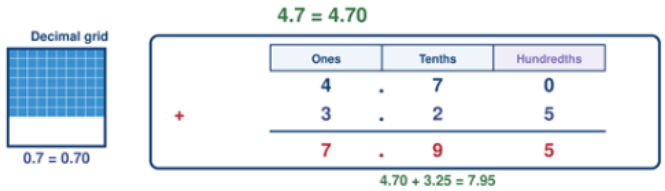
REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td>
<td>REHEARSE — Apply column addition accurately
Estimate first. Align digits by place value and begin with the ones.
Exchange 10 of one unit for 1 of the next unit and record each exchange in the correct column.

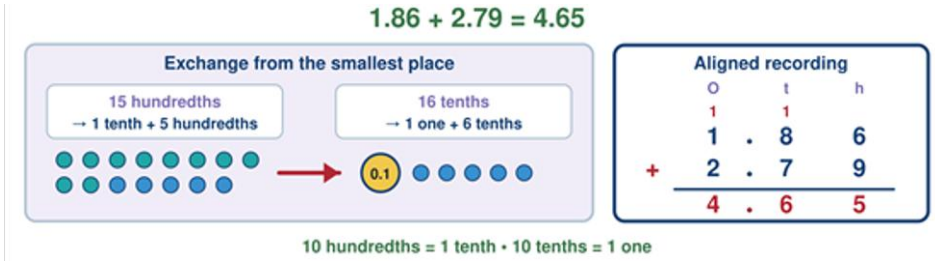

</td>
<td>REASON — Check and reason
Include different-sized numbers and zeros as placeholders, for example 46,708 + 7,936.
Check with the inverse, a second method or a rounded estimate; investigate errors rather than only correcting an answer.


</td>
</tr>
<tr>
<td>Add decimals with up to 2 decimal places

Progress from equal to different numbers of decimal places and from no exchange to exchange.

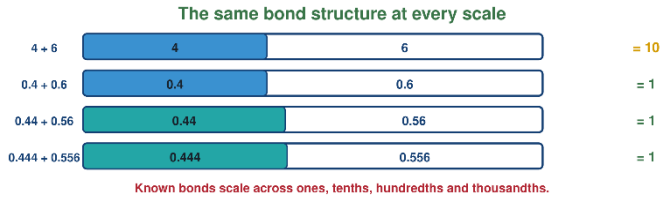
REPRESENT • REHEARSE • REASON — Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.</td>
<td>REPRESENT — Represent decimal place value
Use place-value counters, a place-value chart or decimal grids where these make tenths, hundredths and exchange visible.
Align decimal points and place values: 4.7 may be recorded as 4.70 to support alignment without changing its value.

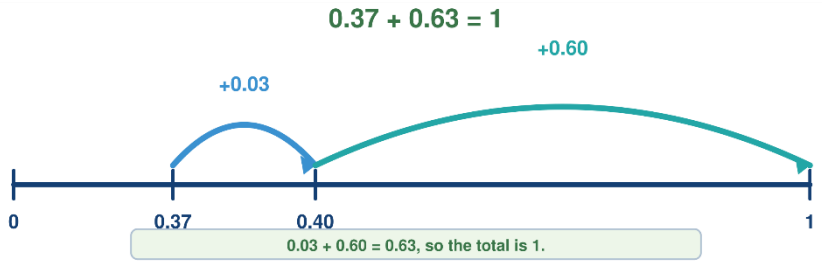

</td>
<td>REHEARSE — Record and exchange
Begin with the smallest place-value column. Exchange 10 hundredths for 1 tenth and 10 tenths for 1 one when required.
Estimate using nearby whole numbers and check that the decimal answer is reasonable.


</td>
</tr>
</table>

<table>
<tr>
<td>Find complements to 1
Find pairs of decimals, including numbers with up to 3 decimal places, that total 1.

Encourage children to make links with bonds to 10 and complements to 100 and 1,000.

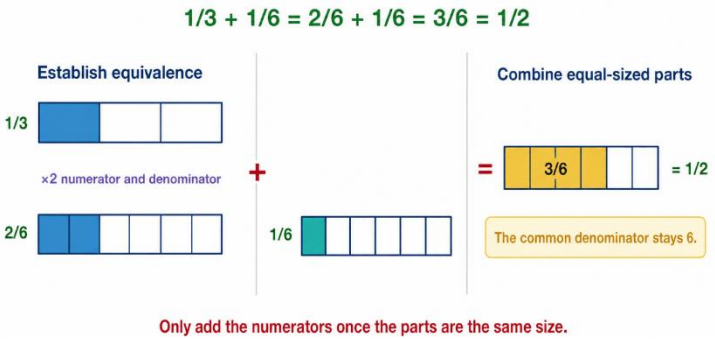
REPRESENT • REHEARSE • REASON — Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.</td>
<td>REPRESENT — Connect bonds across place value
4 + 6 = 10
0.4 + 0.6 = 1
0.44 + 0.56 = 1
0.444 + 0.556 = 1


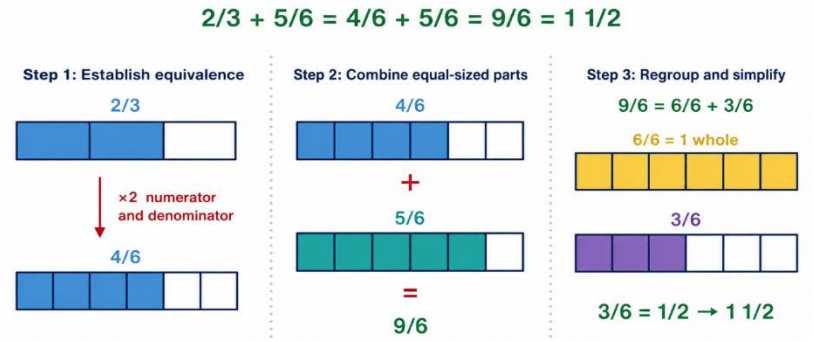
Use a hundredths or thousandths grid, place-value chart or number line to expose the missing part.</td>
<td>REASON — Bridge efficiently to 1
Partition the complement by place value, for example 0.37 + 0.63 = 1.


Explain how complements to 10, 100 and 1,000 support the decimal calculation.</td>
</tr>
<tr>
<td>Add fractions with related denominators

Convert to equivalent fractions where one denominator is a multiple of the other, then add within and beyond 1.

REPRESENT • REHEARSE • REASON — Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.</td>
<td>REPRESENT — Establish a common denominator through equivalence

Use fraction strips, a bar model or a number line to establish equivalence.
For 1/3 + 1/6, convert 1/3 to 2/6, then calculate 2/6 + 1/6 = 3/6 = 1/2.


The denominator has been multiplied by … , so the numerator needs to be multiplied by… for the fractions to be equivalent.</td>
<td>REASON — Explain equivalence and the total
If the denominator is multiplied by a number, multiply the numerator by the same number.
Add the numerators only after the parts are the same size; keep the common denominator.


When the total exceeds 1, convert an improper fraction to a mixed number and simplify where appropriate.</td>
</tr>
</table>

REPRESENT • REHEARSE • REASON in Year 5 at Foster's

REPRESENT — Make the mathematics visible: Pupils compare mental and written methods and justify the most efficient. Manipulatives and images remain available when they reveal place value, exchange or equivalence, and should be linked explicitly to abstract recording.

Formal recording: Whole-number and decimal digits are aligned by place value. Decimal points remain in one vertical line, placeholders are used purposefully and every exchange is recorded and explained.

Fractions: Pupils establish a common denominator through equivalence before adding. The denominator identifies the size of the parts; only numerators are combined once those parts are equal.

Language: Use addend, sum, total, compensate, estimate, inverse, decimal point, tenths, hundredths, thousandths, equivalent, numerator, denominator, common denominator, improper fraction and mixed number.

REHEARSE — Build accuracy and automaticity: Retrieve bonds and related facts purposefully, connecting powers of 10 to decimal complements and multiplication facts to equivalent fractions. Facts support flexible strategy choice rather than isolated recall.

Checking and responsive teaching: Pupils estimate before calculating and check using the inverse, a second strategy or the context. Live responses and Entry Tickets should identify misconceptions in alignment, exchange and equivalence for prompt follow-up.

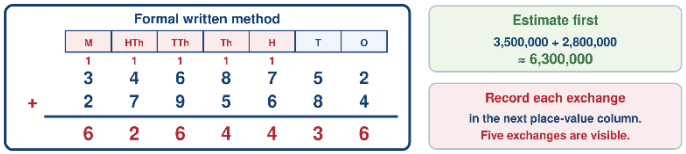
Visible thinking: Whether work is recorded in books or digitally, pupils show enough working to make the chosen method, exchanges and checks clear. Explanations should use representations and precise mathematical language.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, construct calculations that meet constraints, prove a decimal complement and justify why a fraction or decimal answer is reasonable.

<table>
<tr><td>Year 6</td><td colspan="2">• Add integers up to 10 million using an efficient mental or formal written method.
• Add decimals with up to 3 decimal places.
• Use knowledge of the order of operations in calculations involving all four operations.
• Calculate intervals across zero and add to negative starting values in context.
• Add fractions with different denominators and mixed numbers using equivalence.
• Perform mental calculations with large numbers and mixed operations; solve multi-step addition problems in context; and use estimation to check answers and determine an appropriate degree of accuracy.
At Foster's, Year 6 pupils calculate accurately and flexibly, selecting and justifying efficient methods. They use estimation, inverse operations and mathematical structure to check and explain solutions.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Add integers up to 10 million
Use formal column addition for large integers while recognising when a mental strategy is more efficient.

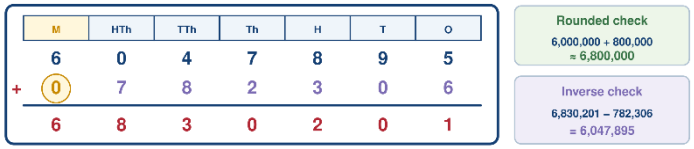
Encourage children to estimate and use inverse operations to check answers to calculations.

REPRESENT • REHEARSE • REASON —
Make each place-value change or exchange visible, record accurately and check reasonableness.</td><td>REHEARSE — Select and apply the method
Estimate first. Align every digit by place value and begin with the ones when using column addition.

3,468,752 + 2,795,684 = 6,264,436


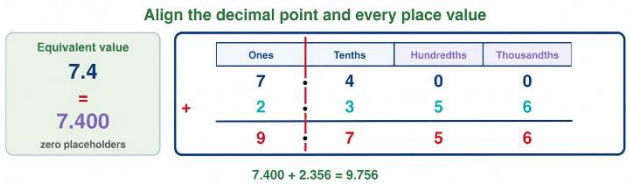
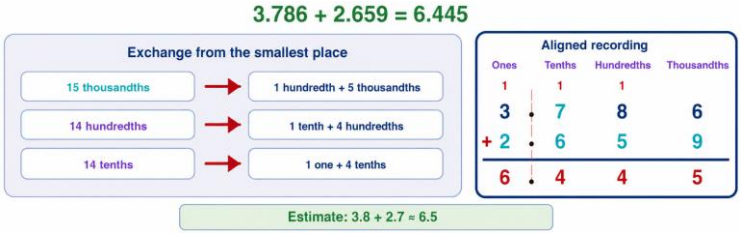
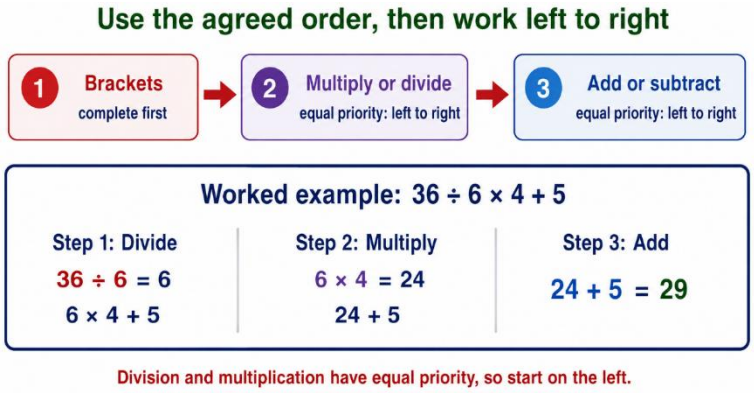
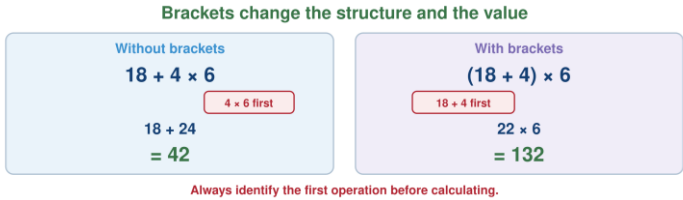
The calculated total is close to the estimate.

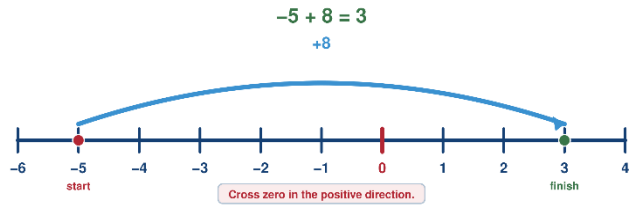
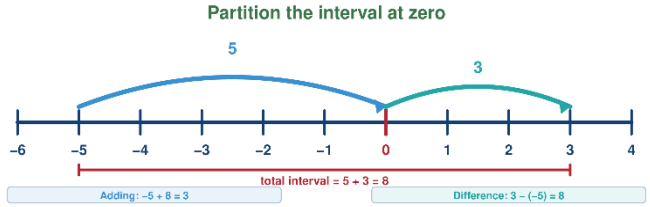
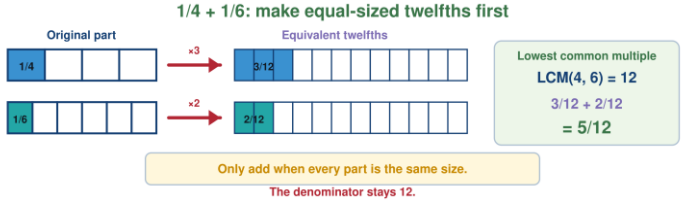
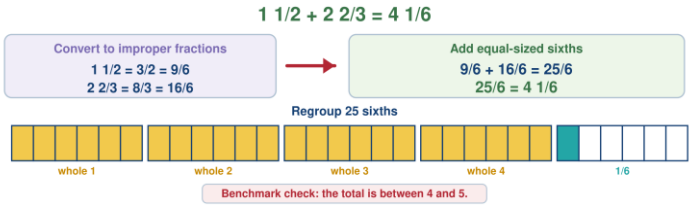
Record each exchange in the correct column and explain its value.</td><td>REASON — Calculate, check and generalise
Include differently sized integers and zeros as placeholders, for example 6,047,895 + 782,306.

6,047,895 + 782,306 = 6,830,201


The highlighted 0 holds the empty millions place.

Check using the inverse, a second strategy or a rounded estimate; explain why the answer is reasonable.</td></tr>
</table>

Add decimals with up to 3 decimal places Add numbers whose digits occupy the same or different place-value columns, including several exchanges. Encourage children to check that they have lined up the columns correctly. **REPRESENT • REHEARSE • REASON —** Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.	**REPRESENT — Make decimal place value visible** Align decimal points and place values, not simply the final digits. Use placeholders where helpful: 7.4 = 7.400.  Use a place-value chart or counters to expose tenths, hundredths, thousandths and exchange where understanding is insecure.	**REASON — Record and reason precisely** Exchange 10 thousandths for 1 hundredth, 10 hundredths for 1 tenth and 10 tenths for 1 one.  Estimate with nearby whole numbers or decimals and diagnose misalignment errors.
Use the order of operations Evaluate expressions containing brackets and more than one operation, applying priority and left-to-right conventions accurately. Calculations in brackets should be done first. Multiplication and division should be performed before addition and subtraction. *When no brackets are shown and the operations have the same priority, work left to right. **REHEARSE • REASON —** Apply the agreed priority accurately and explain the order and purpose of each step.	**REHEARSE — Apply the agreed convention** Brackets first; then multiplication and division; then addition and subtraction. Operations with equal priority are completed from left to right.  … has greater priority than …, so the first part of the calculation I need to do is …	**REASON — Expose the structure** Annotate the first operation before calculating. For example 18 + 4 × 6 = 18 + 24 = 42.  Compare expressions with and without brackets and explain how the brackets change the value.

Calculate intervals across zero and add to negative starting values Use negative numbers in context to calculate intervals across zero and, where the context requires, add to a negative starting value. **REPRESENT • REHEARSE • REASON —** Make each place-value change or exchange visible, record accurately and check reasonableness.	**REPRESENT — Use a number line and zero as a boundary** Represent directed movement and intervals on a horizontal or vertical number line.  For −5 + 8, move 8 steps in the positive direction: −5 + 8 = 3.	**REASON — Reason about intervals** Partition the journey at zero: from −5 to 0 is 5 and from 0 to 3 is 3, so the interval is 8.  Distinguish directed movement on a number line from the size of the interval between two values.
Add fractions and mixed numbers Progress from related denominators to any denominators, including totals beyond 1 and mixed numbers. Convert fractions to the same denominator before adding. Progress from fractions where one denominator is a multiple of the other, to any fractions and then to mixed numbers. **REPRESENT • REHEARSE • REASON —** Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.	**REPRESENT — Establish a common denominator** Use fraction strips, a bar model or a number line to justify equivalence before formal recording. Find a common multiple of the denominators and multiply each numerator and denominator by the same factor.  **REASON-** The denominator has been multiplied by … , so the numerator needs to be multiplied by … The lowest common multiple of … and … is…	**REHEARSE • REASON — Add, convert, simplify and check** Add numerators only when the parts are the same size; retain the common denominator. Partition mixed numbers or convert them to improper fractions. Convert totals beyond 1 and simplify where appropriate.  **REASON-**… is made up of … wholes and … Estimate using benchmark fractions to check that the total is reasonable.

REPRESENT • REHEARSE • REASON in Year 6 at Foster's

REPRESENT — Make the mathematics visible: Pupils choose between mental, jottings and formal methods and justify efficiency. Representations remain available to expose structure, exchange, equivalence or a misconception and are connected explicitly to abstract recording.

Formal recording: Place values and decimal points are aligned accurately, exchanges are recorded clearly and multi-step calculations are organised so that the order and purpose of each step can be followed.

Language: Use integer, addend, sum, total, compensate, estimate, inverse, interval, negative, expression, operation, priority, brackets, equivalent, common denominator, improper fraction and mixed number.

Progression and readiness: Teaching consolidates the full primary calculation journey and addresses identified gaps while preparing pupils to communicate methods confidently and independently for secondary mathematics.

REHEARSE — Build accuracy and automaticity: Daily arithmetic retrieval secures efficient recall. Teachers make explicit connections between place value, powers of 10, inverse operations, decimal structure, negative intervals and fraction equivalence.

Books and digital learning: Arithmetic and reasoning in books must show sufficient working. When Magma is used for fluency, pupils still record the method or key steps needed to reveal thinking and prevent unsupported guessing.

Checking and responsive teaching: Pupils estimate before calculating and check through the inverse, a second method or the context. Live responses and Entry Tickets inform immediate revisiting, representation choice and targeted support.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, construct examples satisfying constraints, vary brackets to change an expression and prove why fraction, decimal or negative-number answers are reasonable.

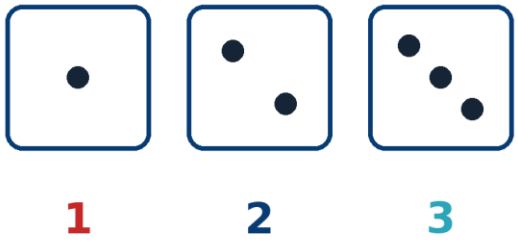
Progression of Skills Overview- Subtraction

Year Group	Skills
Nursery	• Subitise to 3 • Count how many • Make numbers to 5 • Take 1 away (through songs and rhymes)
Reception	• Conceptually subitise to 5 • 1 less • Notice the composition of numbers within 10 • Partition • Take away
Year 1	• Find a part • Take away • Bonds within 10 • Related facts within 20 • Missing numbers
Year 2	• Subtract 1s from any number (related facts) • Subtract across a 10 • Subtract multiples of 10 • Subtract 10s from any number • Subtract two 2-digit numbers (not across a ten) • Subtract two 2-digit numbers (across a ten) • Missing numbers
Year 3	• Subtract 1s, 10s and 100s from a 3-digit number • Subtract two numbers (no exchange) • Subtract two numbers across a 10 or 100 • Complements to 100 • Subtract fractions with the same denominator within 1 whole
Year 4	• Subtract 1s, 10s, 100s and 1,000s from a 4-digit number • Subtract up to two 4-digit numbers • Subtract decimal numbers in the context of money • Subtract fractions and mixed numbers with the same denominator
Year 5	• Subtract whole numbers with more than 4 digits • Subtract using mental strategies • Subtract decimals with up to 2 decimal places • Complements to 1 • Subtract fractions with denominators that are a multiple of one another
Year 6	• Subtract integers up to 10 million • Subtract decimals with up to 3 decimal places • Order of operations • Negative numbers • Subtract fractions

<table>
<tr><td>Nursery</td><td colspan="2">

Develop a secure early understanding of numbers to 5 through subitising, counting, cardinality and composition.
Focus on noticing and representing small quantities, perceptual subitising, counting and the effect of removing one object from a set.
At Foster's, Nursery children develop early subtractive thinking by removing from small quantities, finding one less and comparing before-and-after sets through meaningful play.

</td></tr>
<tr><td>Progression of Skills</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Subitise to 3
Perceptually subitise quantities up to 3 without counting.

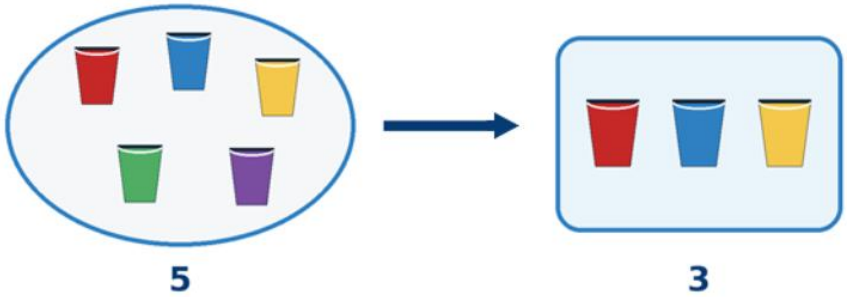
REPRESENT • REHEARSE • REASON — Make the whole and its parts visible, revisit varied arrangements and explain how the quantity was seen.</td><td colspan="2">REHEARSE — How many do you see?




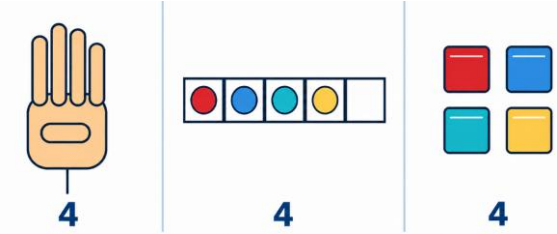
I see __.
There are 1/2/3 ____.
Show me 1/2/3 ____.
How did you see them?</td></tr>
<tr><td>Count how many
Count objects using one-to-one correspondence, understanding that the final number said tells how many are in the set (the cardinal principle).

REPRESENT • REHEARSE — Keep one-to-one correspondence and cardinality visible while rehearsing the stable counting sequence.</td><td>REPRESENT — How many are there?
Touch or move each object once.


There are ____.</td><td>REASON — Count out __ from a larger group, for example a cup for everyone at the table.

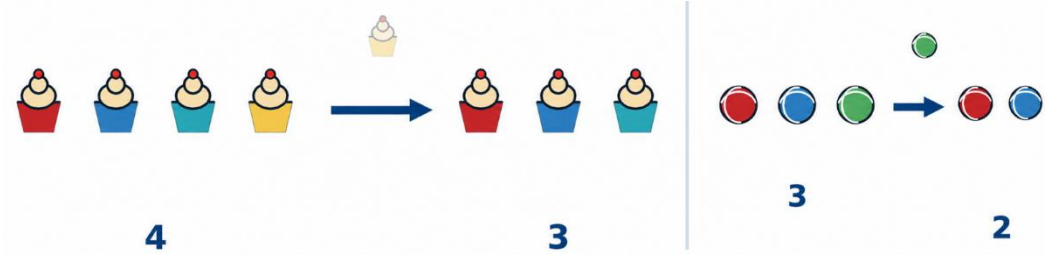
I will count out ____.
There are ____.
I will stop at ____.

</td></tr>
</table>

<table>
<tr>
<td>Make numbers to 5
Make numbers to 5 in different ways using fingers, objects and structured representations.

REPRESENT • REASON —
Expose the part-whole structure and explain what changes and what remains invariant.</td>
<td>REPRESENT — Show me ____.


Show ____ on your fingers.
Make ____ with objects.
REASON- Find a different way.</td>
<td>REASON — Link each numeral to its quantity and notice how smaller parts compose the whole.


____ is made of ____ and ____.
What is the same? What is different?</td>
</tr>
<tr>
<td>Take 1 away
Use stories, songs and rhymes to begin with a starting set, remove one object and recognise that the new total is the previous number in the counting sequence.

REPRESENT • REHEARSE • REASON — Connect the subtraction structure to accurate recording, efficient strategy choice and a reasoned check.</td>
<td colspan="2">REPRESENT • REHEARSE • REASON — Start with __. Take one away. How many are left now? How do you know?


First there were ____.
Then one was taken away.
Now there are ____.</td>
</tr>
</table>

REPRESENT • REHEARSE • REASON in Nursery at Foster's

REPRESENT — Make the mathematics visible: Begin with meaningful real objects, actions, stories and small collections. Keep the starting quantity, the removed part and the remaining part visible through objects, fingers, dot cards and five frames.

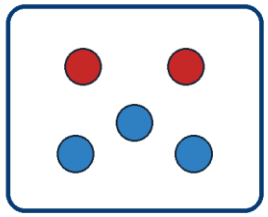
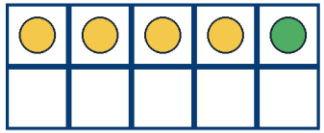
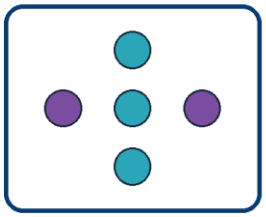
Progression in strategy: Move from noticing a small quantity to removing one and comparing the before-and-after quantities. Formal subtraction notation is not expected.

Mathematical language: Model take away, one less, fewer, left, same, part, whole and equal.

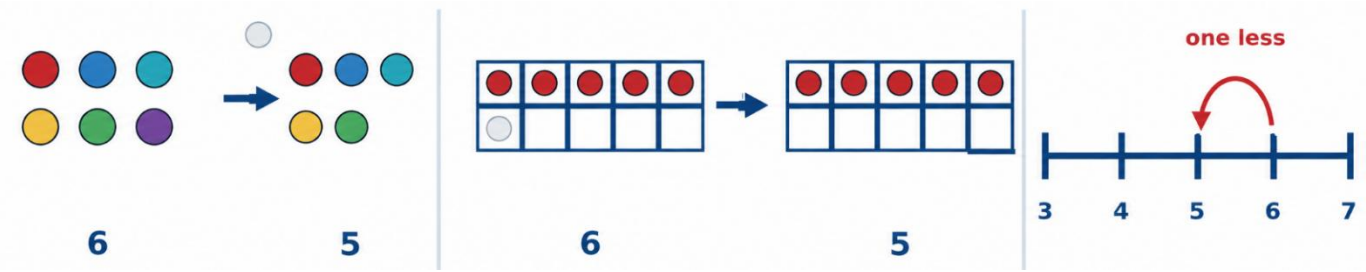
REHEARSE — Build accuracy and automaticity: Use short, playful opportunities to revisit subitising, counting and one less in songs, routines and provision.

Recording, checking and responsive teaching: Use observation, questioning and children's actions to decide whether to revisit or vary the representation. Children may record through objects, movement, pictures or marks.

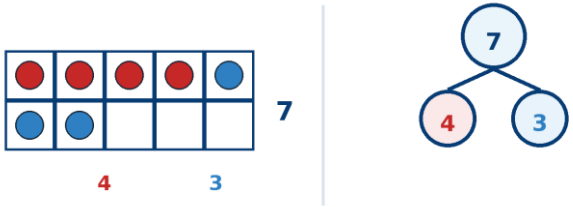
REASON — Explain, justify and solve: Children explain what changed, what stayed the same and how they know the remaining quantity without simply moving to larger numbers.

Reception	• Have a deep understanding of numbers to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. **At Foster's, these end-of-Reception assessment expectations are developed through White Rose small steps, Numberblocks, daily number routines, purposeful play and responsive adult interaction.** **At Foster's, Reception children connect composition, partitioning, reduction and comparison to part-whole representations, precise talk and secure number bonds.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**
Conceptually subitise to 5 Recognise a quantity as a whole composed of parts, without counting every object. **REPRESENT • REHEARSE • REASON —** Make the whole and its parts visible, revisit varied arrangements and explain how the quantity was seen.	**REHEARSE —** What do you see?  5  5  5 How did you see the whole and the parts? Describe the same quantity in a different way.

<table>
<tr>
<td>Find 1 less
Remove one object and connect the remaining quantity to the previous number in the counting sequence.

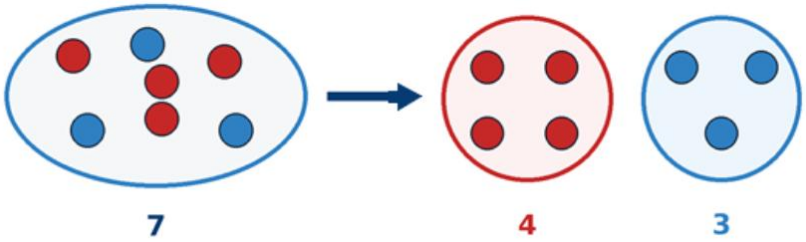
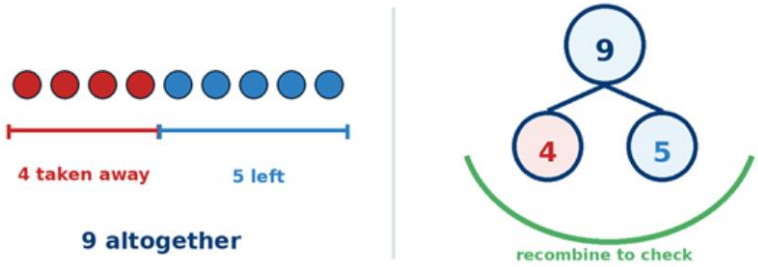
REPRESENT • REHEARSE • REASON — Act out the change, rehearse precise one-more or one-less language and explain the new quantity.</td>
<td colspan="2">REPRESENT • REHEARSE • REASON — One less than ____ is ____.


Use an object, action, number track or five/ten frame to show one being removed.
What changed? What stayed the same? How do you know the new quantity is one less?</td>
</tr>
<tr>
<td>Explore and notice the composition of numbers within 10
Make, break and remake numbers in different ways, using stories, songs and rhymes to notice wholes and parts.

REPRESENT • REASON — Expose the part-whole structure and explain what changes and what remains invariant.</td>
<td>REPRESENT — Show the whole and its parts using objects, fingers, dot patterns, five/ten frames or a part-whole model.


How many are in each part?
How many altogether?</td>
<td>REASON — How many ways can you make ____?
Hide one part and use the whole and known part to explain how many are hidden.


What remains the same when the parts change?</td>
</tr>
</table>

Partition Use objects to separate a whole into two or more parts and recombine the parts without changing the whole. **REPRESENT • REASON —** Expose the part-whole structure and explain what changes and what remains invariant.	**REPRESENT —** Begin with the whole and separate it into parts.  There are ____ altogether. I can see ____ here and ____ there.	**REHEARSE • REASON —** ____ is the whole. ____ and ____ are the parts. ____ can be partitioned into ____ and ____.  Recombine the parts to check that the whole has not changed.
Take away (reduction) Begin with a starting quantity, remove an amount and find how many remain. **REPRESENT • REASON —** Connect the concrete action, the part-whole structure and the equation explicitly.	**REPRESENT —** Tell and act out a first–then–now story. Keep the starting quantity visible before removing objects.  First there were ____. Then ____ were taken away. Now there are ____.	**REHEARSE • REASON —** I have ____. I take away ____. ____ are left.  Explain what changed and how you know. Check by counting the objects that remain or by recombining the removed part and the remaining part.

REPRESENT • REHEARSE • REASON in Reception at Foster's

REPRESENT — Make the mathematics visible: Use real objects, fingers, dot cards, five/ten frames, part-whole models and number tracks to expose removal, comparison and missing-part structures.

Progression in strategy: Move from acting out one less and take-away stories to using composition and known parts to find what remains or is missing.

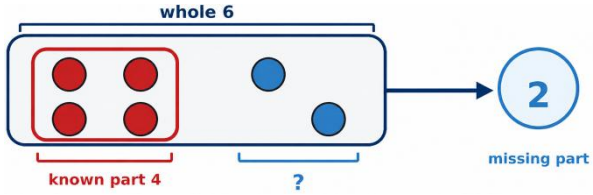
Mathematical language: Model subtract, take away, fewer, less, difference, part, whole, equal and remain.

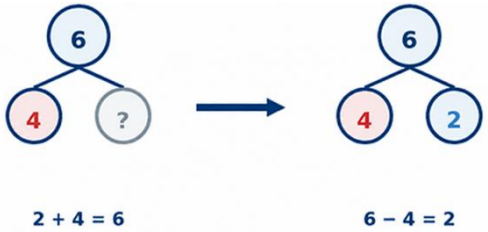
REHEARSE — Build accuracy and automaticity: Revisit subitising, one less and connected number-bond facts through short, purposeful routines until recall is accurate and flexible.

Recording, checking and responsive teaching: Use observation, talk and children's explanations to revisit, vary or extend an idea. Recording may include actions, objects, pictures, marks and numerals.

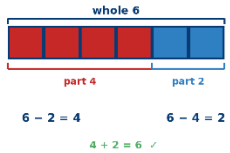
REASON — Explain, justify and solve: Secure children compare subtraction stories, find different partitions and explain how the same whole can be represented in more than one way.

<table>
<tr><td>Year 1</td><td colspan="3">• Read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs.
• Represent and use number bonds and related subtraction facts within 20.
• Subtract one-digit and two-digit numbers to 20, including 0.
• Solve one-step problems involving subtraction, using concrete objects and pictorial representations, and solve missing-number problems such as 7 = ___ - 9.
At Foster's, pupils build from Reception part-whole understanding through White Rose small steps that connect concrete, pictorial and abstract representations, with frequent retrieval of number bonds.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Find a part
Use the known whole and one known part to find the missing part. Connect subtraction to number bonds and the inverse relationship with addition.

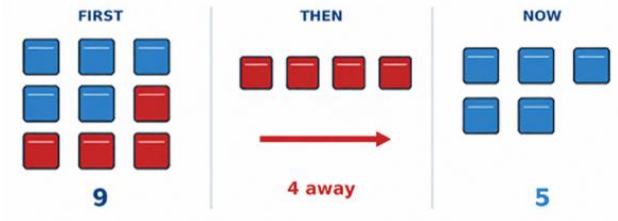
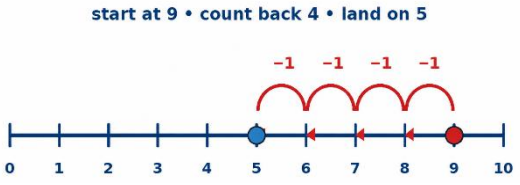
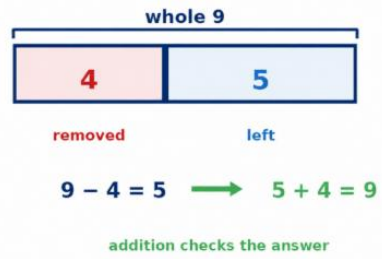
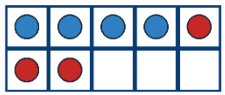
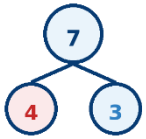
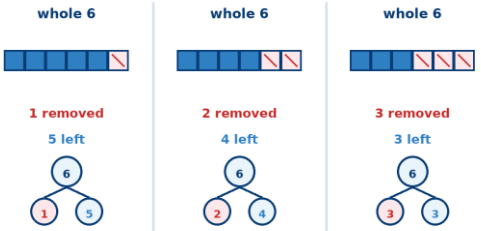
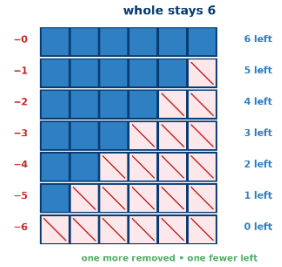
REPRESENT • REASON —
Connect the concrete action, the part-whole structure and the equation explicitly.</td><td>REPRESENT — Establish the whole and known part.
Use objects, a part-whole model or a bar model.


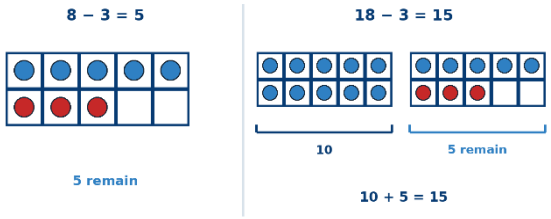
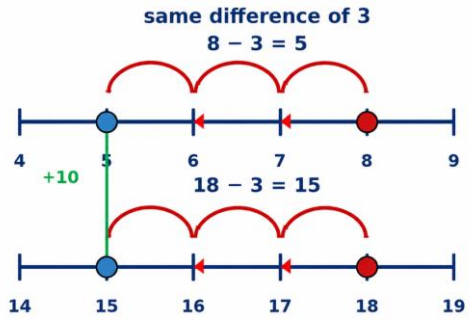
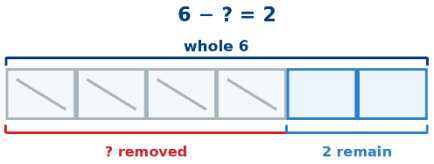
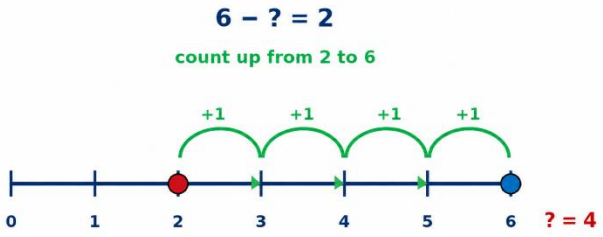
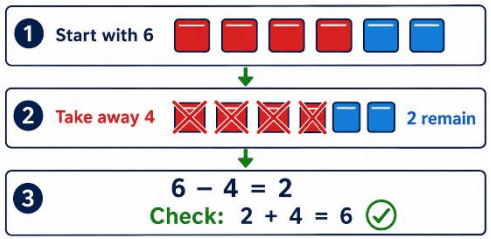
There are ____ in total. ____ are ____. How many are not ____?</td><td>REASON — Identify the missing part.
____ is the whole. ____ is a known part. The missing part is ____.


I know 2 + 4 = 6, so 6 − 4 = 2.</td><td>REHEARSE — Record the related subtraction facts.
6 – 2 = 4
6 – 4 = 2

4 = 6 – 2
2 = 6 – 4


Recombine the parts to check.</td></tr>
</table>

Take away (reduction) Begin with a starting quantity, remove an amount and find how many remain. Count back rather than recounting the remaining set when possible. **REPRESENT • REASON —** Connect the concrete action, the part-whole structure and the equation explicitly.	**REPRESENT —** Tell and act out a first-then-now story. Keep the starting quantity visible.  First there were ____. Then ____ were taken away. Now there are ____.	**REHEARSE —** Count back. Use a number track, bead string or number line.  I start at ____. I count back ____. I land on ____.	**REHEARSE • REASON —** Record and interpret the calculation. ____ − ____ = ____ records the story. Identify the whole, the amount removed and the amount remaining.  Explain how an addition fact checks the answer.
Secure subtraction facts within 10 Systematically represent, record and recall all subtraction facts for each whole within 10. Encourage pupils to notice patterns. **REPRESENT • REHEARSE • REASON —** Connect the subtraction structure to accurate recording, efficient strategy choice and a reasoned check.	**REPRESENT —** Make the whole and remove or cover a part. Use counters, fingers, two-colour ten frames and part-whole models.  7 − 3 = 4  7 is made of 4 and 3 ____ is made of ____ and ____.	**REHEARSE —** Work systematically. Keep the whole fixed and increase the amount subtracted by 1 each time.  ____ can be partitioned into ____ and ____. What changes? What stays the same?	**REHEARSE • REASON —** Record the complete set and explain the pattern. 6 − 0 = 6 6 − 1 = 5 6 − 2 = 4 6 − 3 = 3 6 − 4 = 2 6 − 5 = 1 6 − 6 = 0  How do you know the set is complete?

Use related facts within 20 Use known subtraction facts within 10 to derive facts within 20 rather than returning to count-all or count-back strategies. **REPRESENT • REHEARSE • REASON —** Connect known facts to the new calculation, rehearse flexibly and explain the relationship.	**REPRESENT —** Connect to a known subtraction fact. I know 8 − 3 = 5, so 18 − 3 = 15.  Use two ten frames, a bead string or a number line to prove the connection.	**REASON —** Compare the place-value structure. 3 less than 8 is 5; 3 less than 18 is 15.  What is the same? What is different? Which place-value part changes?	**REHEARSE —** Record and generalise. 8 − 3 = 5; 18 − 3 = 15. 5 = 8 − 3; 15 = 18 − 3.  Continue the pattern and explain why it works.
Solve missing-number problems Use part-whole understanding and known facts to identify whether the unknown is the whole, the amount subtracted or the amount remaining. **REPRESENT • REASON —** Identify the role of the unknown, use the inverse and justify the completed equation.	**REPRESENT —** Build the whole and known part.  Use counters, a part-whole model or a bar model. How many must be subtracted from ____ to leave ____?	**REASON —** Identify the position of the unknown. In 6 − ____ = 2, 6 is the whole and 2 remains, so the missing part is 4.  Explain how you know without guessing.	**REHEARSE • REASON —** Record and check. 6 − 4 = 2 2 = 6 − 4 6 = 4 + 2  Recombine the parts and explain what the answer means in context.

REPRESENT • REHEARSE • REASON in Year 1 at Foster's

REPRESENT — Make the mathematics visible: Use objects, ten frames, bead strings, part-whole models, bar models, number tracks and number lines to distinguish finding a part, taking away and finding a difference.

Progression in strategy: Move pupils from recounting to counting back, counting up to find a difference and using known facts. Manipulatives remain available when they expose structure.

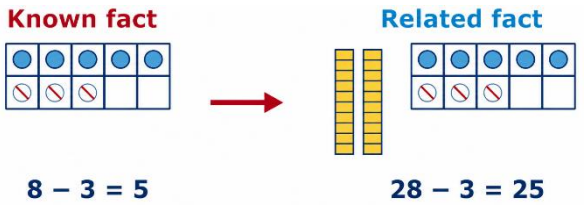
Mathematical language: Use subtract, minus, take away, difference, fewer, less, part, whole and equal to.

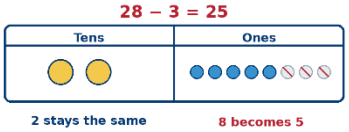
REHEARSE — Build accuracy and automaticity: Provide frequent, short retrieval of subtraction facts within 10 and connected facts within 20, including inverse addition facts.

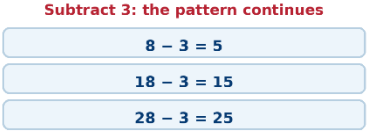
Recording, checking and responsive teaching: Pupils record equations in different orientations and show useful jottings. Observation, talk and live responses identify whether a pupil is recounting or using a known fact.

REASON — Explain, justify and solve: Secure pupils compare subtraction structures, justify a strategy, solve missing-number and contextual problems and find all possibilities rather than only using larger numbers.

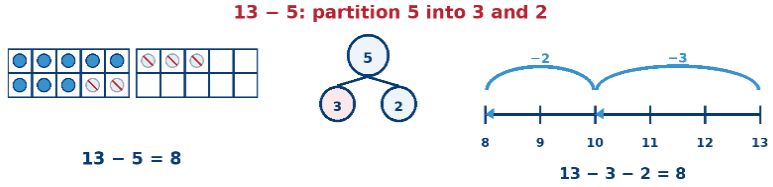
<table>
<tr><td>Year 2</td><td colspan="3">• Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100
• Subtract numbers using concrete objects, pictorial representations, and mentally, including:
• a two-digit number and 1s
• a two-digit number and 10s
• 2 two-digit numbers
• Show that addition of two numbers can be done in any order (commutative), whereas subtraction of one number from another cannot.
• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
• Solve problems involving subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
At Foster's, Year 2 pupils connect secure facts within 20 to increasingly efficient mental and written strategies. White Rose small steps are used to make place-value structure, bridging through 10 and exchange explicit.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Subtract ones using related facts
Use a known subtraction fact within 10 to subtract ones from a two-digit number, recognising when bridging through a ten is required.

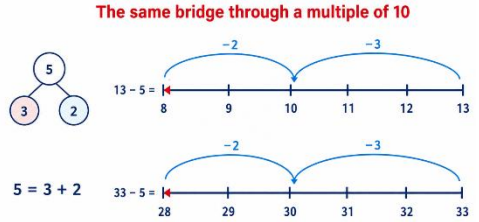
REPRESENT • REHEARSE • REASON — Connect known facts to the new calculation, rehearse flexibly and explain the relationship.</td><td>REPRESENT • REHEARSE — Recall and connect.
I know 8 − 3 = 5, so 28 − 3 = 25.


Use a ten frame or bead string to prove the connection.</td><td>REASON — Compare place value.
What stays the same? The tens remain unchanged and the ones decrease by 3.


Explain when this strategy would cross a ten.</td><td>REASON — Generalise.
8 − 3 = 5
18 − 3 = 15
28 − 3 = 25 …


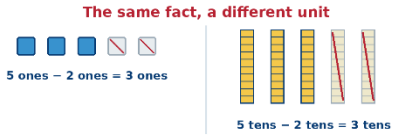
Continue the pattern and justify why it works.</td></tr>
<tr><td>Subtract across a 10
Partition the number being subtracted to reach the previous multiple of 10, then subtract the remainder.

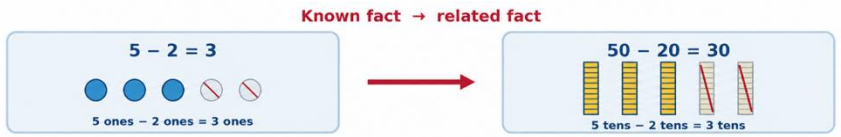
REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td><td colspan="2">REPRESENT — Bridge through 10.
Use a ten frame, bead string or number line.


Partition 5 into 3 and 2: 13 − 5 = 13 − 3 − 2 = 8.</td><td>REHEARSE • REASON — Record and explain the bridge.


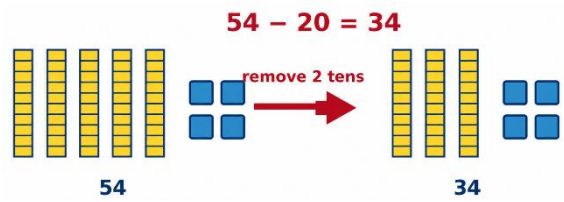
I subtract 3 to reach 10, then subtract the remaining 2.
Apply the same structure to 33 − 5 = 28 and explain the connection.</td></tr>
</table>

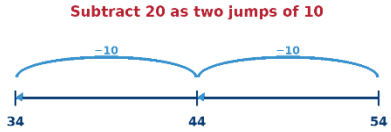
<table>
<tr>
<td>Subtract multiples of 10
Unitise in tens and connect directly to a known subtraction fact within 10.

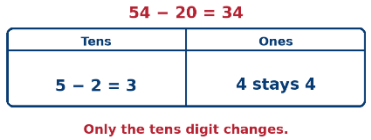
REPRESENT • REHEARSE • REASON — Use place value and known facts to select, apply and justify an efficient mental strategy.</td>
<td>REPRESENT — Unitise in tens.
5 ones − 2 ones = 3 ones, so 5 tens − 2 tens = 3 tens.


Use base-10 equipment or place-value counters.</td>
<td colspan="2">REHEARSE • REASON — Record the connection.
5 − 2 = 3, so 50 − 20 = 30.


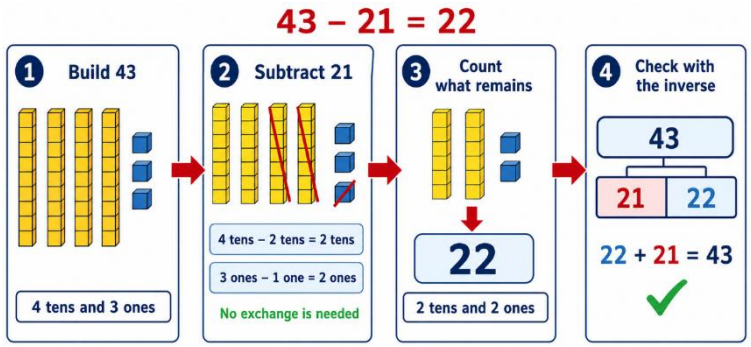
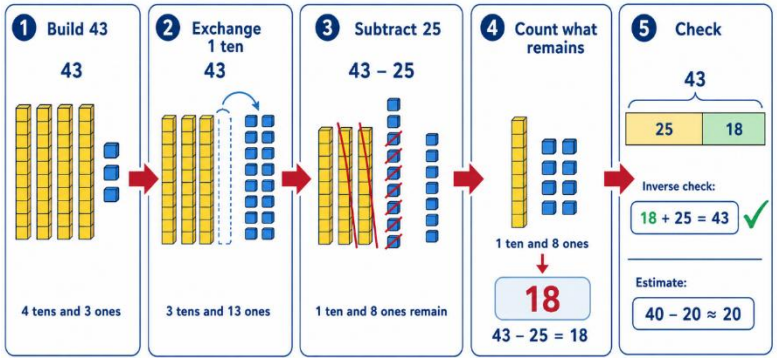
What is the same? What is different? Explain the role of zero.</td>
</tr>
<tr>
<td>Subtract tens from any number
Decrease the tens while recognising that the ones remain unchanged.

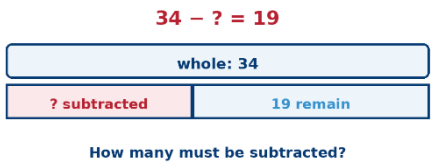
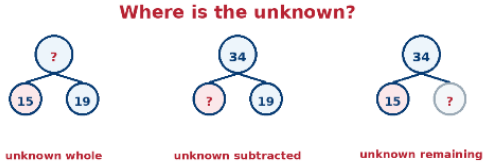
REPRESENT • REHEARSE • REASON — Connect the subtraction structure to accurate recording, efficient strategy choice and a reasoned check.</td>
<td>REPRESENT — Build the number by place value.


Use base-10 equipment or place-value counters.
54 is 5 tens and 4 ones. Remove 2 tens; 3 tens and 4 ones remain.</td>
<td>REHEARSE — Count back in tens.
Use a number line where helpful.


To subtract 20, subtract 10 twice.</td>
<td>REHEARSE • REASON — Record and explain.
50 − 20 = 30, so 54 − 20 = 34


Explain which digit changes and why.</td>
</tr>
</table>

Subtract two 2-digit numbers without exchange Partition the number being subtracted and subtract tens and ones while keeping place values aligned. **REPRESENT • REHEARSE • REASON —** Make each place-value change or exchange visible, record accurately and check reasonableness.	**REPRESENT —** Build, partition and subtract. Use base-10 equipment, place-value counters or a bar model. For 43 − 21, subtract 2 tens and then 1 one. **REHEARSE —** Record by place value. 4 tens − 2 tens = 2 tens; 3 ones − 1 one = 2 ones; the answer is 22. Aligned recording supports place value; the compact algorithm is not the Year 2 endpoint. **REASON —** Interpret and check. Use the same calculation in a reduction or difference context and explain what 22 represents. Check that 22 + 21 = 43. 
Subtract two 2-digit numbers with exchange Exchange 1 ten for 10 ones when there are not enough ones to subtract. Explain why the value is unchanged. **REPRESENT • REHEARSE • REASON —** Make each place-value change or exchange visible, record accurately and check reasonableness.	**REPRESENT —** Make the exchange explicit. Use base-10 equipment or place-value counters. For 43 − 25, exchange 1 ten for 10 ones: 43 = 3 tens and 13 ones. **REHEARSE —** Subtract and record by place value. 13 ones − 5 ones = 8 ones; 3 tens − 2 tens = 1 ten; the answer is 18. Align place values and record the exchange clearly. **REASON —** Explain and check. Explain why exchanging does not change the value of 43. Estimate, then check that 18 + 25 = 43. The compact algorithm is not the Year 2 endpoint. 

Solve missing-number problems Use the inverse and part-whole structure to identify an unknown in a subtraction equation or context. **REPRESENT • REASON —** Identify the role of the unknown, use the inverse and justify the completed equation.	**REPRESENT —** Represent the whole and known part.  Use a part-whole model or bar model. How many must be subtracted from ____ to leave ____?	**REASON —** Identify the unknown. Decide whether the unknown is the whole, the amount subtracted or the amount remaining.  Explain rather than guess.	**REHEARSE • REASON —** Use the inverse to solve and check. 34 – ____ = 19, so 19 + 15 = 34 and the missing number is 15.  Recombine the parts and explain what the answer represents in context.

REPRESENT • REHEARSE • REASON in Year 2 at Foster's

REPRESENT — Make the mathematics visible: Use ten frames, bead strings, base-10 equipment, place-value counters, part-whole models, bar models and number lines. Connect each representation directly to the written calculation.

Progression in strategy: Connect known facts to related calculations, bridging through 10, partitioning and expanded recording. Say 'exchange 1 ten for 10 ones', not 'borrow'.

Mathematical language: Use subtract, difference, whole, part, ones, tens, partition, exchange, inverse and equal to.

REHEARSE — Build accuracy and automaticity: Use purposeful retrieval of facts within 20 and related facts to 100. Rehearsal should reveal place-value patterns rather than become isolated recall.

Recording, checking and responsive teaching: Entry Tickets and live responses determine whether to proceed, revisit a connection or change a representation. Tens and ones are aligned and sufficient working reveals thinking.

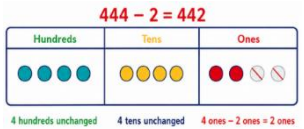
REASON — Explain, justify and solve: Secure pupils compare strategies, diagnose errors, justify efficiency and solve contextual and missing-number problems rather than simply increasing the size of numbers.

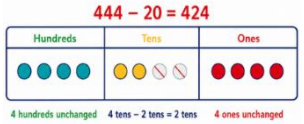
<table>
<tr><td>Year 3</td><td colspan="2">• Subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds.
• Subtract numbers with up to three digits, using formal written methods.
• Subtract fractions with the same denominator within 1 whole.
At Foster's, pupils move from secure mental and expanded place-value strategies towards an accurately aligned formal written method. Concrete and pictorial representations remain available to expose place value and exchange; pupils estimate, explain each exchange and use the inverse to check.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Subtract 1s, 10s and 100s from a 3-digit number

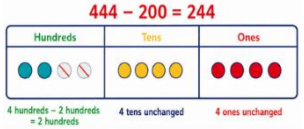
Use place-value understanding, number bonds and related facts to calculate mentally.

Pupils identify the place-value column that changes and anticipate whether an exchange is required.
REPRESENT • REHEARSE • REASON —
Use place value and known facts to select, apply and justify an efficient mental strategy.</td><td>REPRESENT • REHEARSE — Expose the place-value change and connect it to known facts.

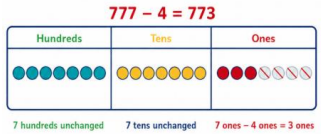
The ones/tens/hundreds column will decrease by …
Use base-10 equipment, place-value counters or a place-value chart where needed.

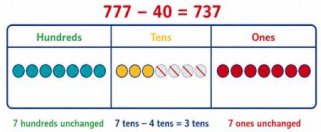


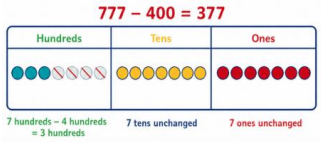




444 – 2 =
444 – 20 =
444 – 200 =

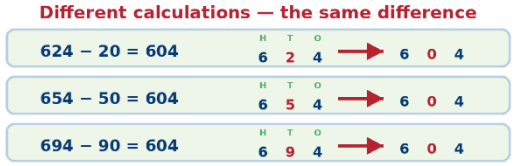




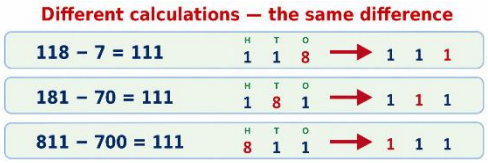


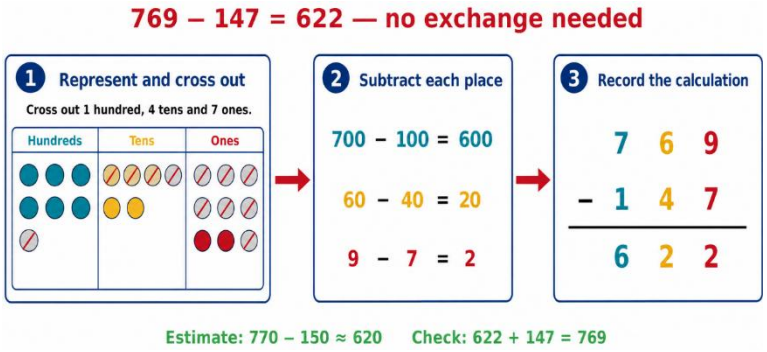
777 – 4 =
777 – 40 =
777 – 400 =</td><td>REASON — Notice, predict and generalise.
What patterns do you notice? Which place-value column changes? When is an exchange required?

624 – 20 =
654 – 50 =
694 – 90 =



118 –___= 111
181 –___ = 111
811 –___ = 111


</td></tr>
</table>

Subtract two numbers (no exchange) Select an efficient mental strategy where appropriate, then connect expanded place-value recording to an accurately aligned formal written method. **REPRESENT • REHEARSE • REASON —** Connect the subtraction structure to accurate recording, efficient strategy choice and a reasoned check.	**REPRESENT —** Build and partition by place value. Use base-10 equipment or place-value counters where needed to make each place-value part visible. **REHEARSE —** Align and subtract by place value. ... ones − … ones = … ones ... tens − … tens = … tens ... hundreds − … hundreds = … hundreds Begin with the ones and record each place value in its correct column. **REASON —** Explain and check. Explain why no exchange is required. Estimate, then use addition to check. 

Subtract two numbers across a 10 or 100

Make each exchange explicit and preserve the value of the whole.

Apply the formal written method to calculations requiring up to 2 exchanges, including a 3-digit number subtract a 2-digit number.

REPRESENT • REHEARSE • REASON —
Connect the subtraction structure to accurate recording, efficient strategy choice and a reasoned check.

REPRESENT — Make each exchange visible. Use base-10 equipment or place-value counters and connect the model directly to aligned recording.

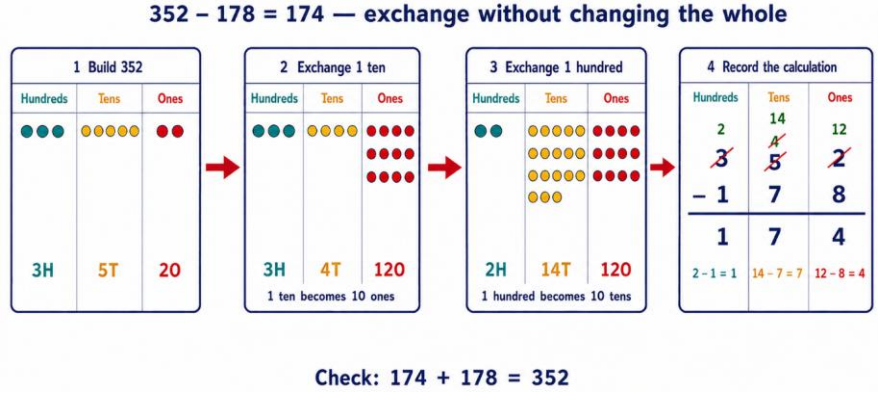
I need to subtract … ones. I do/do not need to make an exchange.

I need to subtract ... tens. I do/do not need to make an exchange.

I can exchange 1 … for 10 …

REHEARSE — Apply the formal method accurately. Begin with the ones, align all place values and record each exchange in the correct column.

REASON — Explain, estimate and check. Explain why the value is unchanged after exchange. Estimate and use the inverse to check.



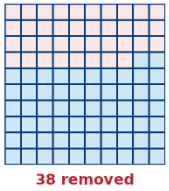
Complements to 100

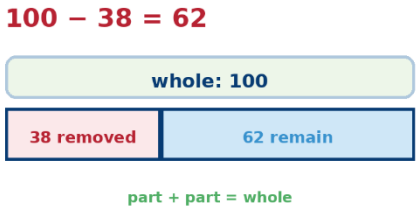
Develop fluency with complement facts and bridge through the next multiple of ten when needed. Use systematic comparison to reveal inverse relationships and patterns.

REPRESENT • REHEARSE • REASON —
Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.

REPRESENT — Make the complement visible.

Use base-10 equipment, a hundred square or an empty number line where needed.





100 minus … is equal to …

REHEARSE • REASON — Bridge, record and generalise.

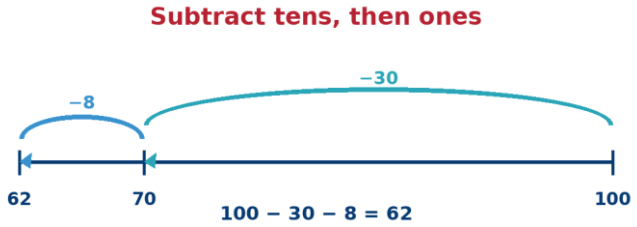
I subtract … tens, then I subtract … ones.

100 – 38 = 62

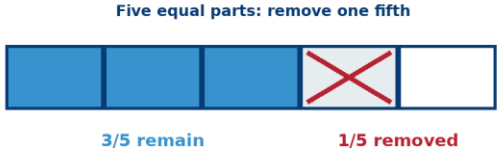
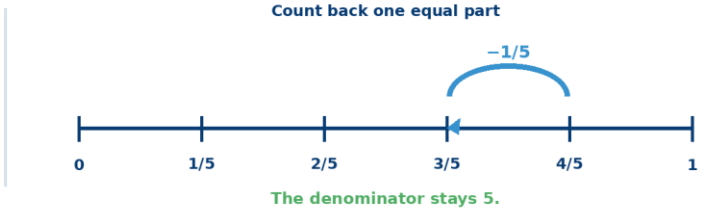
100 – 62 = 38

62 = 100 – 38

38 = 100 – 62



Explain how the calculations form connected inverse facts.

Subtract fractions with the same denominator within 1 whole Connect to known subtraction facts while preserving the size of each equal part. **REPRESENT • REHEARSE • REASON —** Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.	**REPRESENT • REASON —** Represent equal parts and explain the invariant. Use fraction strips, a bar model or a number line. Subtract the numerators; the denominator remains unchanged because the size of each equal part has not changed. … fifths − … fifths = … fifths **4/5 − 1/5 = 3/5**   **REHEARSE —** Record using precise fraction language and connect to known subtraction facts.

REPRESENT • REHEARSE • REASON in Year 3 at Foster's

REPRESENT — Make the mathematics visible: Use base-10 equipment and place-value counters to expose decomposition and the structure of column subtraction. Move flexibly between a concrete model, expanded recording and the compact method.

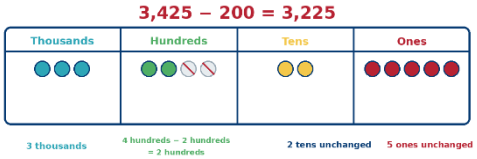
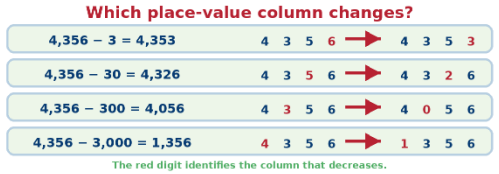
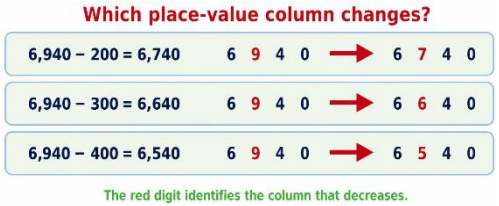
Progression in strategy: A formal method is not automatically most efficient. Pupils first consider a known fact, complement, counting-up or other mental strategy. Continue to avoid 'borrow'.

Mathematical language: Use difference, column, place value, exchange, estimate, inverse, numerator and denominator.

REHEARSE — Build accuracy and automaticity: Retrieve subtraction facts, complements and place-value knowledge purposefully, making the link from Year 2 expanded recording to Year 3 column subtraction explicit.

Recording, checking and responsive teaching: Digits are aligned by place value. Pupils estimate before calculating, record each exchange clearly and use the inverse or a second strategy to check reasonableness. Live responses identify gaps.

REASON — Explain, justify and solve: Secure pupils compare methods, explain exchanges, diagnose errors and justify efficient solutions to contextual, missing-number and fraction problems.

Year 4	• Subtract numbers with up to 4 digits using a formal written method. • Solve simple measure and money problems involving fractions and decimals to 2 decimal places. • Subtract fractions with the same denominator **At Foster's, pupils consolidate an accurate formal method while continuing to select mental strategies when these are more efficient. Place-value alignment, explicit exchange, estimation and inverse checking remain non-negotiable; work with money and fractions maintains a clear focus on mathematical structure.**	
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**	
Subtract 1s, 10s, 100s and 1,000s from a 4-digit number Use place-value understanding, number bonds and related facts to calculate mentally. Pupils identify the place-value column that changes and anticipate whether an exchange is required. **REPRESENT • REHEARSE • REASON —** Use place value and known facts to select, apply and justify an efficient mental strategy.	**REPRESENT • REHEARSE —** Expose and record the place-value change. The ones/tens/hundreds/thousands column will decrease by … Use a place-value chart or counters only where these expose the structure or address a misconception. 3,425 − 2 = 3,425 − 20 = 3,425 − 200 = 3,425 − 2,000 = 	**REASON —** Notice, predict and generalise. 4,356 − 3 = 4,356 − 30 = 4,356 − 300 = 4,356 − 3,000 =  6,940 − 200 = 6,940 − 300 = 6,940 − 400 =  **REASON-** What patterns do you notice? Which place-value column changes? When is an exchange required?

<table>
<tr>
<td>Subtract up to two 4-digit Numbers

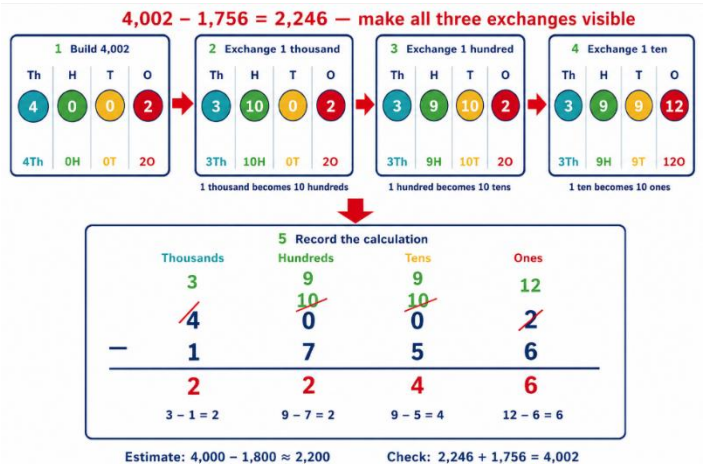
Formal written method with up to 3 exchanges.

Estimate before calculating, then use the inverse or a second strategy to check accuracy and diagnose any error.

REPRESENT • REHEARSE • REASON —
Make each place-value change or exchange visible, record accurately and check reasonableness.</td>
<td colspan="2">REPRESENT — Make every exchange visible. Use base-10 equipment or place-value counters and connect the model directly to aligned recording.
I need to subtract… ones/tens/hundreds. I do/do not need to make an exchange. I can exchange 1… for 10…

REHEARSE — Apply the formal method accurately. Begin with the ones, align every place value and record each exchange in the correct column.

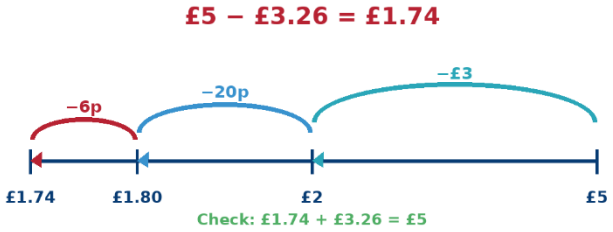
REASON — Estimate, justify and check. Explain why each exchange preserves the value of the whole, then use the inverse or a second strategy to check.


</td>
</tr>
<tr>
<td>Subtract decimals in the context of money

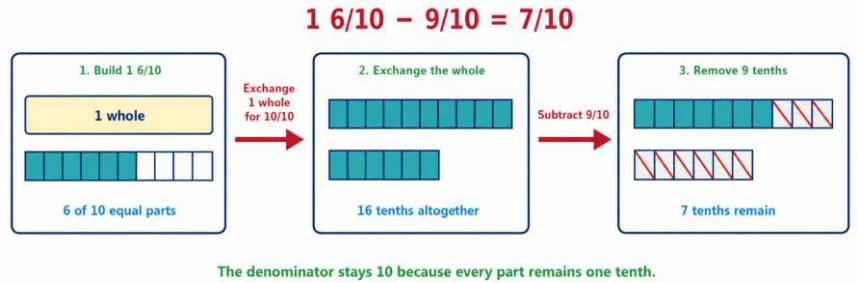
Partition pounds and pence and use number-line strategies rather than defaulting to formal written calculation.

REPRESENT • REHEARSE • REASON —
Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.</td>
<td>REPRESENT — Partition pounds and pence.
Use coins, a bar model or a number line to make the difference visible.
I can partition £… into £… and 100p
£… − £… = £…
100p − …p = …p
REHEARSE — Record the partitioned strategy.
£5 − £3.26
£4 − £3 = £1
100p − 26p = 74p
£5 - £3.26 = £1.74


Recombine the pounds and pence and record the amount using correct money notation.</td>
<td>REASON — Explain the partition and check.
£3.26 can be partitioned into £3 + 20p + 6p



Explain how the pound and pence parts recombine to give the total difference and check that the answer is reasonable.</td>
</tr>
</table>

Subtract fractions and mixed numbers with the same denominator Include subtracting a fraction or mixed number from a whole and make any exchange explicit. **REPRESENT • REHEARSE • REASON —** Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.	**REPRESENT • REASON —** Represent equal parts, exchange and justify. Use fraction strips, a bar model or a number line. Subtract the numerators when fractional parts share a denominator. Exchange a whole for an equivalent set of fractional parts when needed. The denominator remains unchanged because the size of each equal part has not changed. … tenths − … tenths = … tenths **REHEARSE —** Record each step using precise fraction language and check that the answer is reasonable. 

REPRESENT • REHEARSE • REASON in Year 4 at Foster's

REPRESENT — Make the mathematics visible: Keep base-10 equipment, place-value counters, number lines, money models and fraction representations available whenever they reveal structure, exchange or equivalence.

Progression in strategy: Pupils choose between mental and formal methods. Expanded recording is revisited when understanding is insecure and each exchange is explained by value.

Mathematical language: Use difference, decrease, place value, column, exchange, estimate, inverse, pounds, pence, decimal point, numerator, denominator, mixed number and whole.

REHEARSE — Build accuracy and automaticity: Retrieve number bonds, complements and related facts purposefully, connecting whole-number place value to money and equal fractional parts.

Recording, checking and responsive teaching: Pupils estimate before calculating and check through the inverse, a second strategy or the context. Live responses prompt immediate revisiting of alignment, exchange or representation.

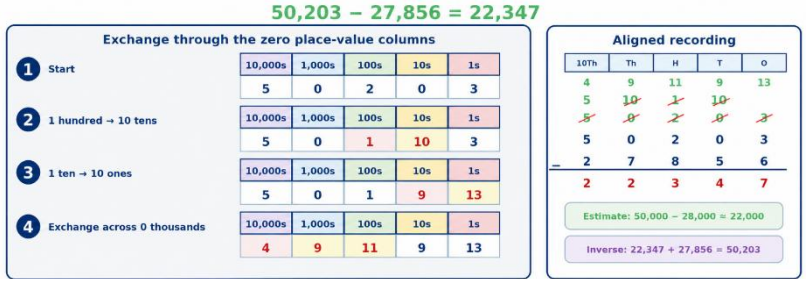
REASON — Explain, justify and solve: Secure pupils compare strategies, explain errors, construct examples with specified exchanges and justify whether answers are reasonable in two-step contexts.

<table>
<tr><td>Year 5</td><td colspan="2">• Subtract whole numbers with more than 4 digits. • Subtract numbers mentally with increasingly large numbers.
• Subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1
• Subtract fractions with the same denominator, and denominators that are multiples of the same number.
At Foster's, Year 5 pupils select efficient mental or written methods and justify their choices. Accurate place-value alignment, equivalence, estimation and inverse checking are expected across whole numbers, decimals and fractions.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Subtract whole numbers with more than 4 digits

Apply the formal column method accurately, including calculations requiring several exchanges. Estimate first and use the inverse to check.

REPRESENT • REHEARSE • REASON — Make each place-value change or exchange visible, record accurately and check reasonableness.</td><td colspan="2">REPRESENT — Make place value and exchange visible. Use place-value counters or a place-value chart only where these expose the structure. I can exchange 1 … for 10 …
REHEARSE — Apply and record accurately. Align digits by place value, begin with the ones and record each exchange in the correct column.

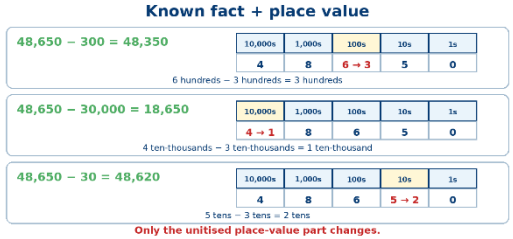
REASON — Estimate and check. Use the inverse or a rounded estimate and explain why the answer is reasonable.

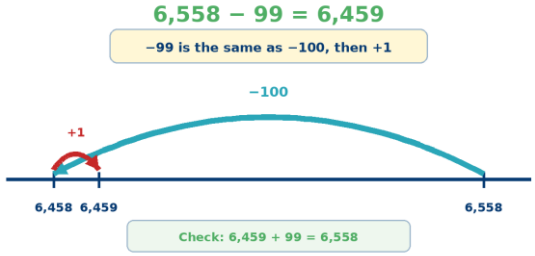

</td></tr>
<tr><td>Subtract using mental strategies
Use place value, number bonds, related facts and compensation with increasingly large numbers.

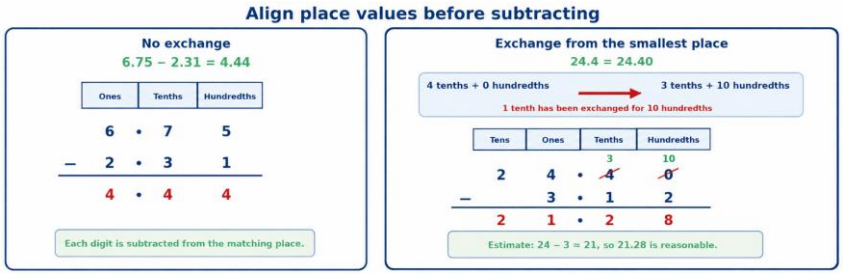
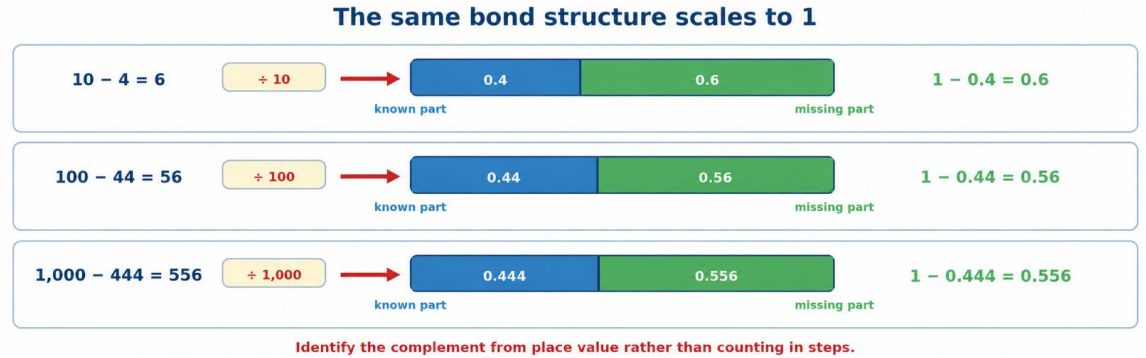
Subtract 1s, 10s, 100s etc from any number.

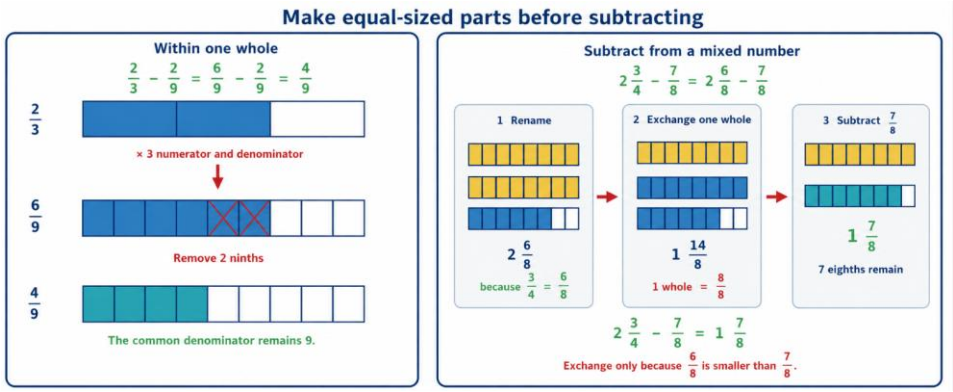
Use number bonds and related facts.
REPRESENT • REHEARSE • REASON — Use place value and known facts to select, apply and justify an efficient mental strategy.</td><td>REPRESENT • REHEARSE — Connect each calculation to place value and a known fact.
Identify the place-value part that changes.

48,650 − 300 =
48,650 − 30,000 =
48,650 − 30 =


</td><td>REASON — Choose and justify an efficient strategy.
To subtract …, I can subtract … then add …
Compare direct subtraction with compensation and explain which is more efficient.


</td></tr>
</table>

Subtract decimals with up to 2 decimal places Progress from equal to different numbers of decimal places and from calculations without exchange to those requiring exchange. **REPRESENT • REHEARSE • REASON —** Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.	**REPRESENT —** Make decimal place value visible. Use place-value counters or a chart where needed. Align decimal points and place values. **REHEARSE —** Subtract and exchange accurately. Begin with the smallest place-value column and record each exchange clearly. **REASON —** Estimate and check. Use nearby whole numbers to confirm that the answer is reasonable. 
Complements to 1 Use known whole-number bonds to derive decimal complements efficiently. Encourage children to make links with bonds to 10 and complements to 100 and 1,000 when finding a missing part or subtracting from 1 **REPRESENT • REHEARSE • REASON —** Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.	**REPRESENT • REHEARSE —** Connect whole-number bonds to decimal complements. 10 − 4 = 6 1 −0.4 =0.6 100 − 44 = 56 1 −0.44 =0.56 1,000 − 444 = 556 1 −0.444 =0.556 **REASON —** Explain the pattern. Identify the missing part from place value rather than counting in steps. 

Subtract fractions with denominators that are a multiple of one another Convert fractions to the same denominator before subtracting. Progress from subtracting fractions within 1 whole to subtracting from a mixed number. **REPRESENT • REHEARSE • REASON —** Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.	**REPRESENT —** Establish equivalence before subtracting. Use fraction strips, a bar model or a number line to identify a common denominator. The denominator has been multiplied by … , so the numerator needs to be multiplied by… for the fractions to be equivalent. **REHEARSE —** Subtract accurately. Subtract only when the parts are the same size; retain the common denominator. **REASON —** Exchange, simplify and check. Exchange a whole when needed, simplify and check that the difference is reasonable. 

REPRESENT • REHEARSE • REASON in Year 5 at Foster's

REPRESENT — Make the mathematics visible: Connect mental and written methods to place-value, number-line and fraction representations. Manipulatives remain available when they reveal exchange, decimal alignment or equivalence.

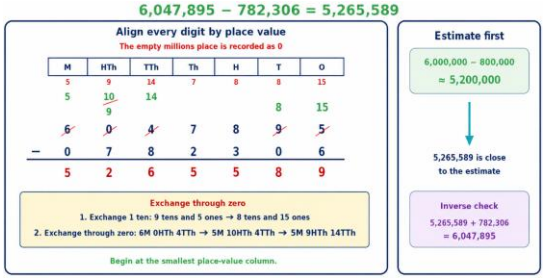
Progression in strategy: Whole-number and decimal digits are aligned by place value. Decimal points remain in one vertical line; fractions are made equivalent before subtracting.

Mathematical language: Use difference, compensate, estimate, inverse, decimal point, tenths, hundredths, thousandths, equivalent, numerator, denominator, common denominator, improper fraction and mixed number.

REHEARSE — Build accuracy and automaticity: Retrieve bonds and related facts purposefully, connecting powers of 10 to decimal complements and multiplication facts to equivalent fractions.

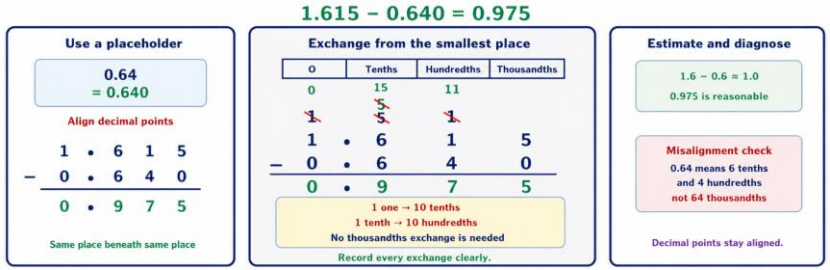
Recording, checking and responsive teaching: Estimate and check using the inverse, a second strategy or the context. Entry Tickets identify misconceptions. Work in books or digitally shows enough working to reveal the method and check.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, construct calculations meeting constraints and justify why whole-number, decimal and fraction answers are reasonable.

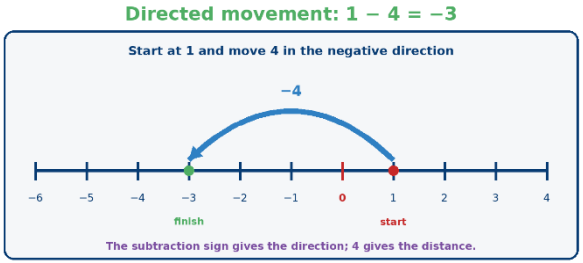
Year 6	• Subtract larger numbers, using the formal written methods of columnar subtraction. • Use their knowledge of the order of operations to carry out calculations involving the 4 operations. • Calculate intervals across zero. • Subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. **At Foster's, Year 6 pupils calculate accurately and flexibly, selecting and justifying efficient mental or formal methods. They use estimation, inverse operations and mathematical structure to check and explain solutions.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**
Subtract integers up to 10 million Select an efficient mental or formal method. Estimate first and use the inverse or a second strategy to check. **REPRESENT • REHEARSE • REASON —** Make each place-value change or exchange visible, record accurately and check reasonableness.	**REPRESENT —** Expose place value when needed. Use place-value counters or a chart only to address insecure understanding. **REHEARSE —** Select and apply the method. Align digits by place value, begin with the ones and record each exchange clearly. **REASON —** Estimate, justify and check. Use the inverse or a rounded estimate and diagnose any error. 

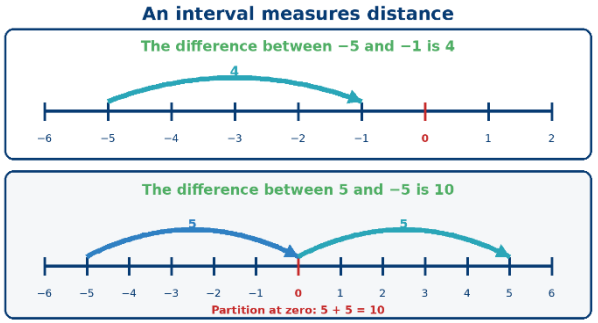
<table>
<tr>
<td>Subtract decimals with up to 3 decimal places

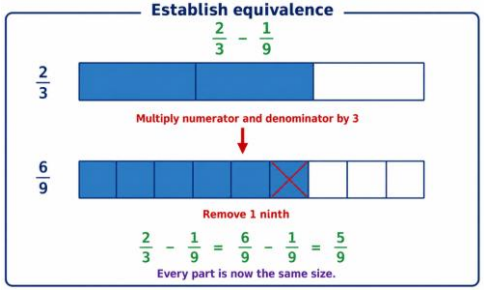
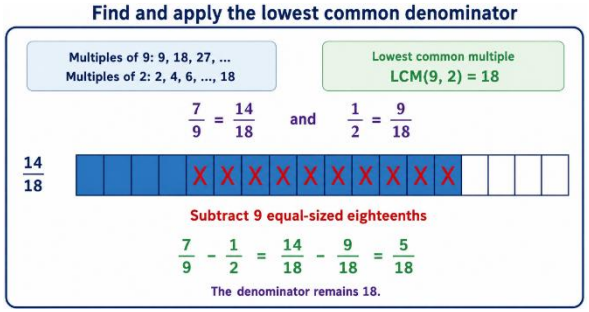
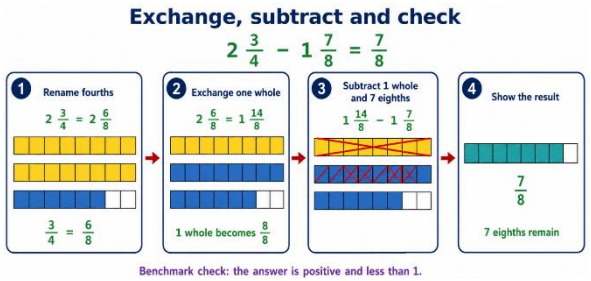
Progress from equal to different numbers of decimal and whole-number places, including calculations requiring exchange.

REPRESENT • REHEARSE • REASON — Expose place value, rehearse connected facts and justify the efficient route and reasonable answer.</td>
<td colspan="2">REPRESENT — Align by place value. Use placeholders where helpful and align decimal points. I do/do not need to make an exchange because ...
REHEARSE — Apply the method accurately. Begin with the smallest place-value column and record each exchange clearly.
REASON — Estimate and check. Use nearby whole numbers or decimals to confirm that the answer is reasonable.

</td>
</tr>
<tr>
<td>Negative numbers

Subtract from positive and negative values and calculate intervals across 0 using contextual examples.

REPRESENT • REASON — Use zero as a visible boundary and explain direction, distance and the sign of the result.</td>
<td>REPRESENT • REHEARSE — Use a number line with zero as a boundary.


... minus ... is equal to ...
Show direction and distance separately.</td>
<td>REASON — Compare directed movement and interval.
Partition journeys at zero and explain the sign of each result.
The difference between – 5 and −1 is 4
The difference between 5 and −5 is 10

</td>
</tr>
</table>

Subtract fractions Convert fractions to a common denominator before subtracting. Progress from related denominators to any denominators and then to subtracting from a mixed number. **REPRESENT • REHEARSE • REASON —** Make equal parts and equivalence visible, calculate accurately and explain why the part size is preserved or changed.	**REPRESENT —** Establish equivalence. Use a model where needed to justify the common denominator.  The denominator has been multiplied by … , so the numerator needs to be multiplied by…	**REHEARSE —** Find and apply a common denominator.  The lowest common multiple of … and … is … Subtract only when the parts are the same size.	**REASON —** Exchange, simplify and check. … is made up of … wholes and …  Explain each equivalence and use benchmarks to judge whether the answer is reasonable.

REPRESENT • REHEARSE • REASON in Year 6 at Foster's

REPRESENT — Make the mathematics visible: Pupils choose between mental methods, jottings and formal subtraction and connect representations explicitly to place value, negative intervals, fraction equivalence and abstract recording.

Progression in strategy: Formal work is organised so place values, decimal points, exchanges and the order and purpose of each step can be followed. Identified gaps are addressed before increasing procedural demand.

Mathematical language: Use integer, difference, interval, negative, compensate, estimate, inverse, expression, operation, priority, brackets, equivalent, common denominator, improper fraction and mixed number.

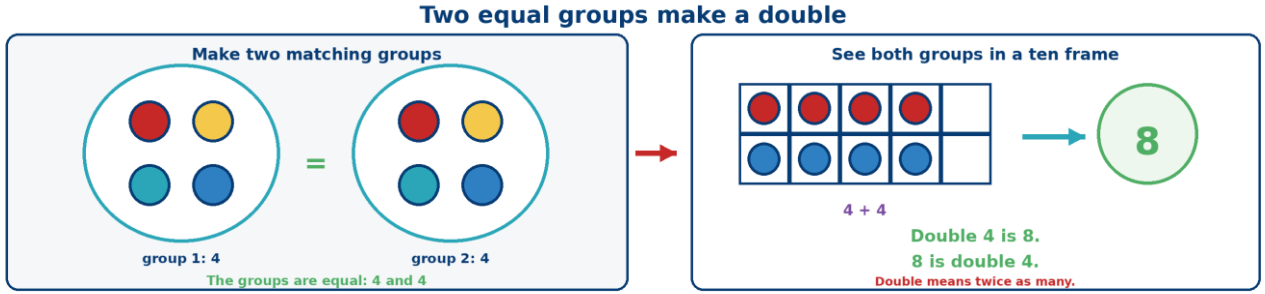
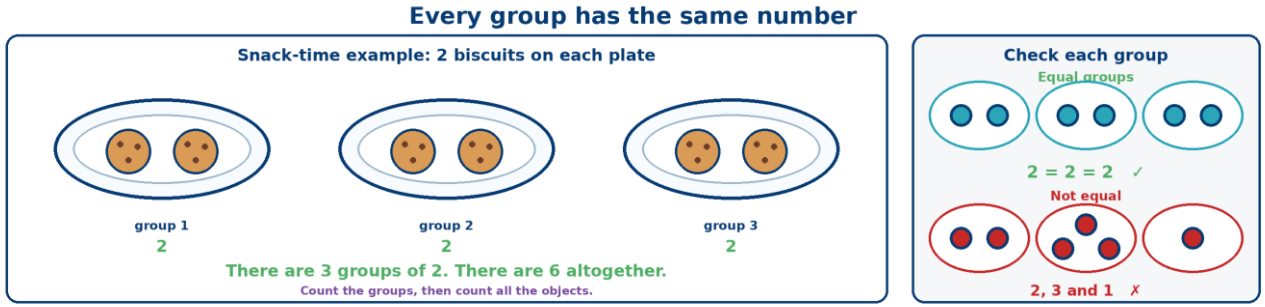
REHEARSE — Build accuracy and automaticity: Daily arithmetic retrieval secures efficient recall and connects place value, powers of 10, inverse operations, negative intervals and fraction equivalence.

Recording, checking and responsive teaching: Books and digital learning show sufficient working. Pupils estimate and check using the inverse, a second method or the context; live responses and Entry Tickets inform targeted support.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, vary expressions and prove why fraction, decimal or negative-number answers are reasonable.

Progression of Skills Overview- Multiplication

Year Group	Skills	
Nursery	• Continue with counting and subitising skills as a foundation for later work on equal groups. (see addition and subtraction sections)	
Reception	• Double to 10 • Make equal groups	
Year 1	• Count in 2s, 5s and 10s • Add equal groups • Make arrays • Make doubles	
Year 2	• Link repeated addition and multiplication • Use arrays • Double • The 2 times-table • The 10 times-table • The 5 times-table • Missing numbers	
Year 3	• The 3 times-table • The 4 times-table • The 8 times-table • Related facts	• Multiply a 2-digit number by a 1-digit number - no exchange • Multiply a 2-digit number by a 1-digit number - with exchange • Scaling • Correspondence problems
Year 4	• Times-table facts to 12 × 12 • Multiply by 1 and 0 • Multiply 3 numbers • Factor pairs • Multiply by 10 and 100	• Related facts • Mental strategies • Multiply a 2 or 3-digit number by a 1-digit number • Scaling • Correspondence problems
Year 5	• Multiples and factors • Square and cube numbers • Multiply numbers up to 4 digits by a 1-digit number • Multiply numbers up to 4 digits by a 2-digit number • Multiply by 10, 100 and 1,000	• Mental strategies • Multiply fractions by a whole number • Multiply mixed numbers by a whole number • Find the whole
Year 6	• Multiply numbers up to 4 digits by a 2-digit number • Multiply by 10, 100 and 1,000 • Order of operations • Multiply decimals by integers • Multiply fractions by fractions • Find the whole • Calculations involving ratio	

Reception	• Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. **At Foster's, Reception pupils build early multiplicative understanding through doubling and equal groups. Real objects, structured images and precise talk make the structure visible; playful rehearsal supports recall and explanation.**
Progression of Skills **White Rose small-step progression**	**Foster's REPRESENT • REHEARSE • REASON approach**
Double to 10 **REPRESENT • REHEARSE —** Make two equal groups with objects, fingers, dot patterns or ten frames. Encourage children to notice that doubling means twice as many.	**REHEARSE • REASON —** Double … is … … is double … 
Make equal groups **REPRESENT • REASON —** Make equal groups in meaningful routines such as tidying or snack time. Ask children to check that each group has the same number.	**REHEARSE • REASON —** There are … groups of … There are … altogether. 

REPRESENT • REHEARSE • REASON in Reception at Foster's

REPRESENT — Make the mathematics visible: Use real objects, fingers, dot patterns, five/ten frames and structured arrangements to make equal groups, repeated groups and doubles visible.

Progression in strategy: Move from matching and making equal groups to describing two equal groups as a double. Formal multiplication notation is not expected.

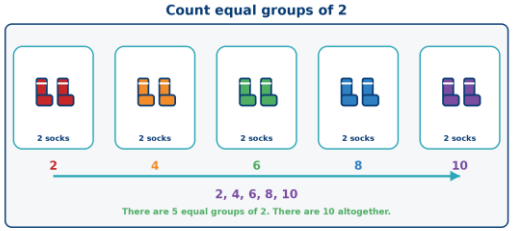
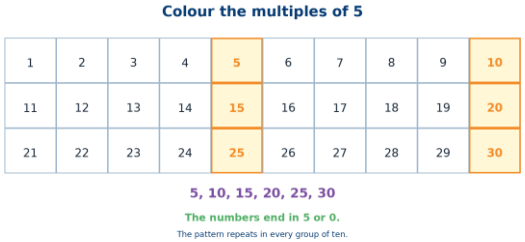
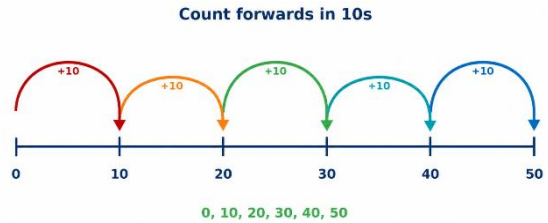
Mathematical language: Model equal groups, each, altogether, double, twice, odd, even and pattern.

REHEARSE — Build accuracy and automaticity: Use short, playful opportunities to revisit subitising, counting and doubles until recall is accurate and flexible.

Recording, checking and responsive teaching: Use observation, talk and children's explanations to revisit, vary or extend an idea. Recording may include actions, objects, pictures, marks and numerals.

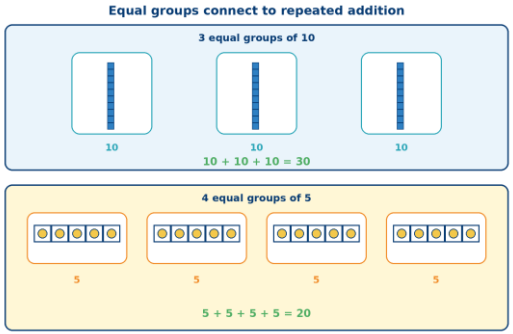
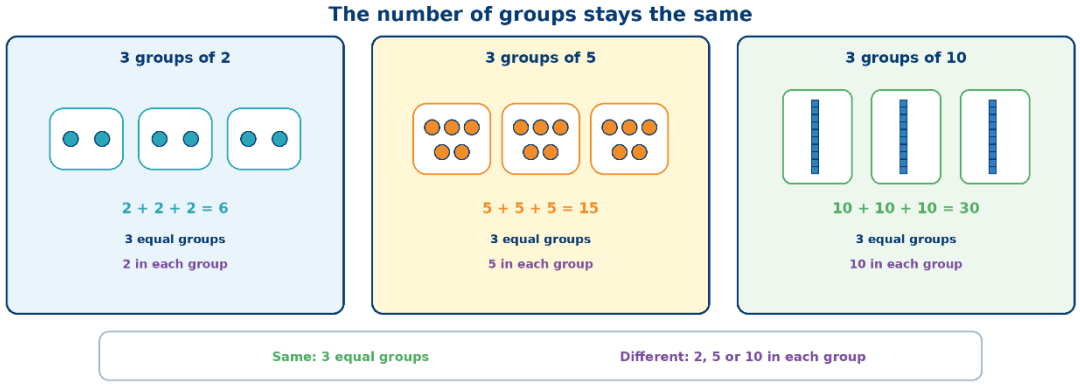
REASON — Explain, justify and solve: Secure children compare arrangements, explain equality, notice odd/even structure and find different ways to make the same total.

<table>
<tr><td>Year 1</td><td colspan="3">• Count in multiples of twos, fives and tens.
• Solve one-step problems involving multiplication, using concrete objects, pictorial representations and arrays with the support of the teacher.
At Foster's, Year 1 pupils connect equal groups, repeated addition, arrays, doubles and counting in 2s, 5s and 10s. Concrete and pictorial representations remain visible while rehearsal builds fluency and reasoning makes the multiplicative structure explicit.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Count in 2s, 5s and 10s

REPRESENT —
Begin with objects that naturally come in 2s, 5s and 10s, such as pairs of socks or fingers.</td><td>REHEARSE • REASON — There are … equal groups of …
There are … altogether.

</td><td>REASON — Continue to colour in…
What do you notice

</td><td>REHEARSE — Complete the number track or number line by counting in 10s.

</td></tr>
<tr><td>Add equal groups (repeated addition)

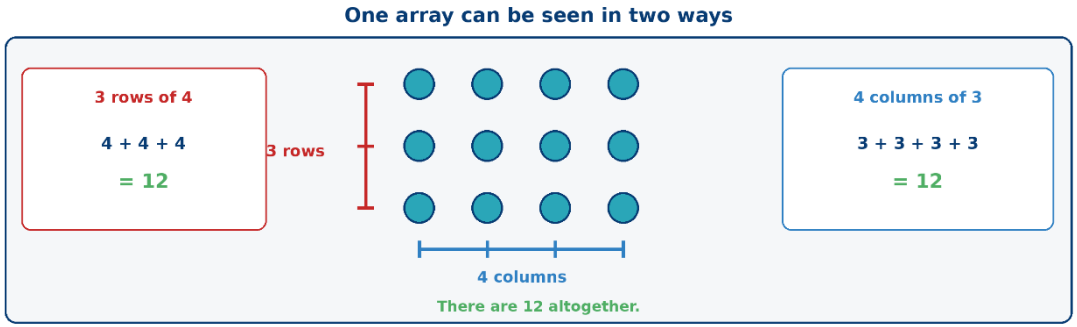
REPRESENT —
Build equal groups with objects or drawings and connect them to repeated addition.</td><td>REHEARSE — There are … groups of …
There are … altogether.

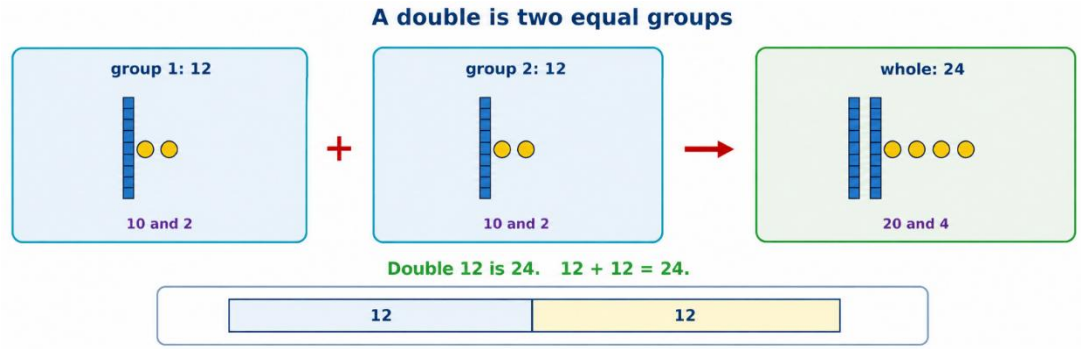
10 + 10 + 10 = 30

5 + 5 + 5 + 5 = 20

</td><td colspan="2">REASON — What is the same? What is different?
2 + 2 + 2 =
5 + 5 + 5 =
10 + 10 + 10 =


Use objects or a drawing to represent the equal groups and explain how you found the total.</td></tr>
</table>

Make arrays **REPRESENT —** Arrange objects in equal rows and columns, linking each array to equal groups and repeated addition.	**REASON —** There are … rows of … There are … altogether. There are … columns of … There are … altogether.
Make doubles **REPRESENT • REHEARSE —** Make two equal groups and connect each double to repeated addition. Extend to doubles beyond 20 using base-10 equipment where appropriate.	**REHEARSE • REASON —** Double … is … … + … = …





REPRESENT • REHEARSE • REASON in Year 1 at Foster's

REPRESENT — Make the mathematics visible: Use objects, arrays, ten frames, number tracks and number lines to connect equal groups, repeated addition, doubles and counting in 2s, 5s and 10s.

Progression in strategy: Move pupils from counting all objects to counting equal groups and using repeated addition or known doubles. Representations remain available when they expose structure.

Mathematical language: Use group, each, equal groups, altogether, repeated addition, double, array, row and column.

REHEARSE — Build accuracy and automaticity: Provide frequent, short rehearsal of counting in 2s, 5s and 10s, doubles and connected equal-group patterns.

Recording, checking and responsive teaching: Pupils record repeated addition and drawings that reveal groups, rows and columns. Observation and live responses identify whether pupils count all or unitise a group.

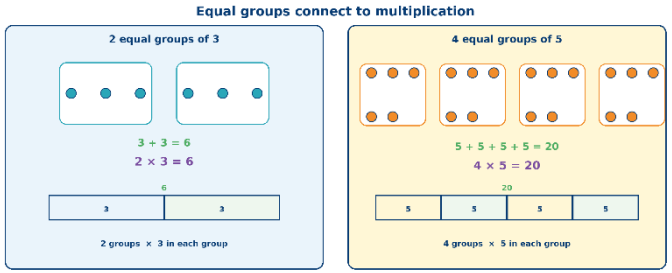
REASON — Explain, justify and solve: Secure pupils compare arrays and groupings, explain how they found the total and solve contextual problems without simply using larger numbers.

<table>
<tr><td>Year 2</td><td colspan="2">• Recall and use multiplication facts for the 2, 5 and 10 multiplication tables.
• Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (×) and equals (=) signs.
• Show that multiplication of two numbers can be done in any order (commutative).
At Foster's, Year 2 pupils connect equal groups, arrays and repeated addition to multiplication notation and commutativity. Connected rehearsal secures the 2, 5 and 10 multiplication tables; pupils use known facts to solve and explain missing-number and contextual problems.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Link repeated addition and Multiplication

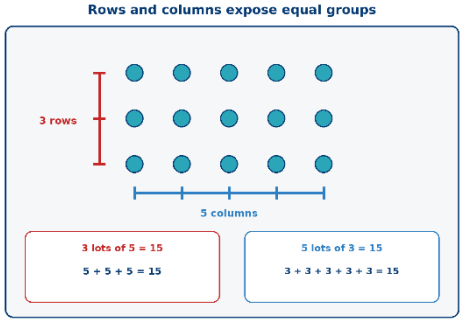
REPRESENT — Connect equal groups and repeated addition directly to multiplication notation.</td><td colspan="2">REHEARSE — There are … equal groups with … in each group.
There are … altogether.

3 + 3 = 6
2 × 3 = 6

5 + 5 + 5 + 5 = 20
4 × 5 = 20

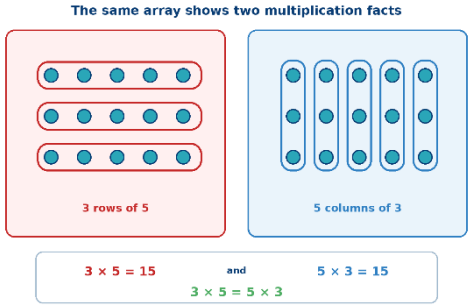

</td></tr>
<tr><td>Use arrays

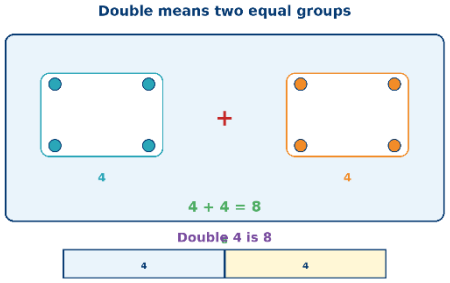
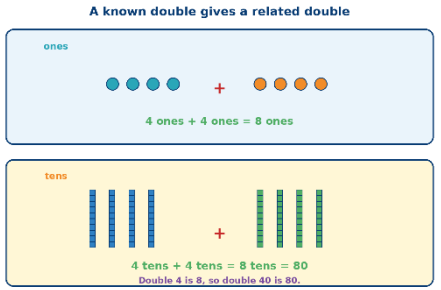
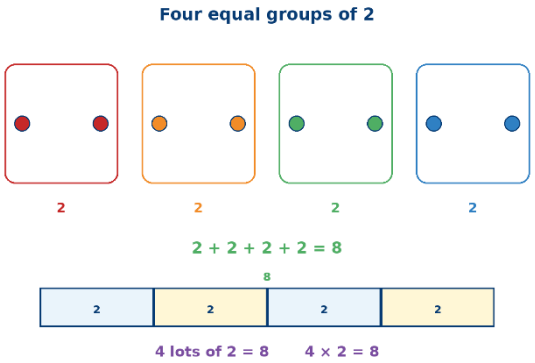
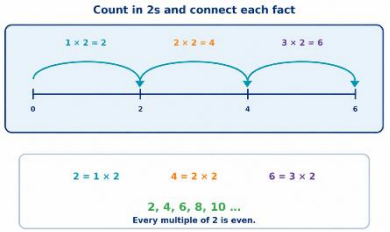
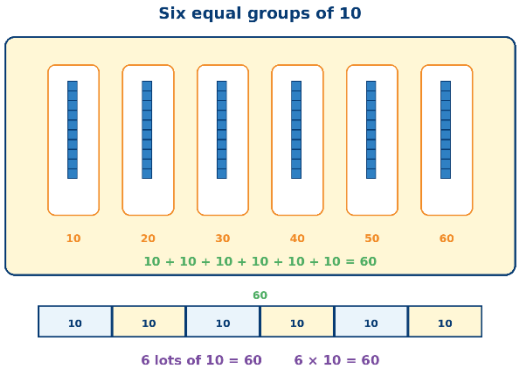
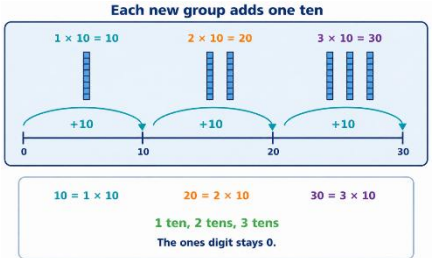
REPRESENT • REASON — Use arrays to expose rows, columns and commutativity.</td><td>REPRESENT — There are … rows with … in each row.
There are … columns with … in each column.



3 lots of 5 = 15
5 + 5 + 5 = 15
5 lots of 3 = 15
3 + 3 + 3 + 3 + 3 = 15</td><td>REASON — I can see … × … and … × …

3 × 5 = 15
5 × 3 = 15
3 × 5 = 5 × 3

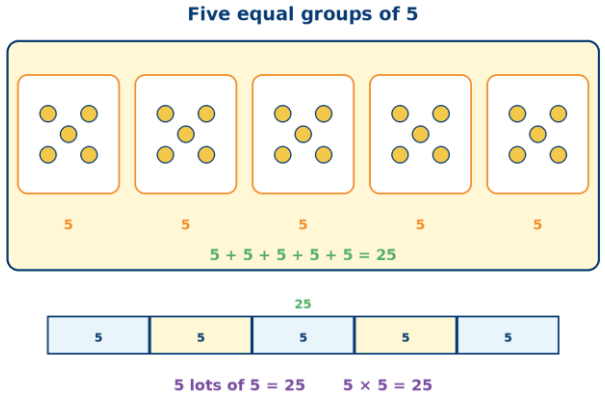

</td></tr>
</table>

Double **REHEARSE • REASON —** Use known doubles to derive related facts and explain the connection.	**REHEARSE —** Double … is …  Double 4 = 4 + 4 Double 4 is 8	**REASON —** Double … is …, so double … is …  Double 4 is 8 Double 40 is 80
The 2 times-table **REHEARSE —** Rehearse the 2 times-table forwards, backwards and out of sequence. Notice that all multiples of 2 are even.	**REPRESENT —** … lots of 2 = … × 2 = 	**REHEARSE —** … times 2 is equal to … 1 × 2 = 2 2 = 1 × 2 2 × 2 = 4 4 = 2 × 2 3 × 2 = 6 6 = 3 × 2 
The 10 times-table **REHEARSE • REASON —** Rehearse the 10 times-table forwards, backwards and out of sequence. Explain the place-value pattern.	**REPRESENT —** … lots of 10 = … × 10 = 	**REHEARSE —** … times 10 is equal to … 1 × 10 = 10 10 = 1 × 10 2 × 10 = 20 20 = 2 × 10 3 × 10 = 30 30 = 3 × 10 

The 5 times-table

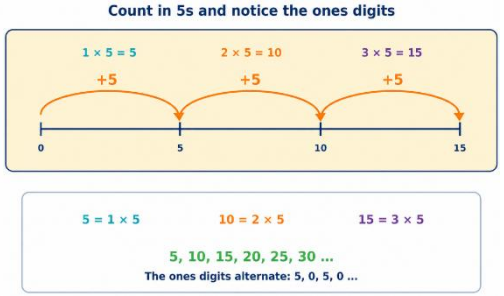
REHEARSE • REASON — Rehearse the 5 times-table forwards, backwards and out of sequence. Explain the pattern in the ones digits.

REPRESENT — … lots of 5 =
… × 5 =



REHEARSE — … times 5 is equal to …

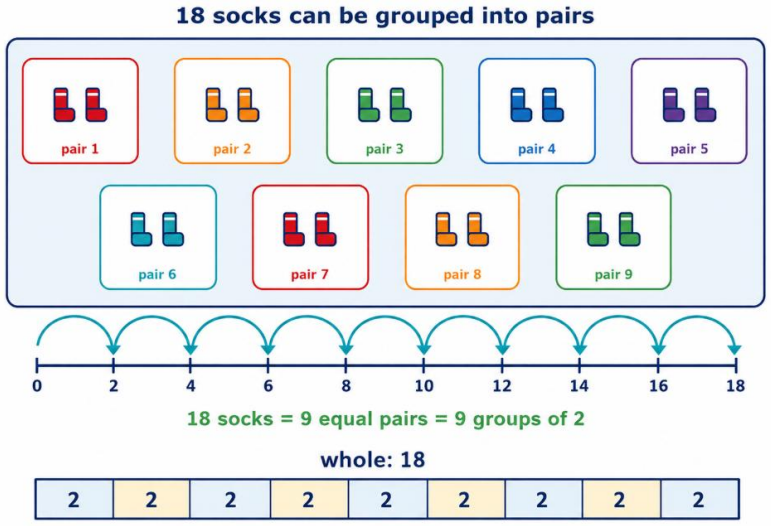
1 × 5 = 5 5 = 1 × 5
2 × 5 = 10 10 = 2 × 5
3 × 5 = 15 15 = 3 × 5



Missing numbers

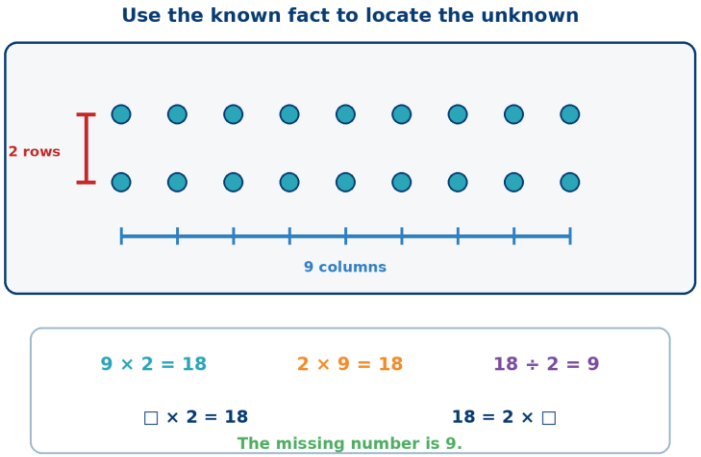
REASON — Use known multiplication and division facts to identify the position and value of the unknown.

REPRESENT — … is equal to … groups of …
18 socks, how many pairs?



REHEARSE • REASON — … times … is equal to …

___ X 2 = 18
18 = 2 X ___



REPRESENT • REHEARSE • REASON in Year 2 at Foster's

REPRESENT — Make the mathematics visible: Use objects, arrays, bar models and number lines to connect equal groups and repeated addition directly to multiplication notation and commutativity.

Progression in strategy: Move from skip counting and repeated addition to known 2, 5 and 10 multiplication facts and connected division fact families.

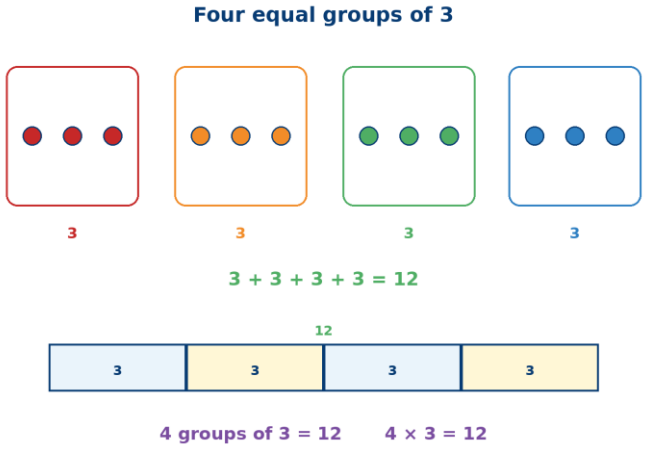
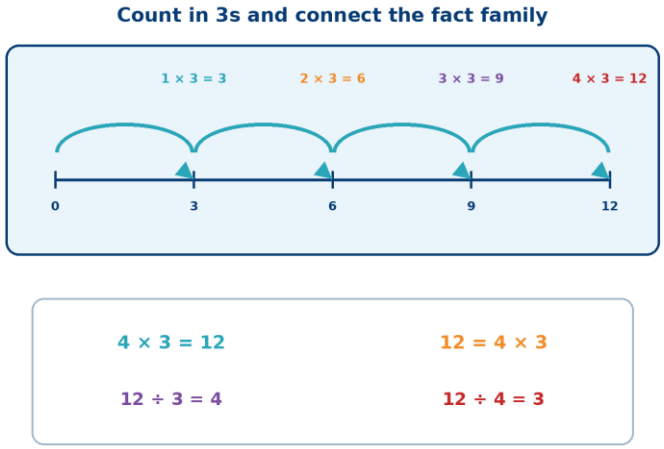
Mathematical language: Use multiply, times, groups of, factor, product, equal to, commutative, odd and even.

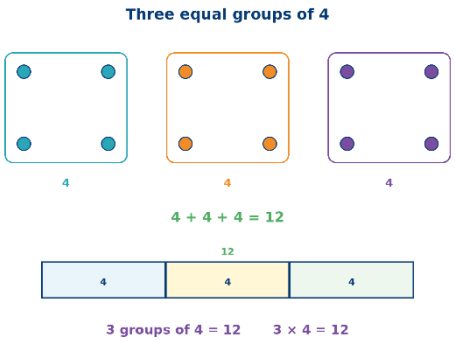
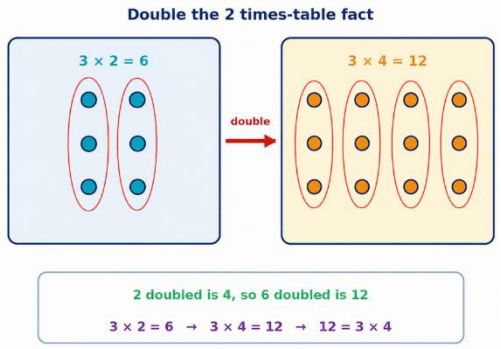
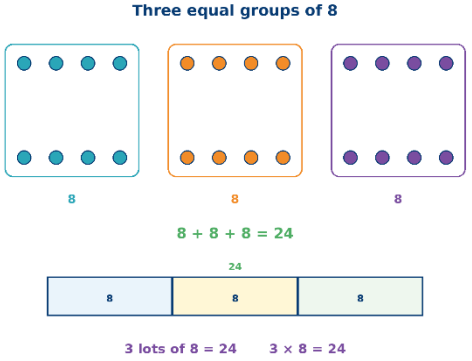
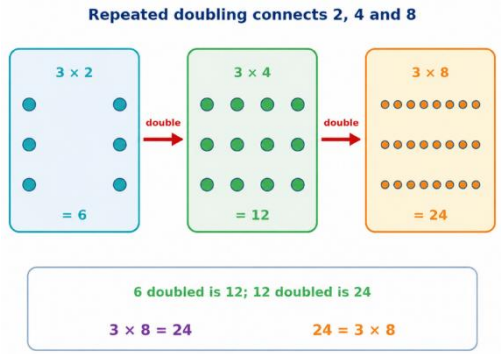
REHEARSE — Build accuracy and automaticity: Retrieve 2, 5 and 10 times-table facts forwards, backwards and out of sequence, using patterns and related facts rather than isolated chanting.

Recording, checking and responsive teaching: Pupils record multiplication equations in different orientations and show sufficient working. Live responses identify whether a pupil is counting or using a known fact.

REASON — Explain, justify and solve: Secure pupils explain commutativity, solve missing-number and contextual problems, compare representations and justify efficient fact use.

<table>
<tr><td>Year 3</td><td colspan="2">• Recall and use multiplication facts for the 3, 4 and 8 multiplication tables.
• Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
• Solve problems, including missing-number problems, involving multiplication, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.
At Foster's, Year 3 pupils secure the 3, 4 and 8 multiplication tables and derive related facts using doubling, place value and the distributive law. Representations connect partitioning to expanded multiplication; pupils explain scaling and solve correspondence problems systematically.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>The 3 times-table

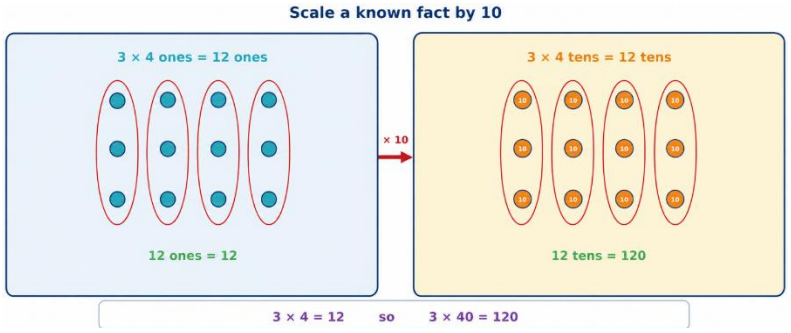
REHEARSE — Recall the 3 times-table forwards, backwards and out of sequence, linking each fact to related division facts.</td><td>REPRESENT — … groups of 3 =
… × 3 =
… times 3 =
3 × … =

</td><td>REHEARSE • REASON — … times 3 is equal to …
4 × 3 = 12 12 = 4 × 3

</td></tr>
</table>

The 4 times-table **REHEARSE • REASON —** Recall the 4 times-table and use doubling to connect it to the 2 times-table.	**REPRESENT —** … groups of 4 = … × 4 = … times 4 = 4 × … = 	**REHEARSE • REASON —** … times 4 is equal to … 3 × 4 = 12 12 = 3 x 4 
The 8 times-table **REHEARSE • REASON —** Recall the 8 times-table and use repeated doubling to connect the 2, 4 and 8 times-tables.	**REPRESENT —** … lots of 8 = … × 8 = … times 8 = 8 × … = 	**REHEARSE • REASON —** … times 8 is equal to … 3 × 8 = 24 24 = 3 x 8 

Related facts

REHEARSE • REASON — Scale known multiplication facts by 10 and explain how place value changes.

REPRESENT — … × … ones is equal to … ones
so … × … tens is equal to … tens.



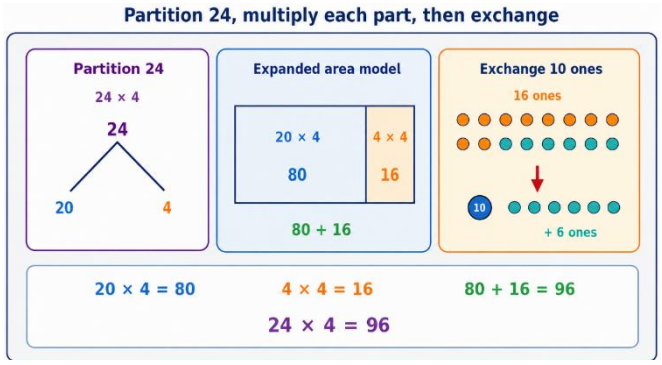
Multiply a 2-digit number by a 1-digit number – with exchange

REPRESENT — Partition the two-digit number and connect an area model or expanded method to place-value-aligned recording.

REHEARSE — … tens multiplied by … is equal to … tens.
… ones multiplied by … is equal to … ones. Explain how any exchange is represented.

20 × 4 = 80
4 × 4 = 16

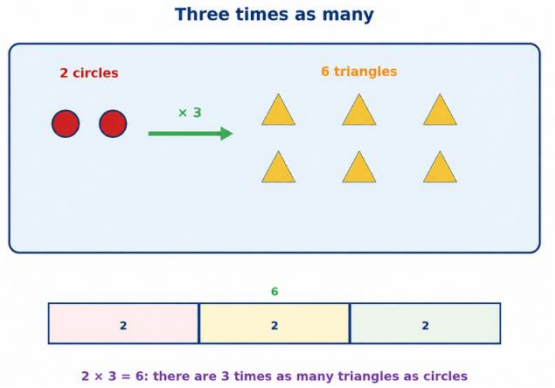
24 × 4 = 96



Scaling

REASON — Compare quantities multiplicatively: identify how many times as many or how many times the size.

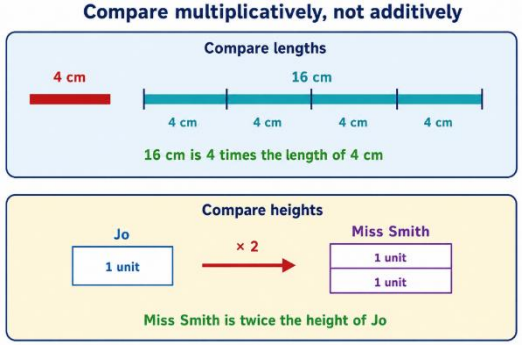
REPRESENT — There are … times as many … as …



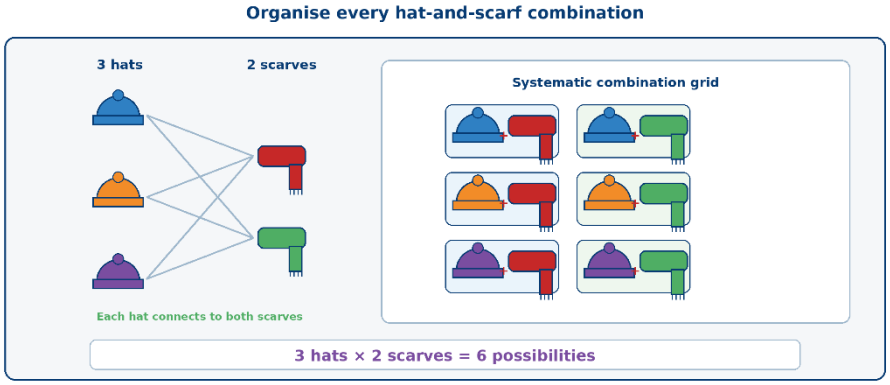
There are 3 times as many triangles as circles.

REASON — … is … times the size of …
… is … times the length/height of …

4 cm
16 cm



Miss Smith is twice the height of Jo.

Correspondence problems (How many ways?) **REASON —** Work systematically to find every possible combination and justify that the set is complete.	**REPRESENT • REASON —** For every …, there are … possible … There are … × … possibilities altogether  For every hat, there are two possible scarves. 3 × 2 = 6 There are 6 possibilities altogether.

REPRESENT • REHEARSE • REASON in Year 3 at Foster's

REPRESENT — Make the mathematics visible: Use arrays, place-value counters, part-whole models and area models to connect partitioning and the distributive law to expanded and formal multiplication.

Progression in strategy: A formal method is not automatically most efficient. Pupils use known facts, doubling, partitioning and place value before selecting written recording.

Mathematical language: Use factor, multiple, product, distributive, partition, exchange, scaling and correspondence.

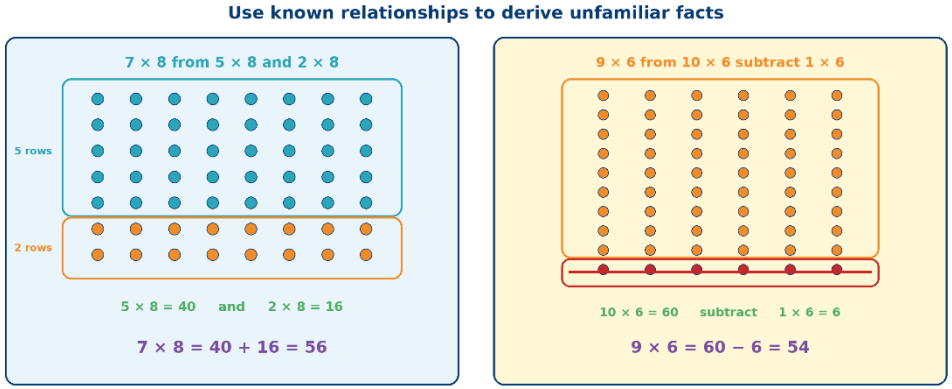
REHEARSE — Build accuracy and automaticity: Secure the 3, 4 and 8 times-tables through connected retrieval, including related division facts and place-value scaling.

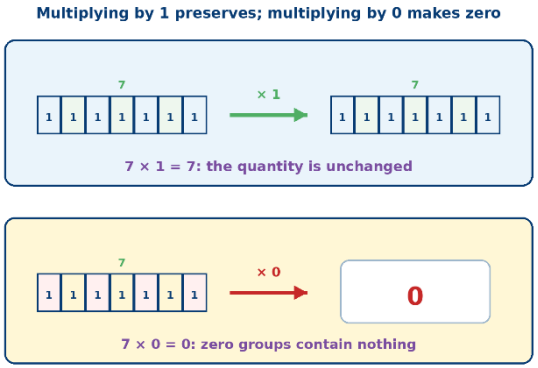
Recording, checking and responsive teaching: Pupils estimate, align place values, record each partial product or exchange clearly and use division or a second strategy to check. Entry Tickets identify fact or place-value gaps.

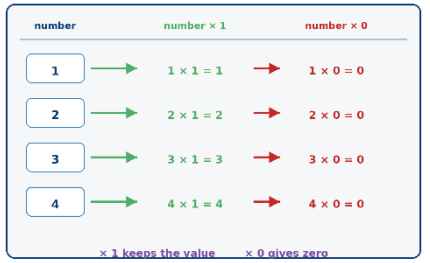
REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors and explain scaling, missing-number and correspondence problems systematically.

<table>
<tr><td>Year 4</td><td>• Recall multiplication facts for multiplication tables up to 12 × 12
• Use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers.
• Recognise and use factor pairs and commutativity in mental calculations.
• Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
• Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.
At Foster's, Year 4 pupils secure multiplication facts to 12 × 12 and connected division facts. They use factor pairs, commutativity, associativity and distributivity to calculate efficiently, connect place-value representations to short multiplication and reason through scaling and correspondence.</td></tr>
<tr><td>White Rose small-step progression</td><td>Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Times-table facts to 12 × 12

REHEARSE • REASON — Recall multiplication facts to 12 × 12 forwards, backwards and out of sequence. Use relationships between tables to derive unfamiliar facts.</td><td colspan="2">REPRESENT • REHEARSE — … groups of … =
… times … is equal to …
… × … =


</td></tr>
<tr><td>Multiply by 1 and 0
REASON — Generalise the effect of multiplying by 1 and by 0.</td><td>REASON — Any number multiplied by 1 is equal to …
Any number multiplied by 0 is equal to …


</td><td>REHEARSE — … × … = …
Multiplication

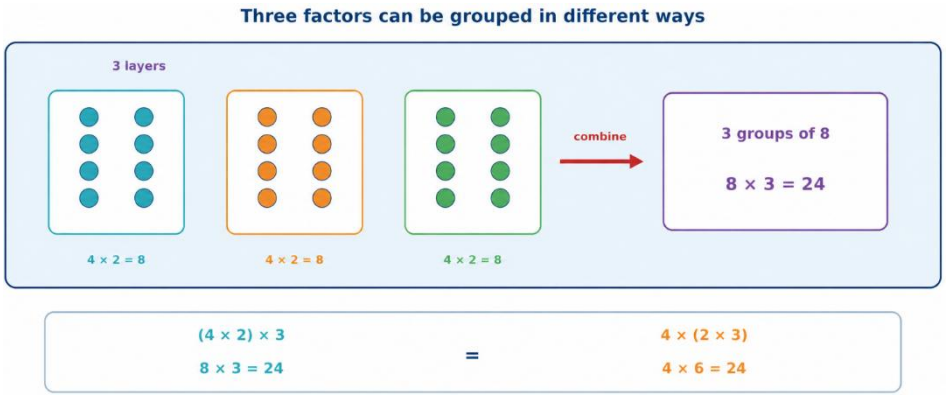


1 × 1 = 1 1 × 0 = 0
2 × 1 = 2 2 × 0 = 0
3 × 1 = 3 3 × 0 = 0
4 × 1 = 4 4 × 0 = 0</td></tr>
</table>

Multiply 3 numbers

REASON — Use commutativity and associativity to choose an efficient order when multiplying three numbers.

REHEARSE • REASON — To work out … × … × …, I can first calculate … × … and then multiply the answer by …



$4 \times 2 \times 3 = 8 \times 3 = 24$
$2 \times 3 \times 4 = 6 \times 4 = 24$
$3 \times 4 \times 2 = 12 \times 2 = 24$

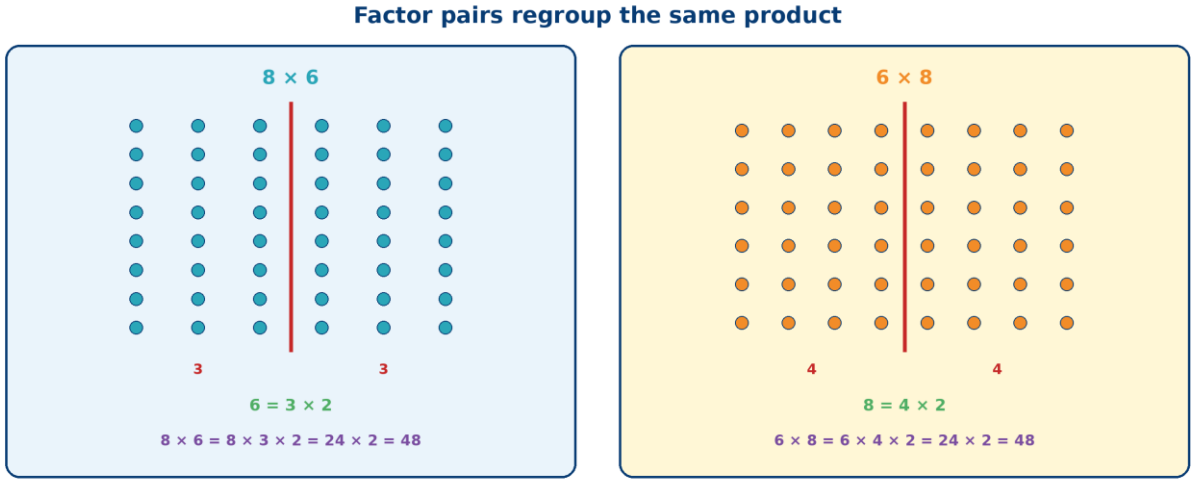
Factor pairs

REPRESENT • REASON — Use factor pairs to rewrite equivalent calculations and explain why the product is unchanged.

REHEARSE • REASON — 12 = … × …, so … × 12 = … × … × …

$8 \times 6 = 8 \times 3 \times 2$
$8 \times 6 = 24 \times 2$

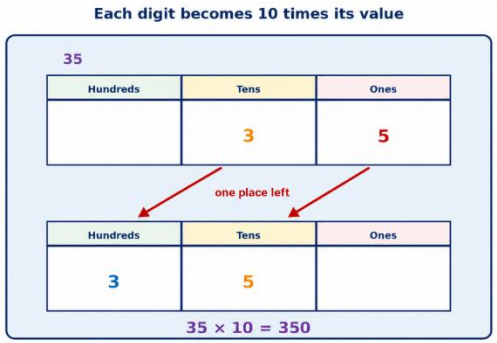
$6 \times 8 = 6 \times 4 \times 2$
$6 \times 8 = 24 \times 2$

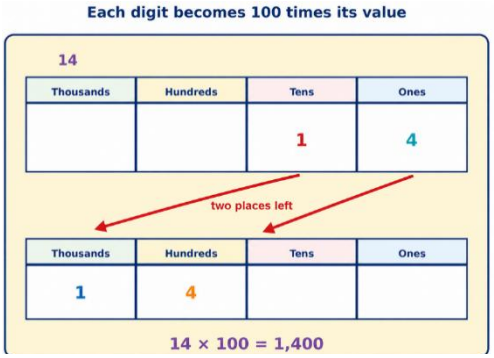


<table>
<tr>
<td>Multiply by 10 and 100

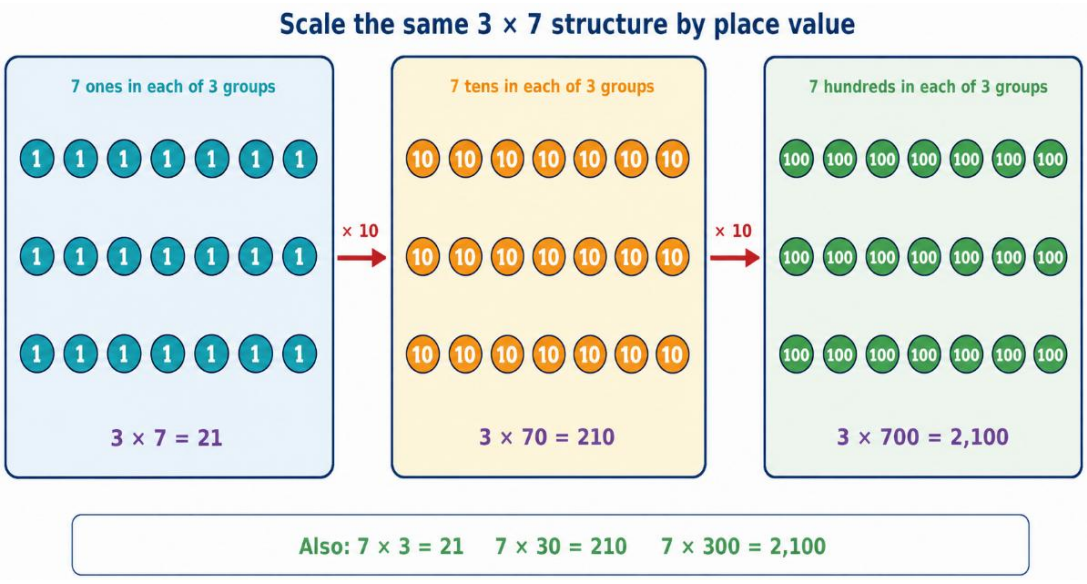
REPRESENT — Use a place-value chart or counters to show that multiplying by 10 or 100 changes the value of every digit. Avoid the inaccurate rule ‘add zeros’.</td>
<td>REHEARSE • REASON — When I multiply by 10, each digit becomes 10 times the value and is represented one place-value column to the left.

… is 10 times the size of …

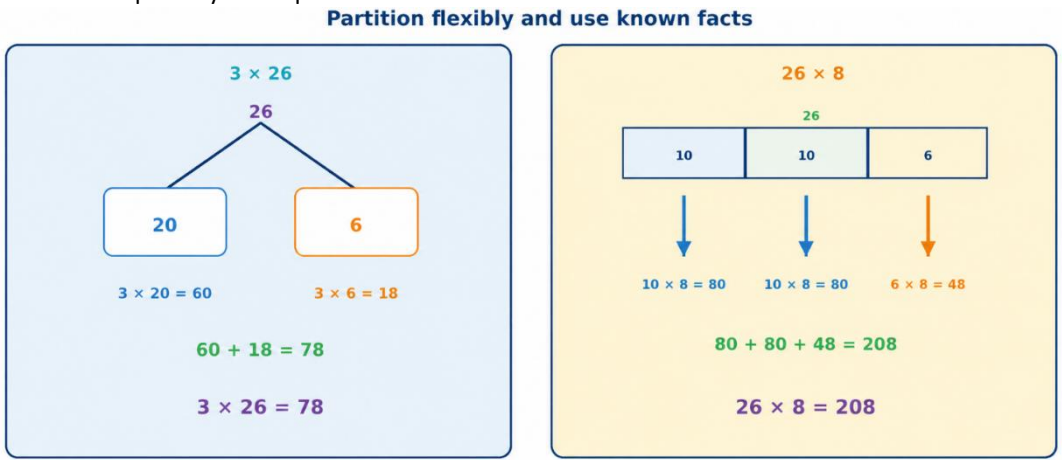
35 × 10 = 350

</td>
<td>REHEARSE • REASON — When I multiply by 100, each digit becomes 100 times the value and is represented two place-value columns to the left.
… is 100 times the size of …

4 × 100 = 1,400

</td>
</tr>
<tr>
<td>Related facts

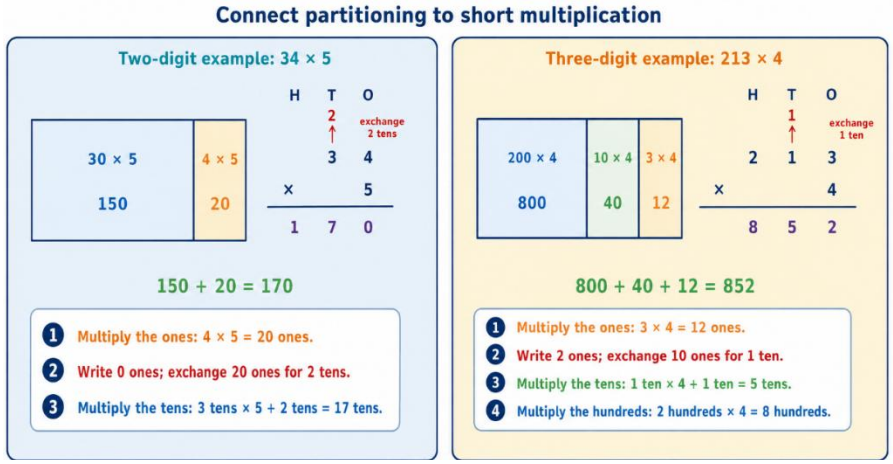
REHEARSE • REASON — Scale known facts by 10 and 100 and explain the place-value connection.</td>
<td>REPRESENT — … × … ones is equal to … ones
so … × … tens is equal to … tens
and … × … hundreds is equal to … hundreds.

3 × 7 = 21
3 × 70 = 210
3 × 700 = 2,100

</td>
<td></td>
</tr>
</table>

<table>
<tr>
<td>Mental strategies

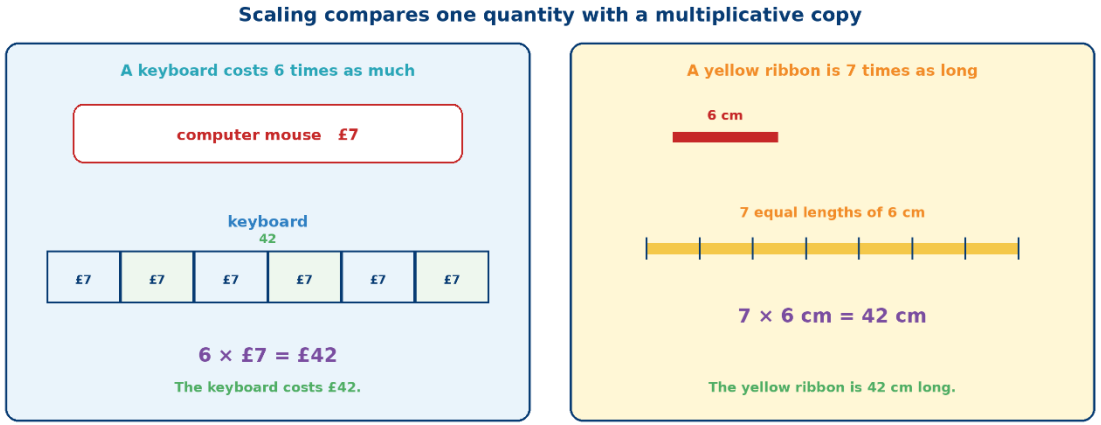
REHEARSE — Partition two- or three-digit numbers and use known facts to calculate mentally.</td>
<td>REASON — … tens multiplied by … is equal to … tens.
…ones multiplied by … is equal to … ones


3 × 26 = 60 + 18 = 78
26 × 8 = 80 + 80 + 48 = 208</td>
</tr>
<tr>
<td>Multiply a 2 or 3-digit number by a 1-digit number

REPRESENT — Connect an array or area model and expanded recording to the formal short multiplication layout.</td>
<td>REHEARSE — To multiply a 2-digit number by …, I multiply the ones by … and the tens by …
To multiply a 3-digit number by … , I multiply the ones by … , the tens by … and the hundreds by …

</td>
</tr>
</table>

<table>
<tr>
<td>Scaling

REASON — Interpret multiplication as scaling and compare the relative size of quantities.</td>
<td>REPRESENT • REASON — … is … times the size of …



A computer mouse costs £7
A keyboard costs 6 times as much.

A red ribbon is 6 cm.
A yellow ribbon is 7 times as long.</td>
</tr>
<tr>
<td>Correspondence problems

REASON — Use a table to organise all possible combinations and prove that none are missing.</td>
<td>REPRESENT • REASON — For every …, there are … possibilities.
There are … × … possibilities altogether.

A pizza company offers a choice of 5 toppings and 3 bases.
5 × 3 = 15


</td>
</tr>
</table>

REPRESENT • REHEARSE • REASON in Year 4 at Foster's

REPRESENT — Make the mathematics visible: Use arrays, factor-pair diagrams, area models and place-value counters to expose commutativity, associativity, distributivity and short multiplication.

Progression in strategy: Pupils select between mental strategies and formal recording. Expanded methods remain available when the place-value structure of short multiplication is insecure.

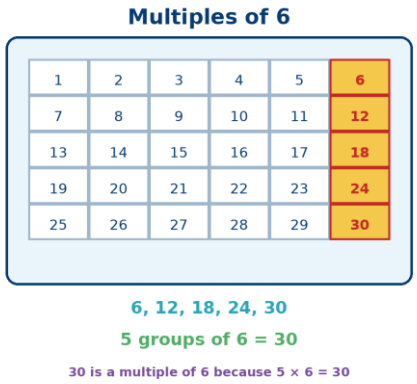
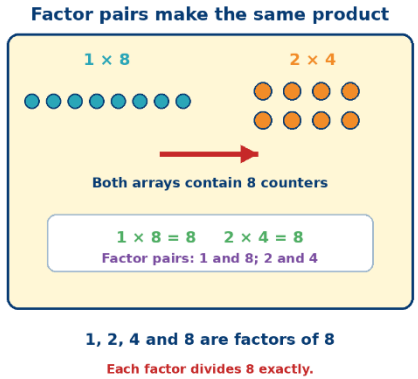
Mathematical language: Use factor pair, multiple, product, commutative, associative, distributive, partition, exchange, scaling and correspondence.

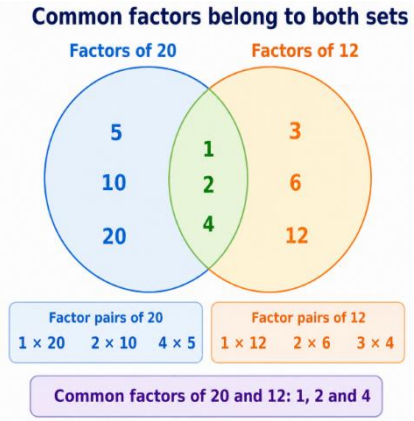
REHEARSE — Build accuracy and automaticity: Recall multiplication and connected division facts to 12 × 12 accurately and flexibly, deriving unfamiliar facts from known relationships.

Recording, checking and responsive teaching: Pupils estimate, record place values and exchanges clearly and check with division or a second strategy. Live responses prompt revisiting of facts, factors or representation.

REASON — Explain, justify and solve: Secure pupils justify an efficient order, compare equivalent calculations, explain errors and solve scaling and correspondence problems.

<table>
<tr><td>Year 5</td><td colspan="3">• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
• Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)
• Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.
• Multiply numbers mentally drawing upon known facts.
• Multiply whole numbers and those involving decimals by 10, 100 and 1000
• Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
At Foster's, Year 5 pupils maintain fluent multiplication facts and use factors, multiples, prime numbers, squares and cubes to reason about structure. They select efficient mental or formal methods, connect place value to scaling by powers of 10 and use diagrams to multiply fractions and find wholes.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Multiples and factors

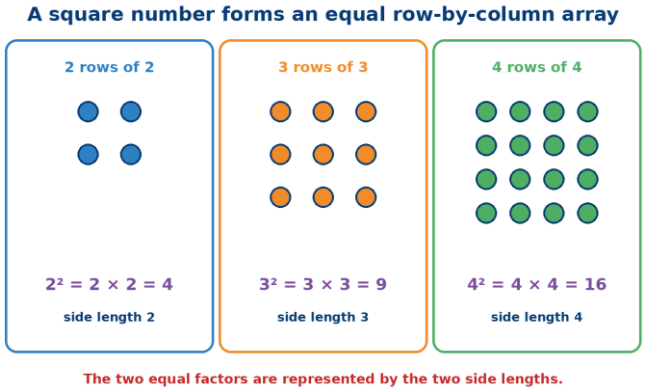
REASON — Use arrays and factor pairs to identify multiples, factors and common factors. Connect these structures to prime and composite numbers.</td><td>REHEARSE • REASON — … is a multiple of … because … × … = …

</td><td>REPRESENT • REASON — … is a factor of … because … × … = …
1 × 8 2 × 4


1, 2, 4 and 8 are factors of 8</td><td>REASON — The common factors of … and … are …

</td></tr>
</table>

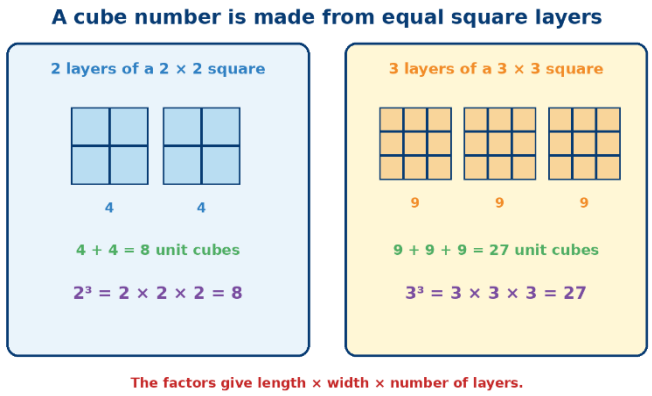
Square and cube numbers

REPRESENT • REASON — Build and compare square and cube numbers using arrays, layers and exponent notation.

REHEARSE — … squared means … × …



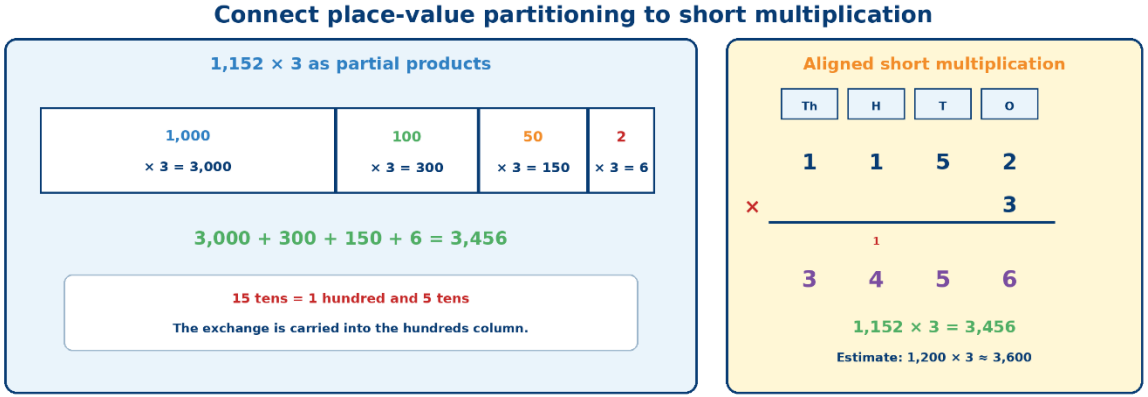
REHEARSE — … cubed means … × … × …



Multiply numbers up to 4 digits by a 1-digit number

REPRESENT • REHEARSE — Connect place-value counters or an expanded model to accurately aligned short multiplication.

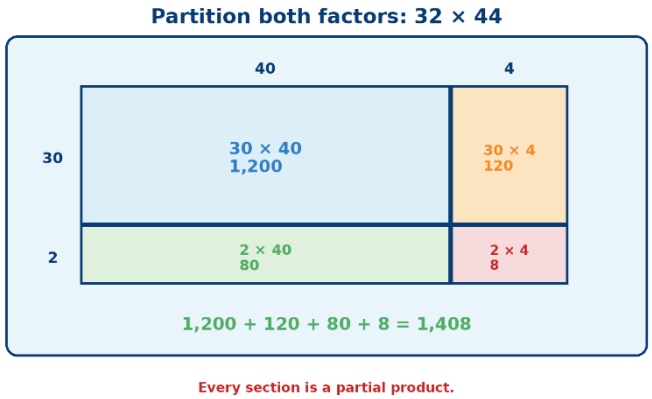
REHEARSE • REASON — To multiply a 4-digit number by …, I multiply the ones by …, the tens by …, the hundreds by … and the thousands by …



Multiply numbers up to 4 digits by a 2-digit number

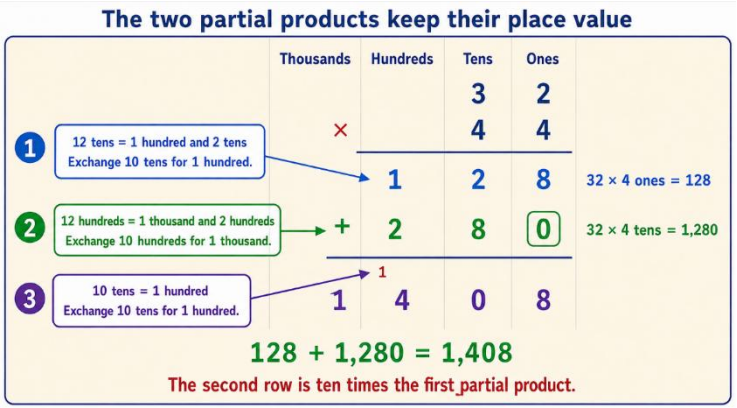
REPRESENT — Partition using an area model, then connect each partial product to the formal long multiplication layout.

REPRESENT • REHEARSE — I can partition … into … and



32 × 44 = 1,200 + 80 + 120 + 8
32 × 44 = 1,408

REHEARSE • REASON — First, I multiply by the … . Then I multiply by the … . Explain the placeholder.

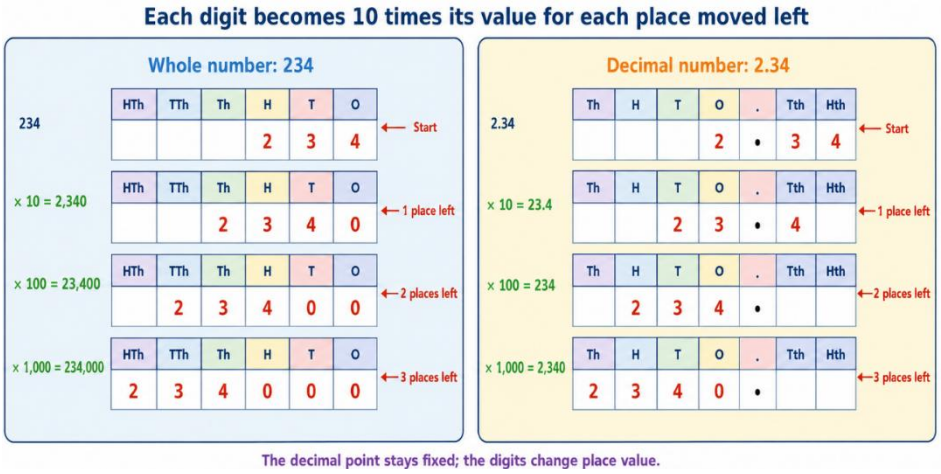


Multiply by 10, 100 and 1,000

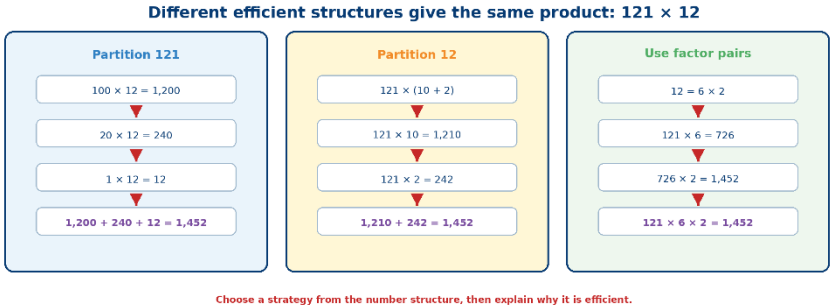
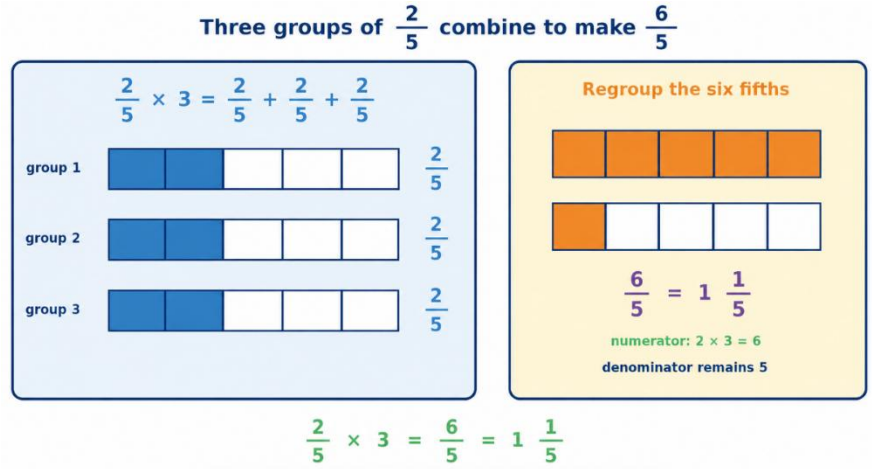
REPRESENT — Use a place-value chart or counters to show that multiplying by a power of 10 changes the value of every digit. Avoid the inaccurate rule ‘add zeros’.

REHEARSE • REASON — To multiply by 10/100/1,000, each digit becomes 10/100/1,000 times the value and is represented … places to the left.
… is 10/100/1,000 times the size of …

234 × 10 = 2,340
234 × 100 = 23,400
234 × 1,000 = 234,000



2.34 × 10 = 23.4
2.34 × 100 = 234
2.34 × 1,000 =2,340

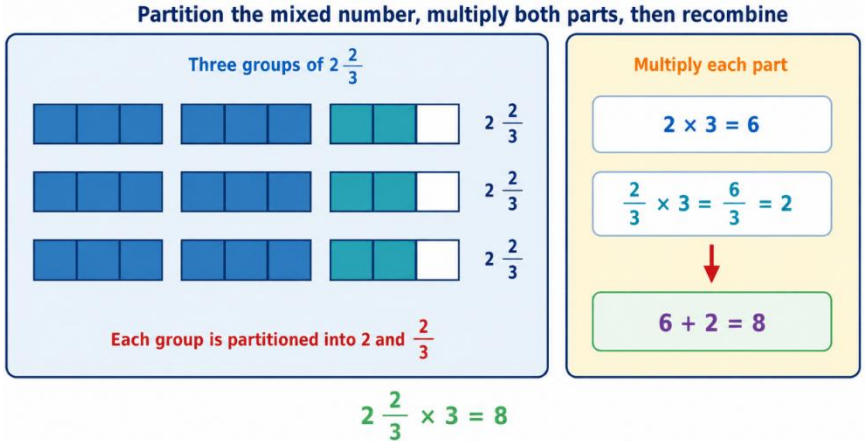
Mental strategies **REHEARSE • REASON —** Select efficient mental strategies using partitioning, factor pairs and related facts; justify why the chosen strategy is efficient.	**REASON —** The most efficient strategy to calculate … × … is … To calculate … × 12, I can do … × … × … For example: 121 × 12 I could calculate 100 × 12 plus 20 × 12 plus 1 × 12 I could calculate 121 × 10 plus 121 × 2 I could calculate 121 × 6 × 2 I could calculate 121 × 4 × 3 
Multiply fractions by a whole number **REPRESENT —** Use repeated addition, bar models or fraction diagrams to expose multiplication of a proper fraction by a whole number. E.g. $\frac{1}{5} \times 4 = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$	**REHEARSE • REASON —** To multiply a fraction by an integer, I multiply the numerator by the integer and the denominator remains the same. 

Multiply mixed numbers by a whole number

REPRESENT — Partition the mixed number into a whole number and a fraction, then connect both partial products.

REHEARSE • REASON — Partition the mixed number, multiply each part and recombine the products.

I can partition __ — into __ and —



Find the whole

REPRESENT • REASON — Use a bar model or known fractional part to scale up and find the whole.

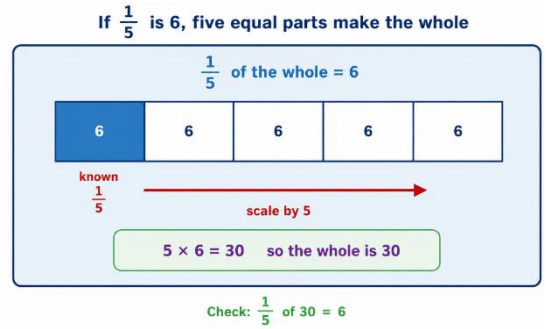
REHEARSE • REASON — Use the known part to find one unit, then scale to the whole.

If $\frac{1}{}$ is …, then the whole is __ x __

$\frac{1}{5}$ of __ = 6

5 x 6 = 30

$\frac{1}{5}$ of 30 = 6



REHEARSE • REASON — Use the known part to find one unit, then scale to the whole.

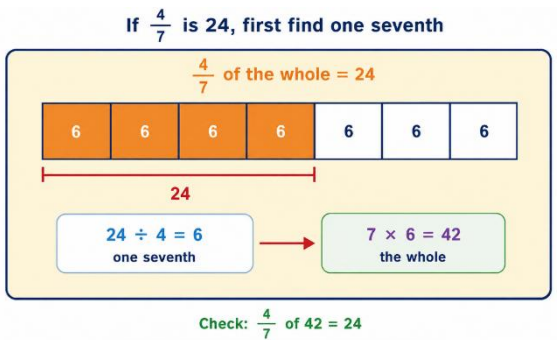
If — is …, then $\frac{1}{}$ is … and the whole is __ x __

$\frac{4}{7}$ of __ = 24

$\frac{1}{7}$ = 24 ÷ 4 = 6

7 × 6 = 42

$\frac{4}{7}$ of 42 = 24



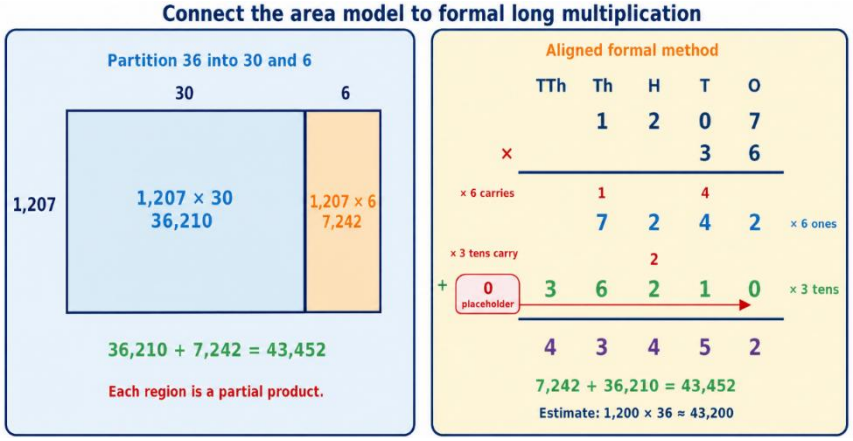
REPRESENT • REHEARSE • REASON in Year 5 at Foster's

REPRESENT — Make the mathematics visible: Use arrays, factor pairs, area models, place-value charts and fraction diagrams to connect structure to mental methods, long multiplication and multiplication of fractions.

REHEARSE — Build accuracy and automaticity: Maintain fluent multiplication facts and derive related facts through factors, multiples, powers of 10 and equivalence.

Recording, checking and responsive teaching: Pupils estimate and check using division, a second method or the context. Work in books or digitally shows enough working to reveal partitioning, partial products and checks.

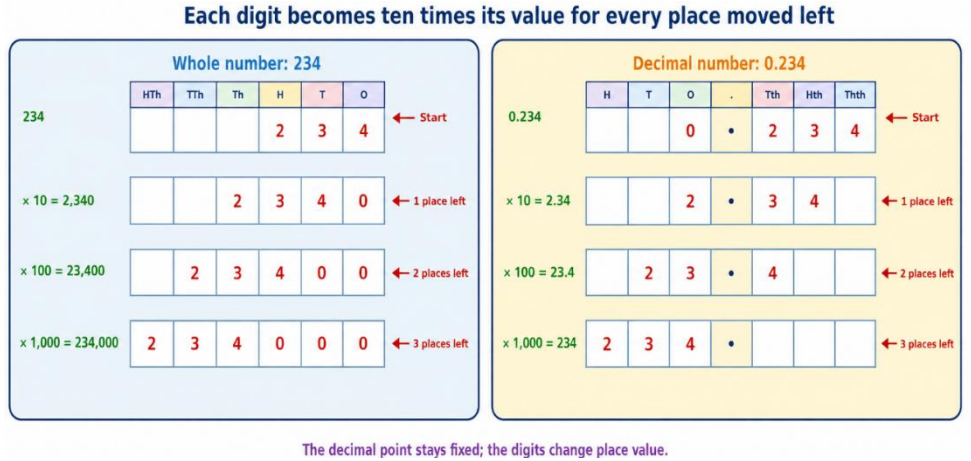
Progression in strategy: Pupils choose efficiently between mental and formal methods, connect powers of 10 to place value and connect partial products to the long-multiplication layout. **Mathematical language:** Use factor, multiple, prime, composite, square, cube, product, partial product, placeholder, equivalent, numerator, denominator and mixed number.	**REASON — Explain, justify and solve:** Secure pupils compare methods, diagnose errors, justify efficiency and reason about factors, multiplicative structure, fractions and finding the whole.

Year 6	• Identify common factors and common multiples. • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. • Multiply numbers by 10, 100 and 1,000 • Multiply one-digit numbers with up to two decimal places by whole numbers. • Use their knowledge of the order of operations to carry out calculations involving the 4 operations. • Multiply simple pairs of proper fractions, writing the answer in its simplest form. • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving the calculation of percentages. **At Foster's, Year 6 pupils select and justify efficient mental or formal multiplication across whole numbers, decimals and fractions. Long multiplication, place-value scaling, order of operations and proportional reasoning are connected through representations, accurate rehearsal, estimation and checking.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**
Multiply numbers up to 4 digits by a 2-digit number **REPRESENT —** Connect an area model and partial products to the formal long multiplication layout.	**REHEARSE • REASON —** To multiply by a 2-digit number, first multiply by the ones, then by the tens, then combine the partial products. Explain the placeholder. 

<table>
<tr>
<td>Multiply by 10, 100 and 1,000

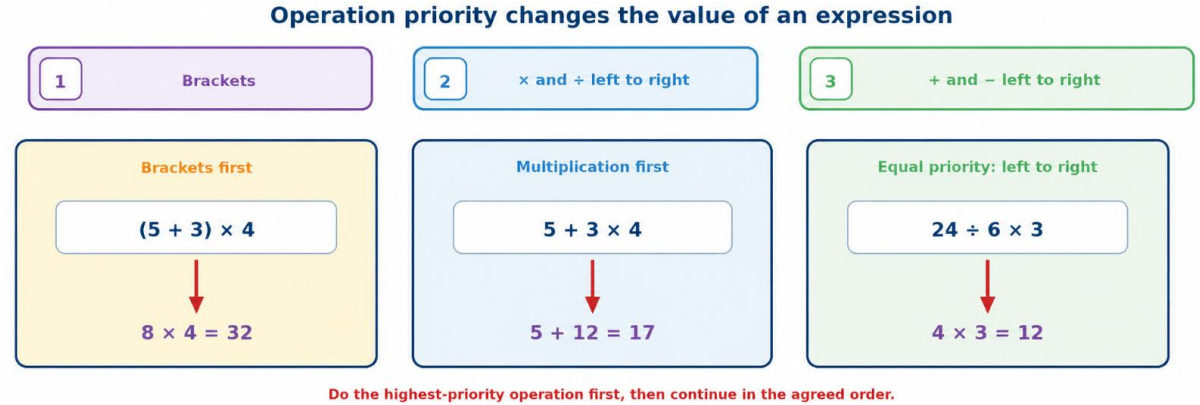
REPRESENT — Use a place-value chart to show that multiplying by a power of 10 changes the value of every digit; avoid the inaccurate rule ‘add zeros’.</td>
<td>REHEARSE • REASON — To multiply by 10/100/1,000, each digit becomes 10/100/1,000 times the value and is represented … places to the left. … is 10/100/1,000 times the size of …

234 × 10 = 2,340
234 × 100 = 23,400
234 × 1,000 = 234,000



0.234 × 10 = 2.34
0.234 × 100 = 23.4
0.234 × 1,000 =234</td>
</tr>
<tr>
<td>Order of operations

REASON — Evaluate brackets first; then multiplication and division; then addition and subtraction, working from left to right where operations have equal priority.</td>
<td>REHEARSE • REASON — … has greater priority than …, so the first part of the calculation I need to do is …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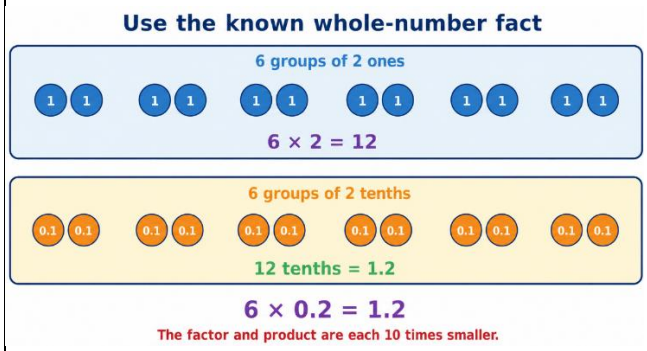
</table>

Multiply decimals by integers

REPRESENT — Connect each decimal calculation to a known whole-number fact and a place-value representation.

Use known facts and whole-number multiplication to justify the result.

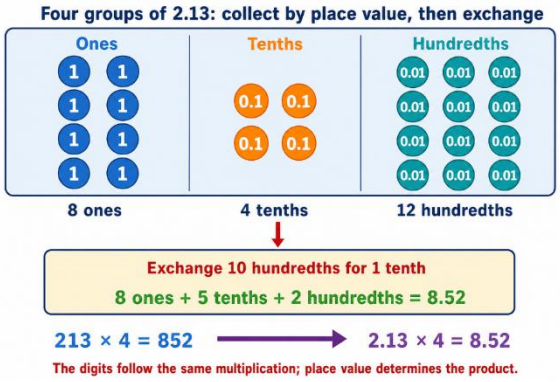
REHEARSE • REASON — I know that … × … = …, so I also know that … × … = …



6 × 2 = 12

6 × 0.2 = 1.2

REPRESENT — I need to exchange 10 … for 1 …



213 × 4 = 852

2.13 ×4 =8.52

Multiply fractions by fractions

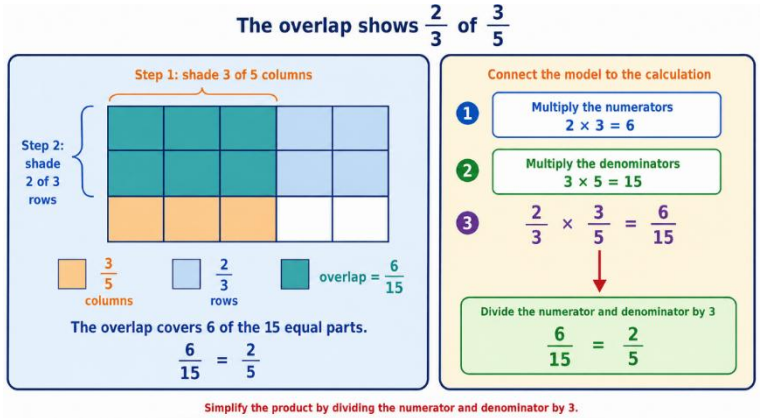
REASON — Multiply numerators and denominators, then simplify and justify equivalence using a fraction model where needed.

REHEARSE • REASON — When multiplying a pair of fractions, I multiply the numerators and multiply the denominators.

$\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$

$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$

$\frac{2}{3} \times \frac{3}{5} = \frac{2}{5}$



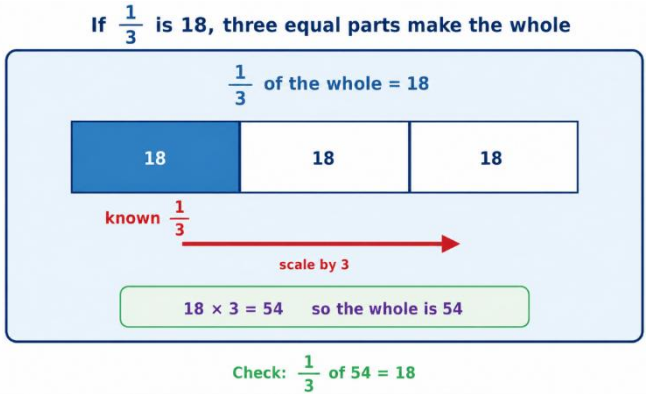
<table>
<tr>
<td>Find the whole

REPRESENT • REASON — Use a bar model or known fractional part to scale up and find the whole.</td>
<td>REHEARSE • REASON — Use the known part to find one unit, then scale to the whole.
If $\frac{1}{__}$ is …, then the whole is __ x __

$\frac{1}{3}$ of __ = 18

18 x 3 = 54

$\frac{1}{3}$ of 54 = 18

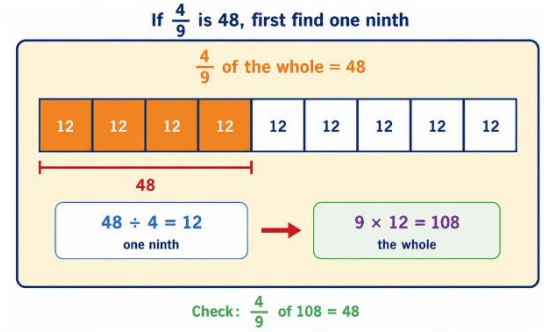

</td>
<td>REHEARSE • REASON — Use the known part to find one unit, then scale to the whole.
If — is …, then the whole is __ x __

$\frac{4}{9}$ of __ = 48

$\frac{1}{9}$ = 48 ÷ 4 = 12

9 x 12 = 108

$\frac{4}{9}$ of 108 = 48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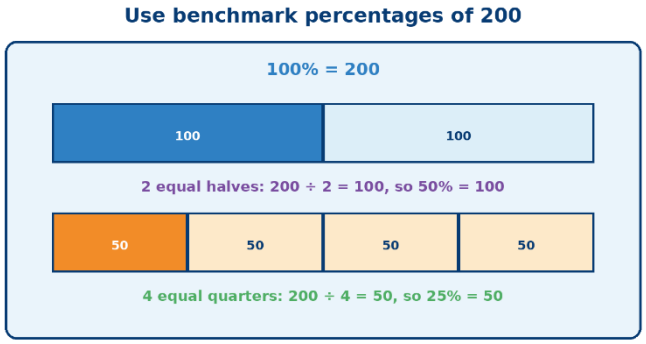
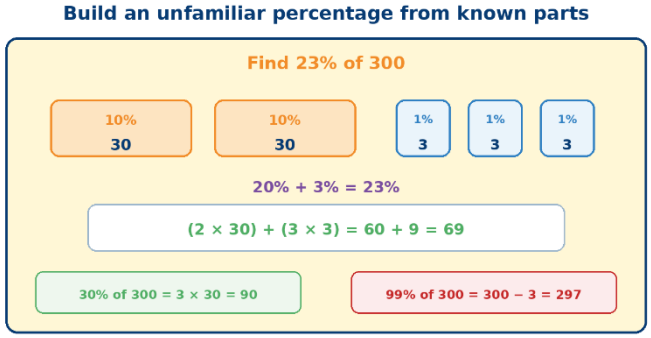
</tr>
<tr>
<td>Calculate percentages

REHEARSE — Secure benchmark percentages, then combine or scale them to calculate other percentages efficiently.</td>
<td>REPRESENT • REHEARSE — There are … lots of …% in 100%.
To find … %, I need to divide by …

50% of … = …÷ 2
25% of … = …÷ 4


</td>
<td>REASON — …% is made up of …% and …%.

To find 30%, I can find 10% and then multiply it by 3
To find 23%, I can use 10% ×2 and 1% ×3
To find 99%, I can find 1%, then subtract from 100%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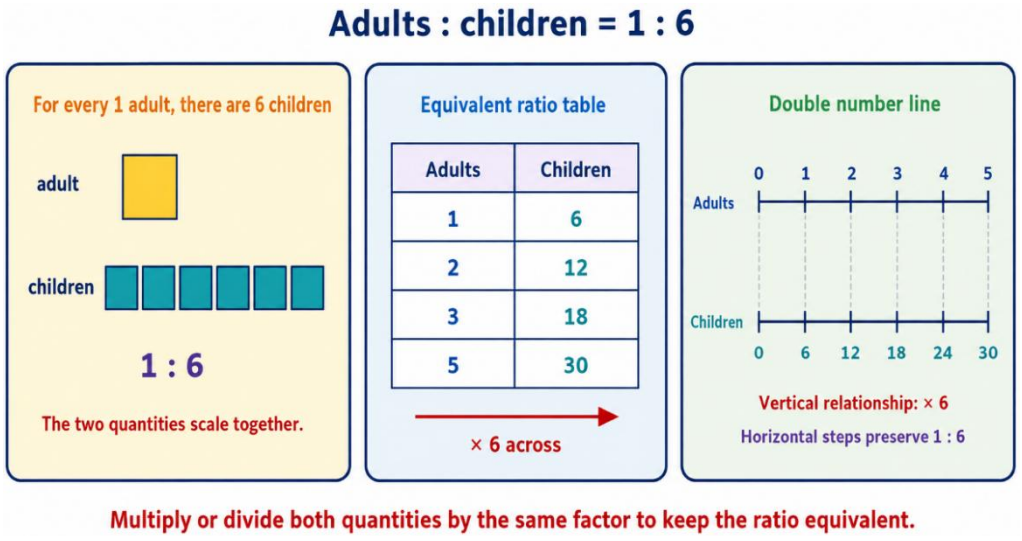
Calculations involving ratio **REPRESENT • REASON —** Use double number lines or ratio tables to expose horizontal and vertical multiplicative relationships.	**REHEARSE • REASON —** For every …, there are …  The ratio of adults to children is 1 : 6

REPRESENT • REHEARSE • REASON in Year 6 at Foster's

REPRESENT — Make the mathematics visible: Connect area models and partial products to formal long multiplication and use place-value, fraction, percentage and ratio representations when they expose structure.

Progression in strategy: Pupils select and justify mental, short or long multiplication and apply the agreed order of operations. Formal recording shows every partial product and placeholder clearly.

Mathematical language: Use common factor, common multiple, product, partial product, placeholder, integer, decimal, expression, operation, priority, equivalent, percentage and ratio.

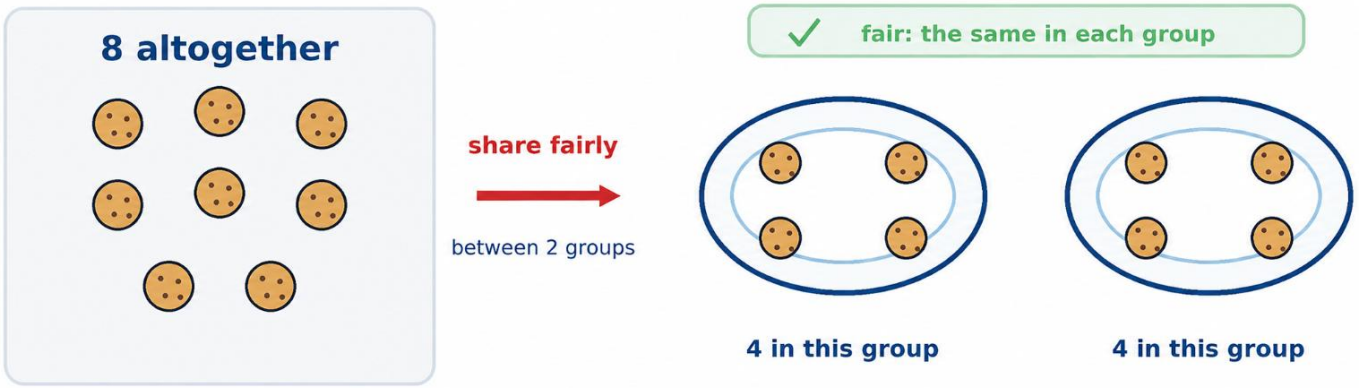
REHEARSE — Build accuracy and automaticity: Daily arithmetic retrieval secures efficient facts, factor relationships, powers of 10 and connected decimal and fraction calculations.

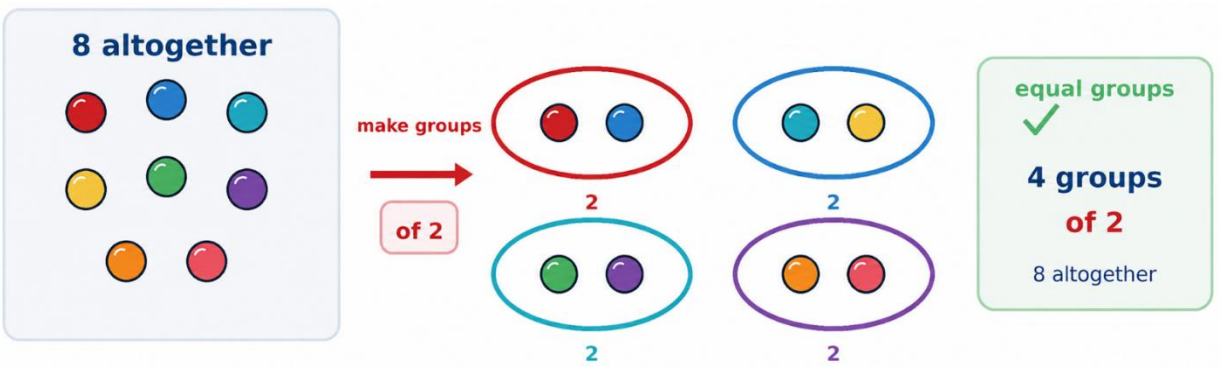
Recording, checking and responsive teaching: Books and digital learning show sufficient working. Pupils estimate and check through division, a second strategy or the context; live responses and Entry Tickets inform targeted support.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, vary expressions and justify conclusions involving whole numbers, decimals, fractions, percentages and ratio.

Progression of Skills Overview- Division

Year Group	Skills	
Nursery	• Continue with counting and subitising skills as a foundation for later work on equal groups. (see addition and subtraction sections)	
Reception	• Sharing • Grouping	
Year 1	• Make equal groups – grouping • Make equal groups – sharing • Find a half • Find a quarter	
Year 2	• Divide by 2 • Divide by 10 • Divide by 5 • Missing numbers • Unit fractions • Non-unit fractions	
Year 3	• Divide by 3 • Divide by 4 • Divide by 8 • Related facts • Divide a 2-digit number by a 1-digit number - no exchange • Divide a 2-digit number by a 1-digit number - with remainders • Unit fractions of a set of objects • Non-unit fractions of a set of objects	
Year 4	• Division facts to 12 × 12 • Divide a number by 1 and itself • Related facts • Divide a 2 or 3-digit number by a 1-digit number • Divide by 10 and 100	
Year 5	• Mental strategies • Divide numbers up to 4 digits by a 1-digit number • Divide by 10, 100 and 1,000 • Fraction of an amount	
Year 6	• Short division • Mental strategies • Long division • Order of operations • Divide by 10, 100 and 1,000 • Divide decimals by integers	• Decimal and fraction equivalents • Divide a fraction by an integer • Fraction of an amount • Calculate percentages • Calculations involving ratio

Reception	• Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5 • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. **At Foster's, Reception pupils develop early division through fair sharing and equal grouping in meaningful routines. Real objects, structured images and precise language make the whole and equal parts visible; playful rehearsal supports accuracy while children check and explain equality.**
Progression of Skills **White Rose small-step progression**	**Foster's REPRESENT • REHEARSE • REASON approach**
Sharing **REPRESENT • REASON —** Use meaningful practical contexts to share a whole quantity into equal parts. Keep the whole, number of groups and amount in each group visible and ask children to check that the sharing is fair. Provide practical activities such as sharing items during snack time. Encourage children to check whether items have been shared fairly (equally).	**REHEARSE • REASON —** There are … altogether. They are shared equally between … groups 

Grouping **REPRESENT • REASON —** Arrange objects into equal groups and compare equal and unequal groupings. Connect the total, group size and number of groups through action and precise talk. Provide opportunities to make equal groups when tidying up or during snack time. Encourage children to check that each group has the same amount.	**REHEARSE • REASON —** There are … groups of … There are … altogether. 

REPRESENT • REHEARSE • REASON in Reception at Foster's

REPRESENT — Make the mathematics visible: Use real objects, plates, hoops, fingers, dot patterns and structured arrangements to keep the whole, number of groups and amount in each group visible.

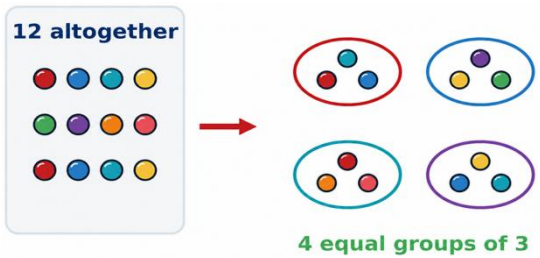
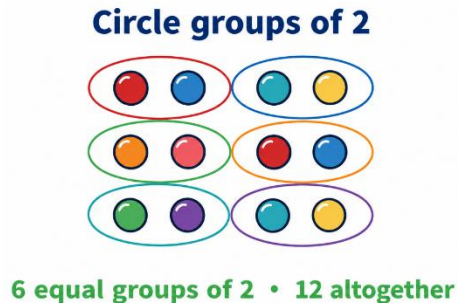
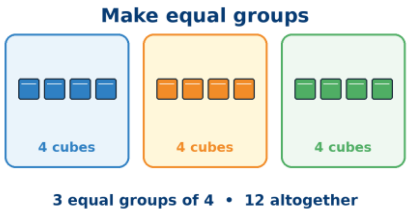
Progression in strategy: Compare sharing into a known number of groups with making groups of a known size. Formal division notation is not expected.

Mathematical language: Model whole, share, group, equal, same, each, altogether, fair and left over.

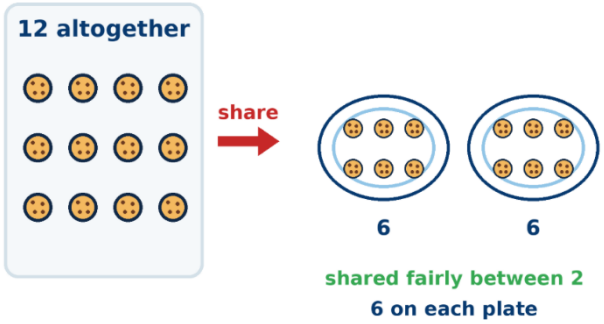
REHEARSE — Build accuracy and automaticity: Use short, playful opportunities to revisit counting, subitising, equal groups and fair sharing in meaningful routines.

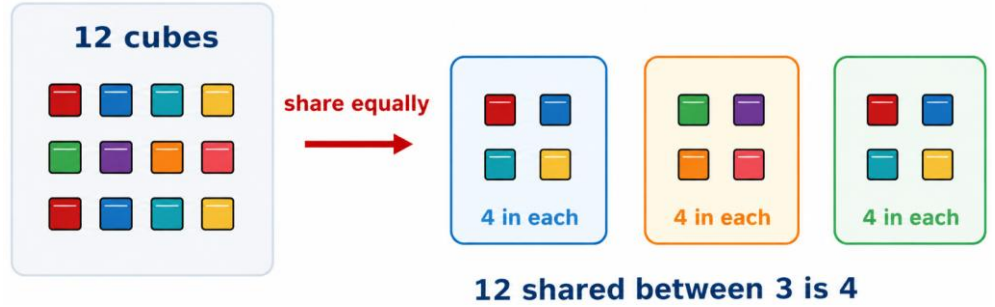
Recording, checking and responsive teaching: Use observation, talk and children's explanations to revisit, vary or extend an idea. Recording may include actions, objects, pictures, marks and numerals.

REASON — Explain, justify and solve: Secure children explain fairness, compare grouping and sharing and find different equal arrangements for the same whole.

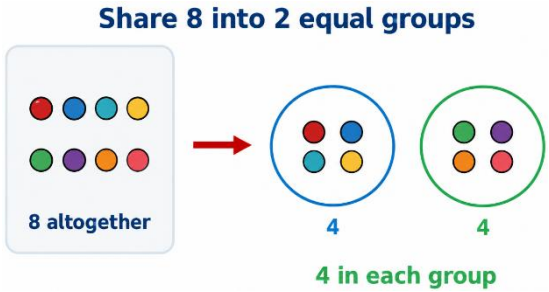
Year 1	• Solve simple one-step problems involving division, using concrete objects, pictorial representations and arrays with the support of the teacher. • Recognise, find and name a half as one of two equal parts of a quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. **At Foster's, Year 1 pupils explore division through equal grouping and sharing, using objects, drawings and arrays. Representations keep the whole, group size and number of groups visible; rehearsal secures precise language and reasoning supports checking equality, finding halves and quarters and solving contextual problems.**		
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**		
Make equal groups - grouping **REPRESENT • REASON —** Build and circle equal groups, identifying the whole, group size and number of groups. Compare equal and unequal groupings and explain how you know. Encourage children to physically move objects into equal groups. They can also circle equal groups when using pictures.	**REHEARSE • REASON —** There are … altogether. How many groups of … can you make?  	**REPRESENT • REHEARSE —** Circle groups of 2 There are … groups of 2  	**REPRESENT • REASON —** Take … cubes. Make equal groups.  There are … groups of …

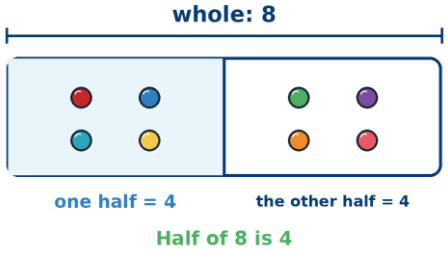
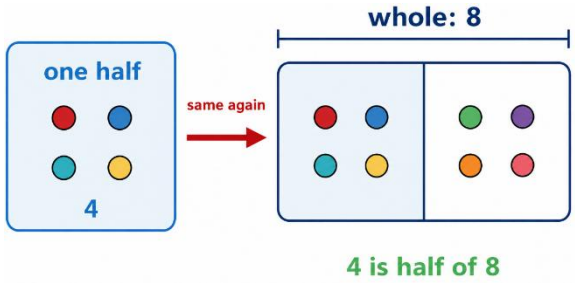
<table>
<tr>
<td>Make equal groups – Sharing
REPRESENT • REASON — Share one object at a time into a known number of groups, then check that each group contains the same number. Describe the whole and each equal share.

Encourage children to check that the objects have been shared fairly and each group is the same.</td>
<td>REHEARSE • REASON — … have been shared equally between…


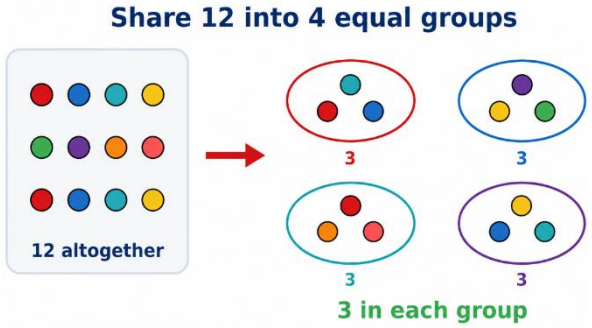
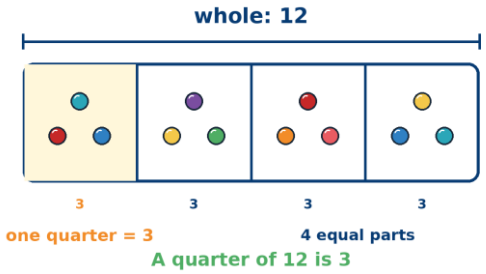
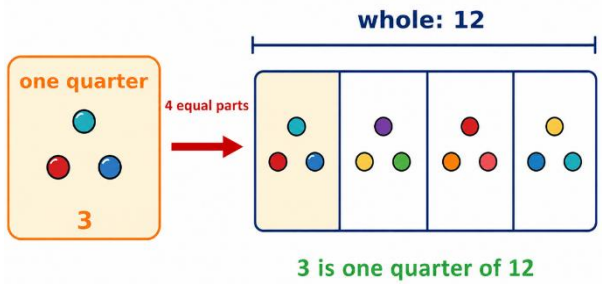
There are … on/in each …</td>
<td colspan="2">REPRESENT • REHEARSE • REASON — Take … cubes.
Share them between …


12 shared between … is …</td>
</tr>
<tr>
<td>Find a half
REPRESENT • REASON — Use objects, pictures and bar models to show two equal parts and connect one part to one-half of the whole.

Start with practical opportunities to share a
quantity into 2 groups. Progress to circling half of
the objects in a picture and then to finding the whole from a given half.</td>
<td>REHEARSE • REASON — To find half, I need to share into 2 equal groups.


There are … in each group.</td>
<td>REHEARSE — Half of … is …

</td>
<td>REASON — If … is half, what is the whole?


4 is half of …</td>
</tr>
</table>

Find a quarter **REPRESENT • REASON —** Use objects, pictures and bar models to show four equal parts and connect one part to one-quarter of the whole. Start with practical opportunities to share a quantity into 4 groups. Progress to using pictures or bar models to find a quarter and then to finding the whole from a given quarter.	**REHEARSE • REASON —** To find a quarter, I need to share into 4 equal groups.  There are … in each group.	**REHEARSE —** A quarter of … is … 	**REASON —** If … is one quarter, what is the whole?  3 is one quarter of …

REPRESENT • REHEARSE • REASON in Year 1 at Foster's

REPRESENT — Make the mathematics visible: Use objects, arrays, bar models and number tracks to distinguish equal grouping, equal sharing, finding one-half and finding one-quarter.

Progression in strategy: Move from acting and drawing to recording the whole, number of groups and amount in each group. Representations remain available whenever they expose structure.

Mathematical language: Use share, group, equal, each, altogether, half, quarter, whole and part.

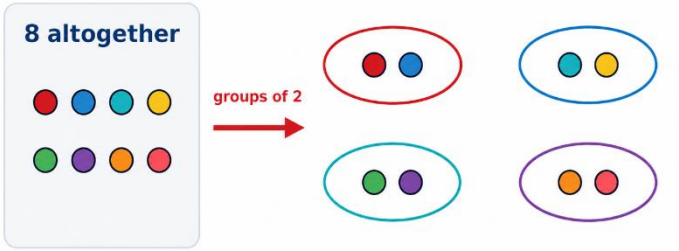
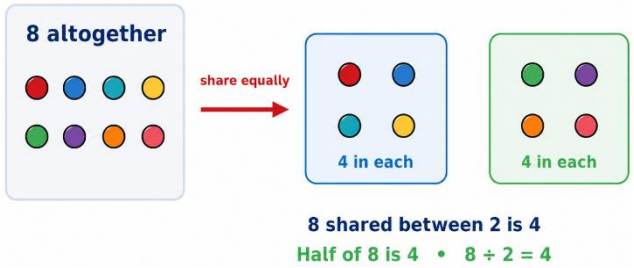
REHEARSE — Build accuracy and automaticity: Rehearse counting in 2s, 5s and 10s and connected doubles, halves and quarters through short, purposeful practice.

Recording, checking and responsive teaching: Pupils record drawings and useful jottings that show the whole and equal groups. Observation and live responses identify whether pupils understand equality or simply recount.

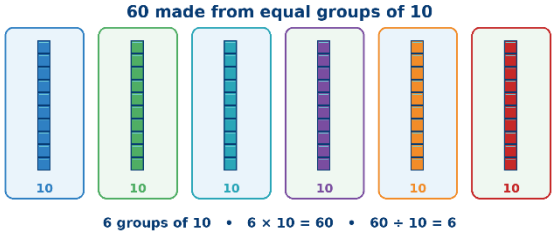
REASON — Explain, justify and solve: Secure pupils compare grouping and sharing, explain how they know groups are equal, find the whole from a part and solve contextual problems.

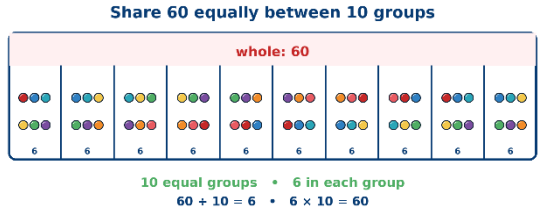
<table>
<tr><td>Year 2</td><td colspan="2">• Recall and use division facts for the 2, 5 and 10 multiplication tables.
• Calculate mathematical statements for division within the multiplication tables and write them using the division (÷) and equals (=) signs.
• Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a quantity.

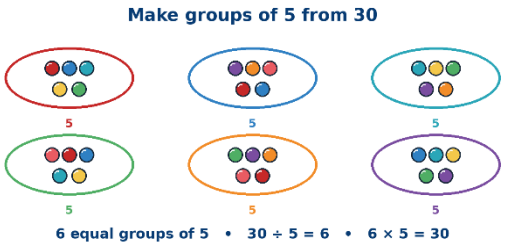
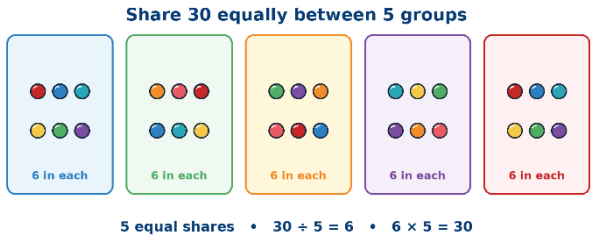
At Foster's, Year 2 pupils connect grouping and sharing to division notation, inverse multiplication facts and fractions of quantities. Representations expose both division structures; connected rehearsal secures facts for 2, 5 and 10 while pupils reason through missing-number, equivalence and contextual problems.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Divide by 2
REPRESENT • REASON — Model both grouping and sharing with objects, arrays and bar models, connecting each structure to the same multiplication and division fact family.

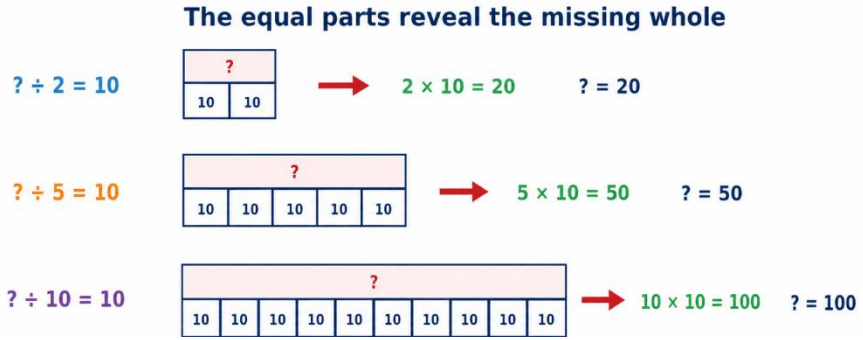
Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts and halving.</td><td>REHEARSE • REASON — There are … equal groups of 2
… ÷ 2 = …
4 × 2 = 8
8 ÷ 2 = 4

</td><td>REHEARSE • REASON — … shared equally between 2 is …
Half of … is …
… ÷ 2 = …
4 × 2 = 8
8 ÷ 2 = 4

</td></tr>
</table>

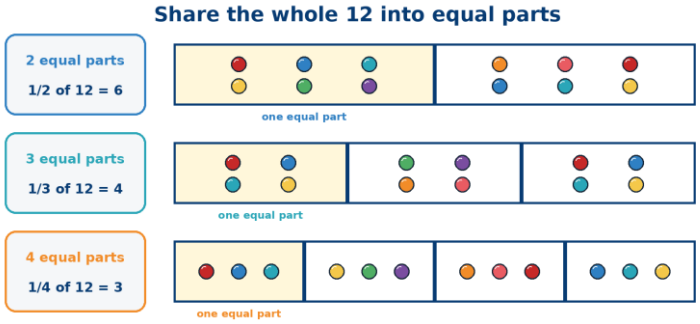
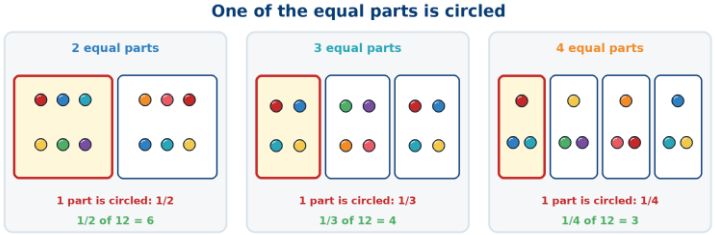
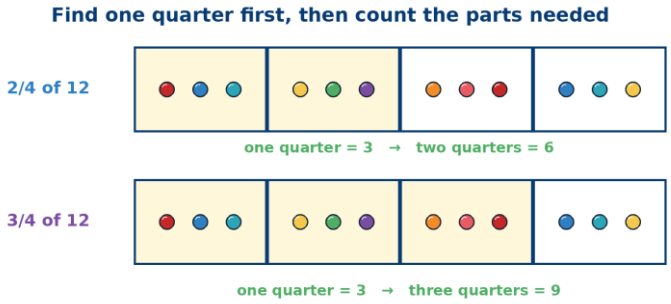
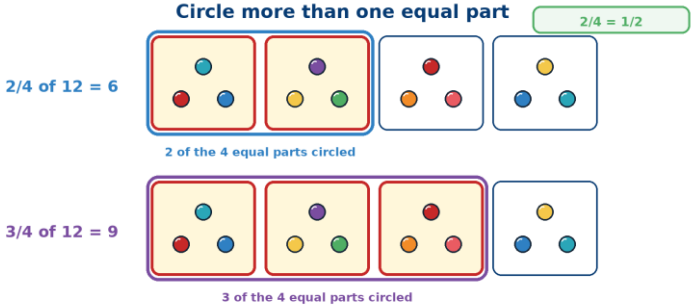
<table>
<tr>
<td>Divide by 10
REPRESENT • REHEARSE — Use equal groups, arrays or a bar model to connect division by 10 to the 10 times-table and place value.

Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.</td>
<td>REHEARSE • REASON — There are … equal groups of 10
… ÷ 10 = …


6 × 10 = 60
60 ÷ 10 = 6</td>
<td>REHEARSE • REASON — … shared equally between 10 is …
… ÷ 10 = …
6 × 10 = 60
60 ÷ 10 = 6

</td>
</tr>
<tr>
<td>Divide by 5
REPRESENT • REHEARSE — Use equal groups, arrays or a bar model to connect division by 5 to the 5 times-table and related facts.

Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.</td>
<td>REHEARSE • REASON — There are … equal groups of
… ÷ 5 = …
6 × 5 = 30
30 ÷ 5 = 6

</td>
<td>REHEARSE • REASON — … shared equally between 5 is …
… ÷ 5 = …
6 × 5 = 30
30 ÷ 5 = 6

</td>
</tr>
<tr>
<td>Missing numbers
REPRESENT • REASON — Use a fact family, array or bar model to locate the unknown and identify whether it represents the dividend, divisor or quotient.

Bar models are useful to show the link between multiplication and division.</td>
<td colspan="2">REHEARSE • REASON — … divided by 2/ /10 is equal to …

</td>
</tr>
</table>

Unit fractions **REPRESENT • REASON —** Partition the whole quantity into equal parts with objects or a bar model, connecting division by the denominator to finding one equal part. In Y2 the focus is on finding $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$. Bar models are useful to show the link between division and finding a fraction.	**REHEARSE • REASON —** The objects have been shared fairly into …groups. $\frac{1}{__}$ of … is … 	**REPRESENT • REASON —** There are … equal parts. There is … part circled. $\frac{1}{__}$ is circled. 
Non-unit fractions **REPRESENT • REASON —** Find one equal part first, then count the required number of parts. Compare the non-unit fraction with the whole and its related unit fraction. In Y2 the focus is on finding $\frac{2}{4}$ and $\frac{3}{4}$ Prompt children to notice That $\frac{2}{4}$ is equivalent to $\frac{1}{2}$	**REHEARSE • REASON —** The objects have been shared fairly into … groups. — of … is … 	**REPRESENT • REASON —** There are … equal parts. There is … part circled. — is circled. 

REPRESENT • REHEARSE • REASON in Year 2 at Foster's

REPRESENT — Make the mathematics visible: Use objects, arrays, bar models, number lines and fact families to connect grouping and sharing directly to division notation and inverse multiplication facts.

REHEARSE — Build accuracy and automaticity: Retrieve connected multiplication and division facts for 2, 5 and 10 forwards, backwards and out of sequence.

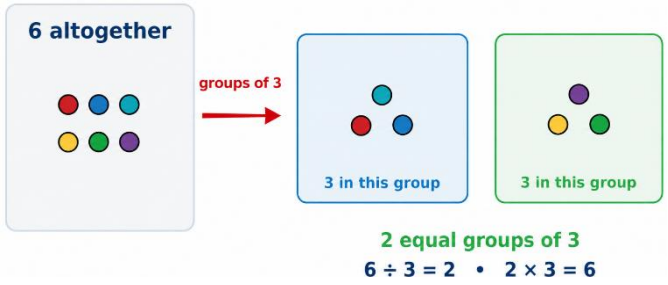
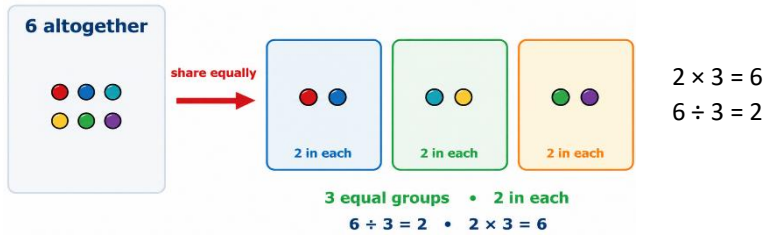
Progression in strategy: Move from counting equal groups to using known 2, 5 and 10 facts, while connecting division by the denominator to fractions of quantities.

Mathematical language: Use divide, share, group, dividend, divisor, quotient, inverse, half, quarter, third and equal to.

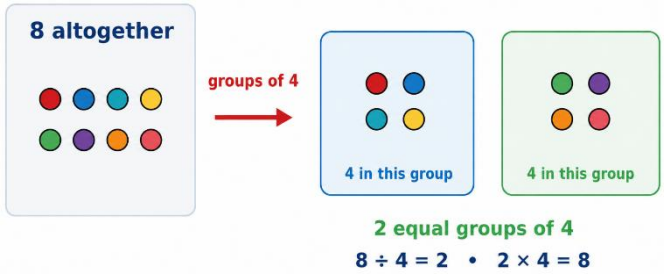
Recording, checking and responsive teaching: Pupils record complete fact families and enough working to reveal whether the unknown is the dividend, divisor or quotient. Check division with multiplication.

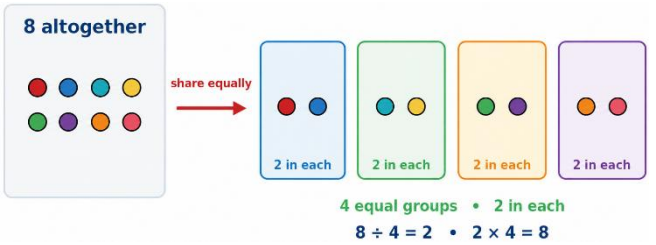
REASON — Explain, justify and solve: Secure pupils compare grouping and sharing, solve missing-number and contextual problems and explain fractions of quantities and equivalence.

<table>
<tr><td>Year 3</td><td colspan="2">• Recall and use division facts for the 3, 4 and 8 multiplication tables.
• Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
At Foster's, Year 3 pupils secure related division facts for 3, 4 and 8 and apply them to grouping, sharing, place-value scaling and division with remainders. Arrays, bar models and partitioning make the structure visible; rehearsal builds fact fluency and reasoning connects division to multiplication and fractions.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="2">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Divide by 3
REPRESENT • REHEARSE — Use arrays and bar models to show grouping and sharing, then derive each division fact from a known 3 times-table fact.

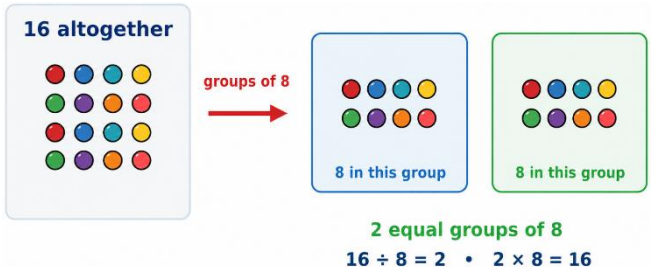
Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts.</td><td>REHEARSE • REASON — There are … groups of 3 in …
… ÷ 3 =

</td><td>REHEARSE • REASON — … has been shared equally into 3 equal groups.
… ÷ 3 =

</td></tr>
</table>

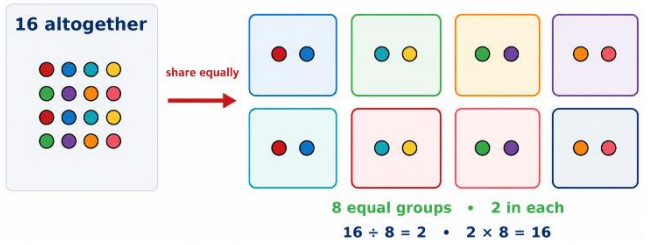
<table>
<tr>
<td>Divide by 4
REPRESENT • REHEARSE • REASON —
Use arrays and bar models to show grouping and sharing, connecting division by 4 to doubling facts and the 4 times-table.

Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts</td>
<td>REHEARSE • REASON — There are … groups of 4 in …
… ÷ 4 =


2 × 4 = 8
8 ÷ 4 = 2</td>
<td>REHEARSE • REASON — … has been shared equally into 4 equal groups.
… ÷ 4 =


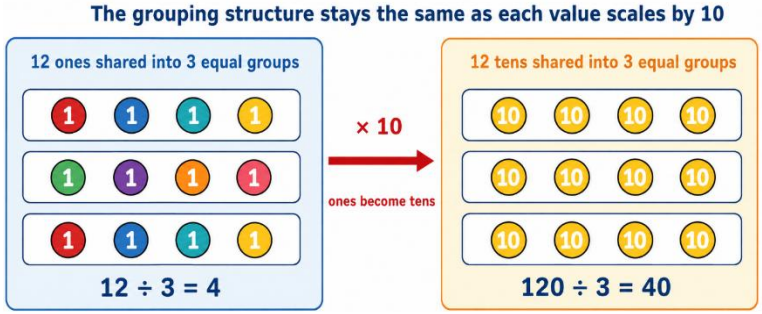
2 × 4 = 8
8 ÷ 4 = 2</td>
</tr>
<tr>
<td>Divide by 8
REPRESENT • REHEARSE • REASON —
Use arrays and bar models to show grouping and sharing, using repeated doubling to connect the 2, 4 and 8 times-tables.

Encourage children to compare the grouping and sharing structures of division and to make links with times-table facts</td>
<td>REHEARSE • REASON — There are … groups of 8 in …
… ÷ 8 =


2 × 8 = 16
16 ÷ 8 = 2</td>
<td>REHEARSE • REASON — … has been shared equally into 8 equal groups.
… ÷ 8 =


2 × 8 = 16
16 ÷ 8 = 2</td>
</tr>
<tr>
<td>Related facts
REPRESENT • REASON — Use place-value counters or a place-value chart to scale known facts by 10, explaining which quantities change and which multiplicative relationship remains the same.

Link to known times-table facts.</td>
<td colspan="2">REHEARSE • REASON — … ÷ … is equal to …, so … tens ÷ … is equal to … tens.

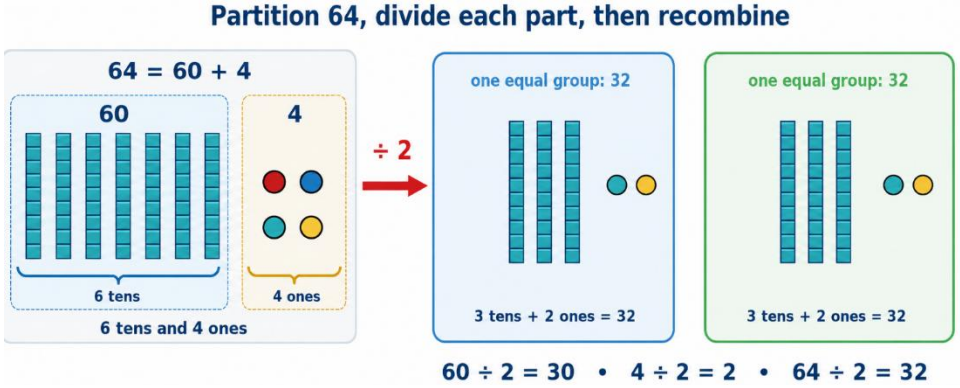
12 ÷ 3 = 4
120 ÷ 3 = 40

</td>
</tr>
</table>

Divide a 2-digit number by a 1-digit number – no exchange

REPRESENT — Partition the dividend into divisible tens and ones, connecting place-value equipment or a part-whole model to the recombined quotient.

Partition into tens and ones to divide and then recombine.

REHEARSE • REASON — … tens divided by … is equal to … tens.
… ones divided by … is equal to … ones.



60 ÷ 2 = 30
4 ÷ 2 = 2

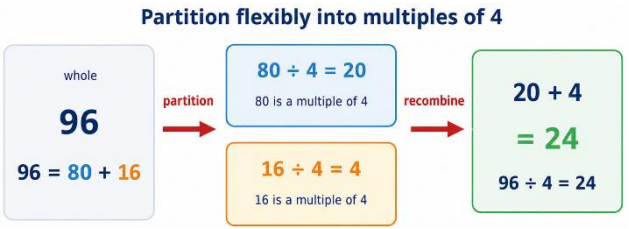
64 ÷ 2 = 32

Divide a 2-digit number by a 1-digit number – with remainders

REPRESENT • REASON — Partition flexibly into multiples of the divisor, represent the leftover amount and interpret it as a remainder.

Encourage children to partition numbers flexibly to help them to divide more efficiently.

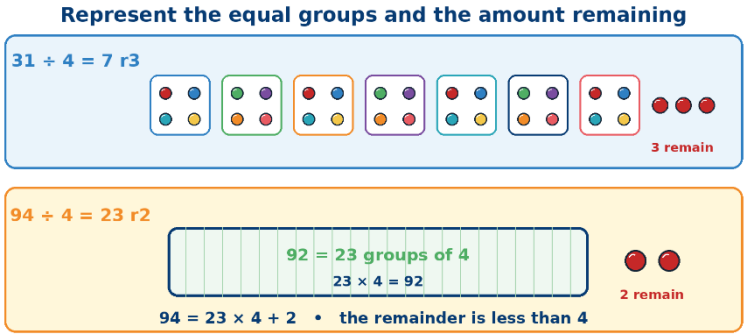
REHEARSE — … tens divided by … is equal to … tens.
… ones divided by … is equal to … ones.



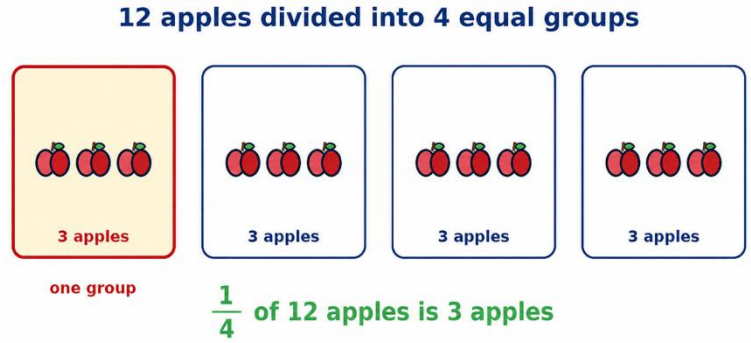
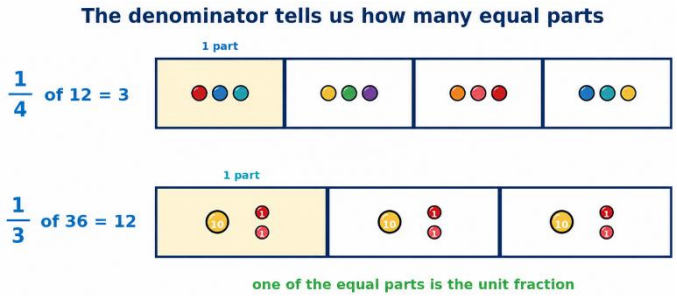
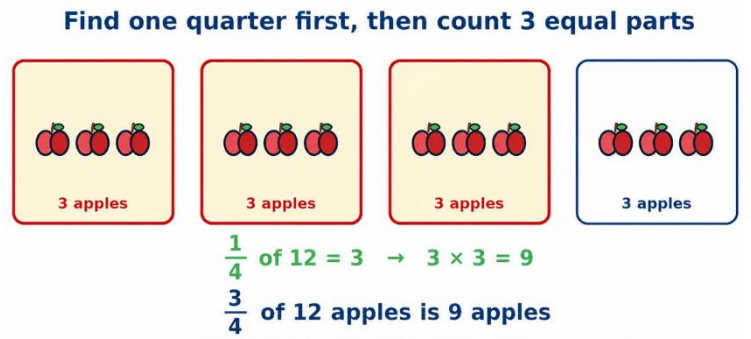
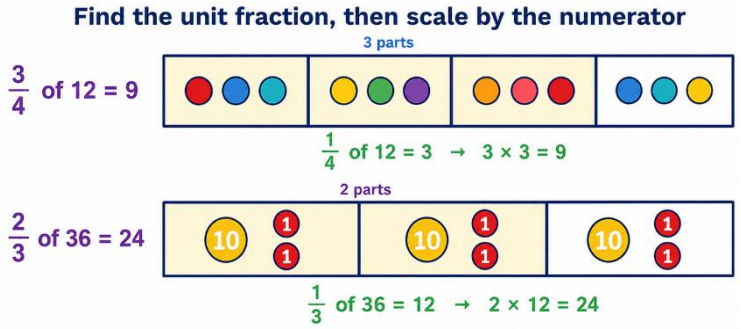
80 ÷ 4 = 20
16 ÷ 4 = 4
96 ÷ 4 = 24

REPRESENT • REASON — There are … groups of …
There are … remaining.

31 ÷ 4 = 7 r3



94 ÷ 4 = 23 r2

Unit fractions of a set of objects **REPRESENT • REASON —** Divide the whole set into equal groups and identify one group as the unit fraction, connecting the denominator to the number of equal groups. Bar models are useful to show the link between division and fractions, for example, dividing by 3 and finding a third.	**REHEARSE • REASON —** The whole is divided into … equal parts. Each part is $\frac{1}{\text{—}}$ of the whole.  $\frac{1}{4}$ of 12 apples is 3 apples.	**REHEARSE • REASON —** One of … is … $\frac{1}{4}$ of 12 is 3  $\frac{1}{3}$ of 36 is 12
Non-unit fractions of a set of objects **REPRESENT • REASON —** Find one unit fraction first, then scale by the numerator. Show both steps on a bar model and check the result against the whole. Bar models are a useful representation and show the links with division and multiplication.	**REHEARSE • REASON —** The whole is divided into … equal parts. Each part is $\frac{1}{\text{—}}$ of the whole.  $\frac{3}{4}$ of 12 apples is 9 apples.	**REASON —** $\frac{1}{\text{—}}$ of … is …, so — of … is… $\frac{3}{4}$ of 12 is  $\frac{2}{3}$ of 36 is 24

REPRESENT • REHEARSE • REASON in Year 3 at Foster's

REPRESENT — Make the mathematics visible: Use arrays, bar models, place-value counters and part-whole models to expose grouping, sharing, partitioning, exchange and remainders.

Progression in strategy: Use known 3, 4 and 8 facts before partitioning two-digit numbers into divisible parts. Represent and interpret any leftover amount explicitly.

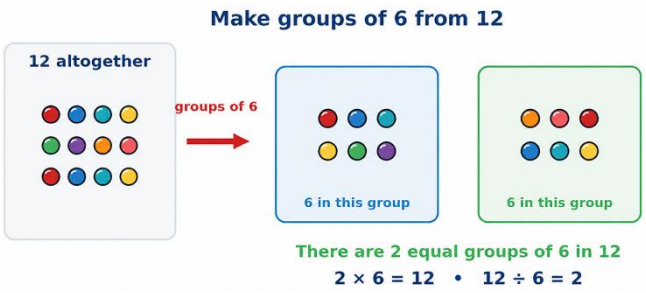
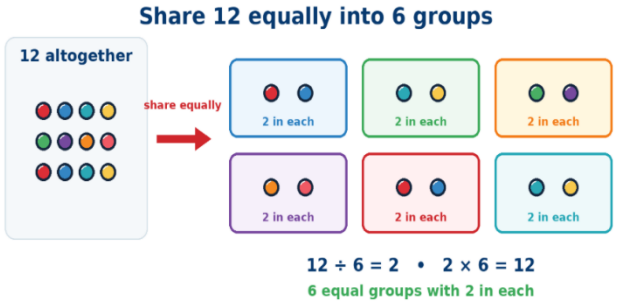
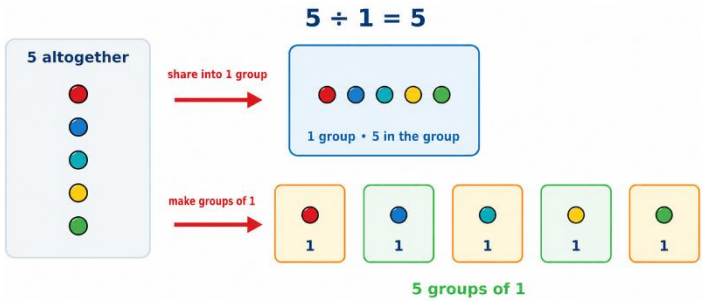
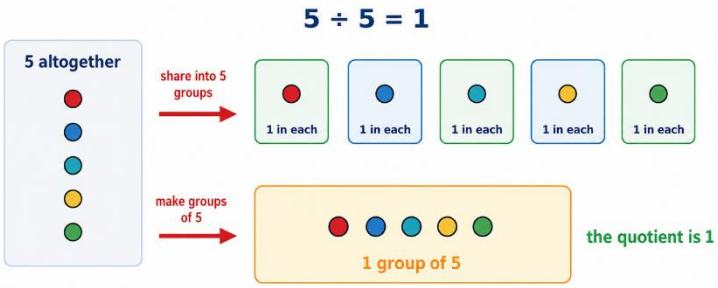
Mathematical language: Use dividend, divisor, quotient, remainder, factor, multiple, unit fraction, non-unit fraction and inverse.

REHEARSE — Build accuracy and automaticity: Secure the 3, 4 and 8 multiplication and division facts through connected retrieval and place-value scaling.

Recording, checking and responsive teaching: Pupils estimate, record partitioning or exchange clearly and check with multiplication. Entry Tickets and live responses identify fact, place-value or remainder misconceptions.

REASON — Explain, justify and solve: Secure pupils compare methods, explain remainders in context and connect division to multiplication and fractions of a set.

Year 4	• Recall division facts for multiplication tables up to 12 × 12 • Use place value, known and derived facts to divide mentally, including: dividing by 1 • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. **At Foster's, Year 4 pupils secure division facts to 12 × 12 and apply them through grouping, sharing, place value, related facts and division with exchange and remainders. Representations expose the dividend, divisor and quotient; rehearsal supports fluency while pupils select, explain and check efficient methods.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**

Division facts to 12 × 12 **REPRESENT • REHEARSE —** Use arrays and fact families to connect each division fact to its multiplication inverse and to both grouping and sharing structures. Encourage children to compare the grouping and sharing structures of division and to make link with times-table facts.	**REHEARSE • REASON —** There are … groups of … in … … ÷ … =  2 × 6 = 12 12 ÷ 6 = 2	**REHEARSE • REASON —** … has been shared equally into … equal groups. … ÷ … =  2 × 6 = 12 12 ÷ 6 = 2
Divide a number by 1 and itself **REASON —** Generalise why dividing by 1 leaves a number unchanged, why dividing a non-zero number by itself gives 1 and why division by zero is undefined. Children may try to divide a number by zero and it should be highlighted that this is not possible.	**REHEARSE • REASON —** When I divide a number by 1, the number remains the same. 5 shared between 1 is 5  There are 5 groups of 1 in 5	**REHEARSE • REASON —** When I divide a number by itself, the answer is 1 5 shared between 5 is 1  There is 1 group of 5 in 5

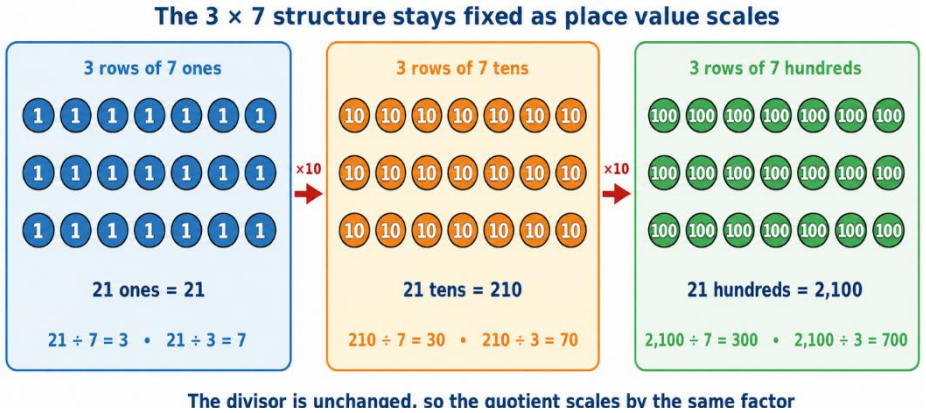
Related facts

REPRESENT • REASON — Use a place-value chart or counters to scale known facts by 10 and 100, explaining how unitising preserves the quotient.

Link to known times-table facts.

REHEARSE • REASON — … ÷ … is equal to …
so … tens ÷ … is equal to … tens
and … hundreds ÷ … is equal to … hundreds.

21 ÷ 7 = 3
210 ÷ 7 = 30
2,100 ÷ 7 = 300



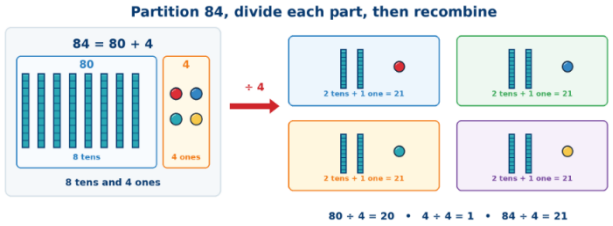
21 ÷ 3 = 7
210 ÷ 3 = 70
2,100 ÷ 3 = 700

Divide a 2 or 3-digit number by a 1-digit Number

REPRESENT • REASON — Use place-value counters or part-whole models to show partitioning and exchange, then connect these to written recording. Estimate and use multiplication to check.

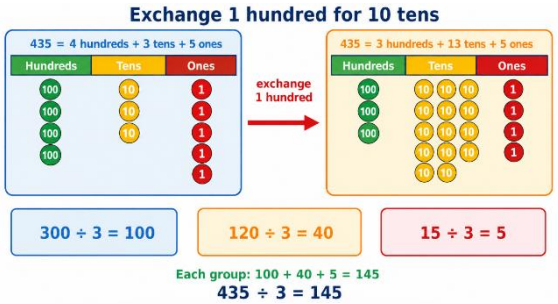
Progress from divisions with no exchange, to divisions with exchange and then divisions with remainders

REHEARSE • REASON — I can partition … into … tens and … ones.

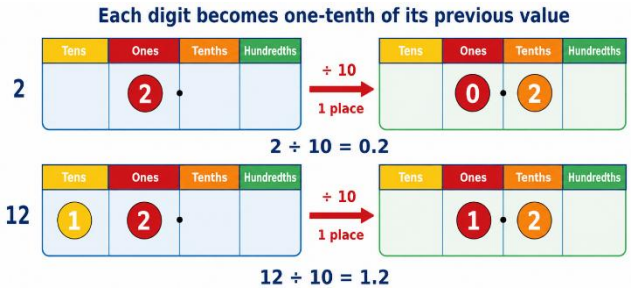
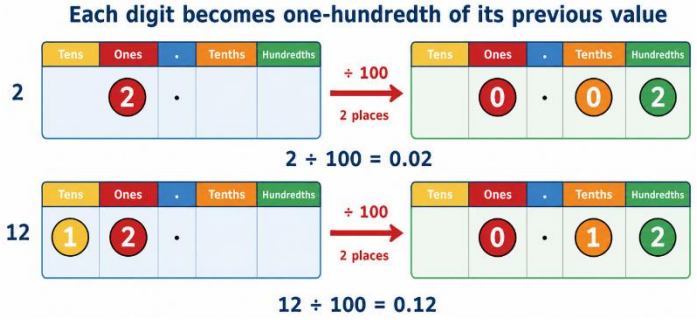


80 ÷ 4 = 20
4 ÷ 4 = 1
84 ÷ 4 = 21

REPRESENT • REHEARSE — I cannot share the hundreds/tens equally, so I need to exchange 1 … for 10 …



300 ÷ 3 = 100
120 ÷ 3 = 40
15 ÷ 3 = 5
435 ÷ 3 = 145

Divide by 10 and 100 **REPRESENT • REASON —** Use a place-value chart to show that each digit has one-tenth or one-hundredth of its previous value. Describe the quotient multiplicatively rather than relying only on the rule 'move the digits'. Encourage children to notice that dividing by 100 is the same as dividing by 10 twice.	**REHEARSE • REASON —** When I divide by 10, the digits move 1 place value column to the right. … is one-tenth the size of …  2 ÷ 10 = 0.2 12 ÷ 10 = 1.2	**REHEARSE • REASON —** When I divide by 100, the digits move 2 place value columns to the right. … is one-hundredth the size of …  2 ÷ 100 = 0.02 12 ÷ 100 = 0.12

REPRESENT • REHEARSE • REASON in Year 4 at Foster's

REPRESENT — Make the mathematics visible: Use arrays, fact families, place-value charts and counters to connect fluent facts to mental division, partitioning, exchange and written recording.

Progression in strategy: Pupils choose between known facts, factor strategies and written division. Representations remain available when the value of an exchange or quotient is insecure.

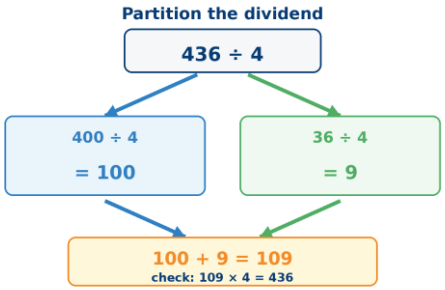
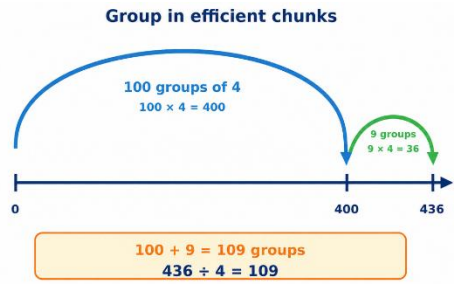
Mathematical language: Use dividend, divisor, quotient, remainder, factor, multiple, inverse, exchange, tenths and hundredths.

REHEARSE — Build accuracy and automaticity: Recall multiplication and division facts to 12 × 12 accurately and flexibly and derive related facts through unitising and powers of 10.

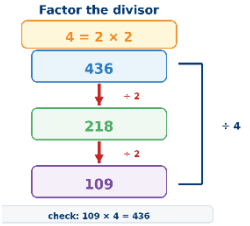
Recording, checking and responsive teaching: Pupils estimate, record each place-value exchange clearly and check the quotient with multiplication or a second strategy. Live responses prompt immediate revisiting.

REASON — Explain, justify and solve: Secure pupils compare methods, explain why division by zero is undefined, interpret remainders and justify efficient solutions.

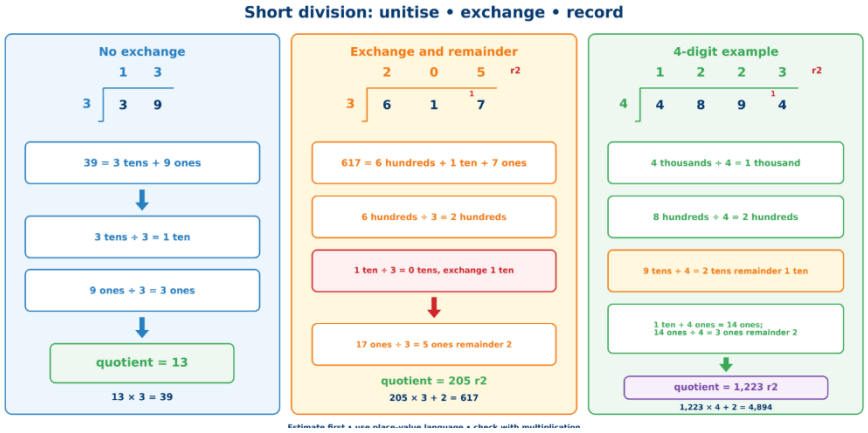
<table>
<tr><td>Year 5</td><td colspan="3">• Divide numbers mentally drawing upon known facts.
• Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
• Divide whole numbers and those involving decimals by 10, 100 and 1,000
• Fraction of an amount
At Foster's, Year 5 pupils select efficient mental or short-division methods, connecting secure facts to place-value exchange and interpretation of remainders. Place-value representations connect to formal recording; rehearsal maintains accuracy and reasoning supports estimation, checking, fractions of amounts and contextual decisions.</td></tr>
<tr><td>White Rose small-step progression</td><td colspan="3">Foster's REPRESENT • REHEARSE • REASON approach</td></tr>
<tr><td>Mental strategies

REPRESENT • REASON — Compare partitioning, number-line grouping and factor strategies, selecting and justifying the most efficient method.</td><td>REHEARSE • REASON — I can partition … into … and … to help me to divide more easily.

</td><td>REPRESENT — I can show groups of … on a number line.

</td><td>REHEARSE • REASON — To divide by …, I can divide by … and then divide the result by …

436 ÷4 = 436 ÷2 ÷ 2

436 ÷2 = 218
218 ÷2 =109

</td></tr>
<tr><td>Divide numbers up to 4 digits by a 1-digit number

REPRESENT • REHEARSE • REASON — Use place-value counters and unitising language to connect each exchange to the short-division layout. Estimate first and check the quotient with multiplication.

The short division method is introduced for the first time.</td><td colspan="3">REHEARSE • REASON — There are … groups of … hundreds/tens/ones/ in …
I can exchange 1 … for 10 …

</td></tr>
</table>

Divide by 10, 100 and 1,000

REPRESENT • REASON — Use a place-value chart or counters to show that the quotient is one-tenth, one-hundredth or one-thousandth of the dividend. Avoid 'move the digits' as the sole explanation.

Encourage children to notice that dividing by 100 is the same as dividing by 10 twice, and that dividing by 1,000 is the same as dividing by 10 three times.

REHEARSE • REASON — To divide by 10/100/1,000, I move all the digits … places to the right.
… is one-tenth/one-hundredth/one-thousandth the size of …

120 ÷ 10 = 12
120 ÷ 100 = 1.2
120 ÷ 1,000 = 0.12



Fraction of an amount

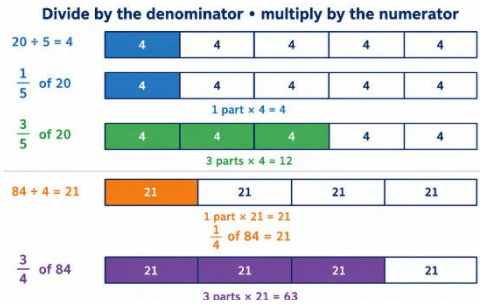
REPRESENT • REASON — Use a bar model to expose equal partitioning by the denominator and scaling by the numerator, then check the answer relative to the whole.

Bar models support children to understand that to find a fraction of an amount, we divide by the denominator and multiply by the numerator.

REHEARSE • REASON — To find — of … , I need to divide by … and multiply by …

$\frac{1}{5}$ of 20 =

$\frac{3}{5}$ of 20 =



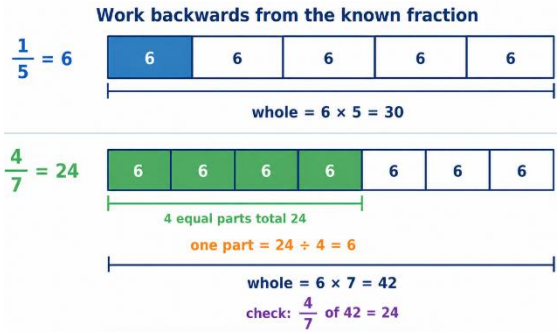
$\frac{1}{4}$ of 84 =

$\frac{3}{4}$ of 84 =

REASON — If $\frac{1}{\text{—}}$ is …, then the whole is … x …

$\frac{1}{5}$ of ___ = 6

$\frac{4}{7}$ of ___ = 24



REPRESENT • REHEARSE • REASON in Year 5 at Foster's

REPRESENT — Make the mathematics visible: Use place-value counters, unitising language, number lines, factor strategies and bar models to connect mental division, short division and fractions of amounts.

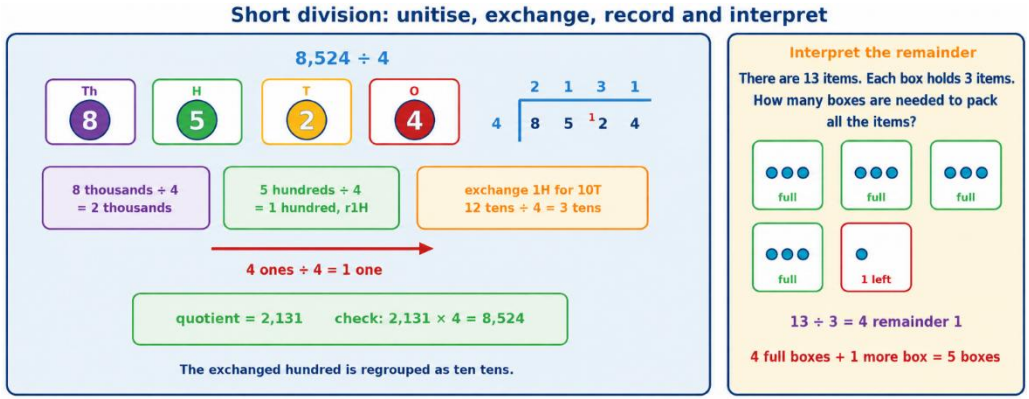
Progression in strategy: Pupils choose between mental and short-division methods, interpret remainders according to context and connect division by powers of 10 to the size of the quotient.

Mathematical language: Use dividend, divisor, quotient, remainder, factor, multiple, exchange, inverse, decimal, unit fraction and non-unit fraction.

REHEARSE — Build accuracy and automaticity: Maintain fluent multiplication and division facts and derive related facts through factors, compatible multiples and powers of 10.

Recording, checking and responsive teaching: Pupils estimate first and check with multiplication, a second method or the context. Work in books or digitally shows exchanges, remainders and the chosen check clearly.

REASON — Explain, justify and solve: Secure pupils compare methods, diagnose errors, justify efficient choices and explain how a remainder, fraction of an amount or missing whole is interpreted.

Year 6	• Perform mental calculations, including with mixed operations and large numbers. • Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. • Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. • Divide numbers by 10, 100 and 1,000 giving answers up to three decimal places. • Use written division methods in cases where the answer has up to two decimal places. • Associate a fraction with division and calculate decimal fraction equivalents. • Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • Solve problems involving the calculation of percentages. **At Foster's, Year 6 pupils select and justify efficient mental, short or long division across whole numbers, decimals, fractions, percentages and ratio. Place value, bar models and partial quotients connect to formal recording; accurate rehearsal, estimation and checking support interpretation of remainders and proportional reasoning.**
White Rose small-step progression	**Foster's REPRESENT • REHEARSE • REASON approach**
Short division **REPRESENT • REHEARSE • REASON —** Connect place-value counters and unitising to formal short division, including exchange. Interpret each remainder according to the context and check with multiplication. Encourage children to interpret remainders in context, for example knowing that "4 remainder 1" could mean 4 complete boxes with 1 left over so boxes will be needed.	**REHEARSE • REASON —** There are … groups of … hundreds/tens/ones/ in … I can exchange 1 … for 10 … 

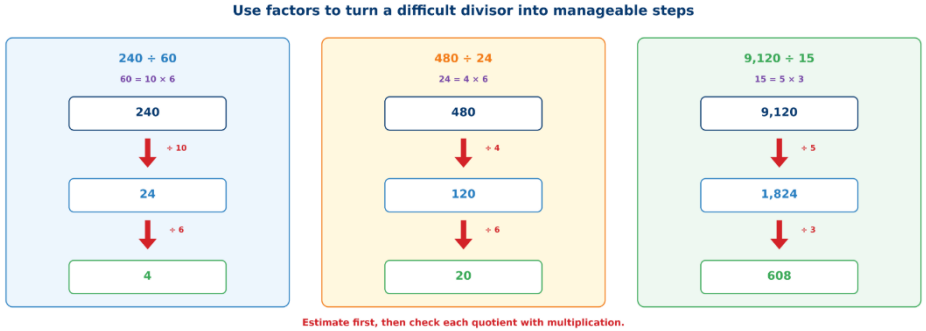
<table>
<tr>
<td>Mental strategies

REHEARSE • REASON —
Use partitioning, compatible multiples, factors and inverse facts. Estimate to select, justify and check an efficient method.

Include partitioning and number line strategies outlined in Y5 as well as division using factors.</td>
<td colspan="3">REHEARSE • REASON — To divide by … , I can first divide by … and then divide the answer by …

240 ÷ 60 = 240 ÷ 10 ÷ 6

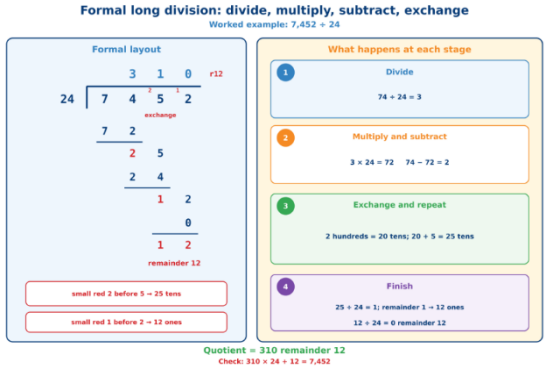
480 ÷ 24 = 480 ÷ 4 ÷ 6

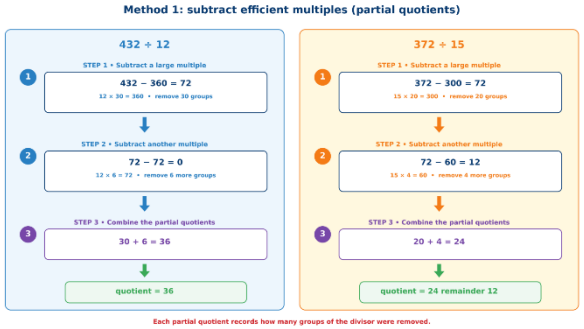


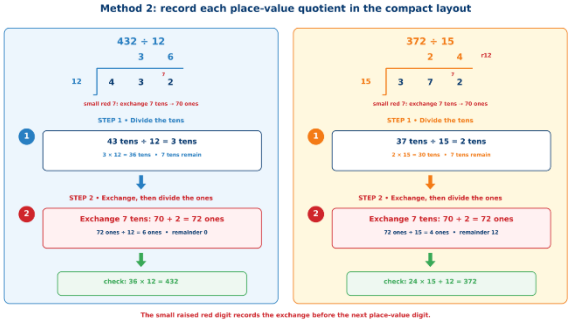
9,120 ÷ 15 = 9,120 ÷ 5 ÷ 3</td>
</tr>
<tr>
<td>Long division
REPRESENT • REHEARSE • REASON — Use partial quotients and place-value reasoning to connect each step to long division. Estimate the quotient, compare alternative layouts and interpret and check any remainder.

The long division method is introduced for the first time.

Two alternative methods are shown.</td>
<td>Long Division Method
REPRESENT • REHEARSE — Record each quotient digit accurately, showing exchanges clearly before the next digit, then check using multiplication.


</td>
<td>Alternative Method 1
REPRESENT • REHEARSE — Record each partial quotient accurately and connect it to the multiple of the divisor subtracted.


</td>
<td>Alternative Method 2
REPRESENT • REASON — Compare the alternative method and explain why both methods give the same quotient and remainder.

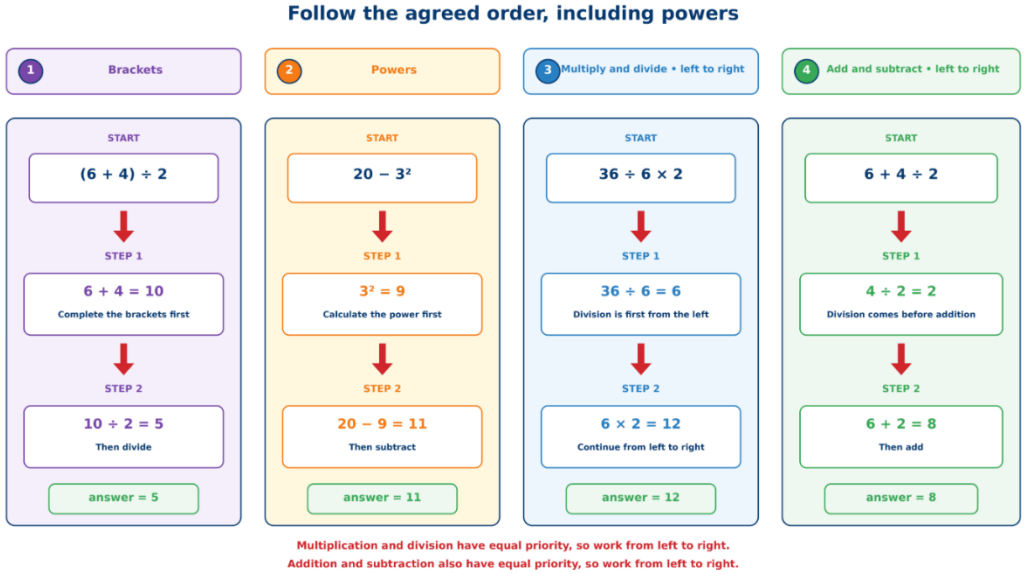

</td>
</tr>
</table>

Order of operations

REASON — Apply the agreed order of operations, working from left to right where multiplication and division have equal priority. Estimate and explain each decision.

Calculations in brackets should be done first, then powers. Multiplication and division should be performed before addition and subtraction.

REHEARSE • REASON — … has greater priority than …, so the first part of the calculation I need to do is …



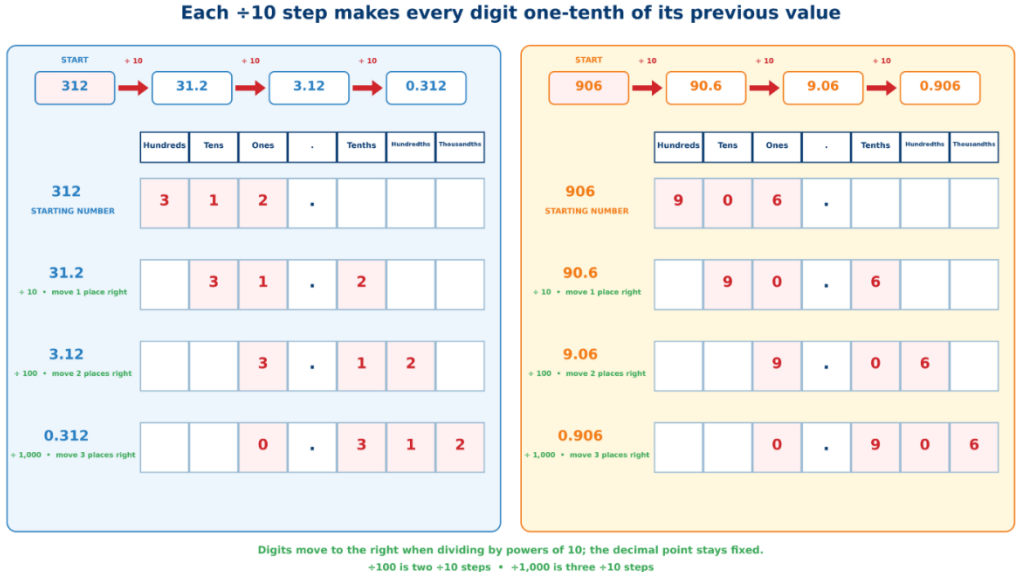
Divide by 10, 100 and 1,000

REPRESENT • REASON — Use a place-value chart to show that each digit has one-tenth, one-hundredth or one-thousandth of its previous value. Explain the size of the quotient rather than relying only on digit movement.

Encourage children to notice that dividing by 100 is the same as dividing by 10 twice, and that dividing by 1,000 is the same as dividing by 10 three times.

REHEARSE • REASON — To divide by … , I move the digits … places to the right.

312 ÷ 10 = 31.2
312 ÷ 100 = 3.12
312 ÷ 1,000 = 0.312



906 ÷10 =90.6
906 ÷100 =9.06
906 ÷1,000 =0.906

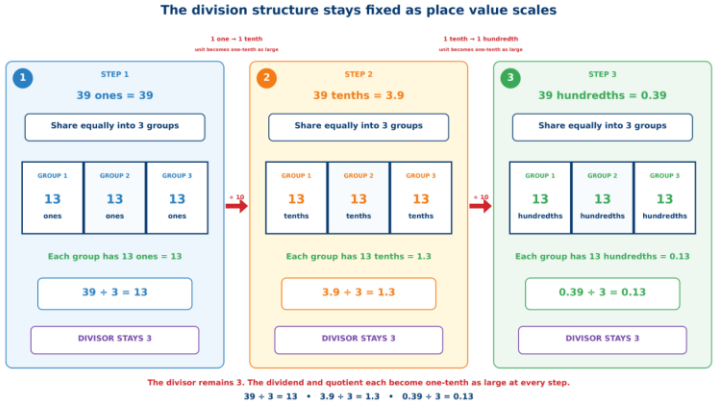
Divide decimals by integers

REPRESENT • REASON — Connect decimal division to known whole-number facts and place-value exchange, estimating the size of the quotient before calculating.

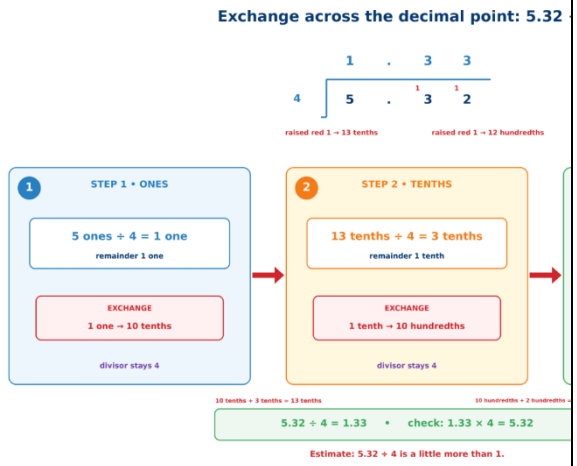
This is the first time children divide decimals by numbers other than 10, 100 or 1,000

REHEARSE • REASON — I know that … ÷ … = …, I need to exchange 1 … for 10 …so I also know that … ÷ … = …

39 ÷ 3 = 13 3.9 ÷ 3 = 1.3 0.39 ÷ 3 = 0.13



REPRESENT — I need to exchange 1 … for 10 …

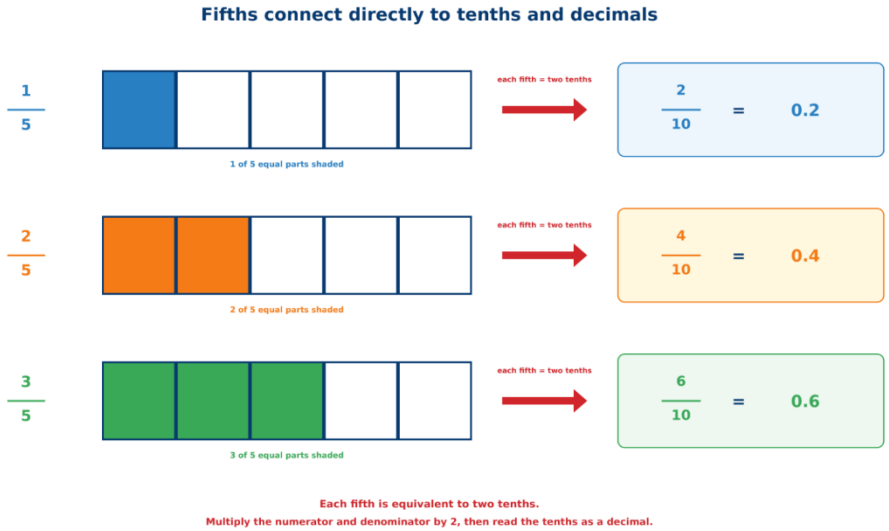


Decimal and fraction equivalents

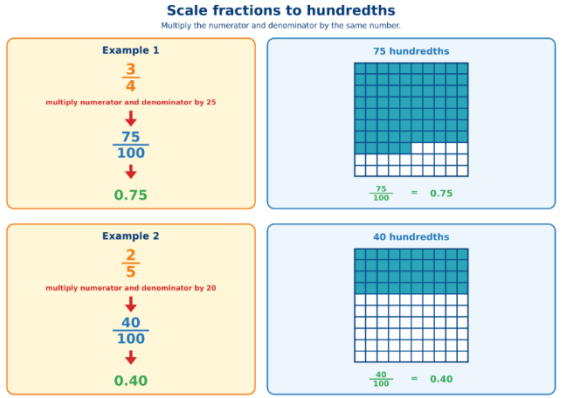
REPRESENT • REASON — Use bar models, hundred grids or division to connect fractions and decimals, justifying each equivalence.

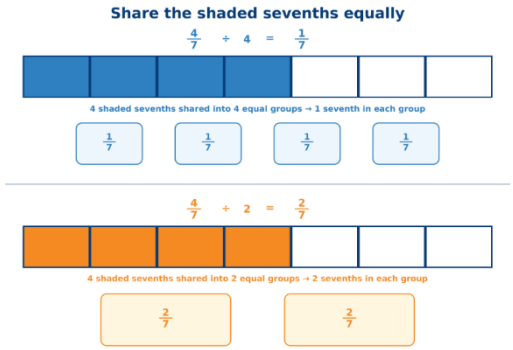
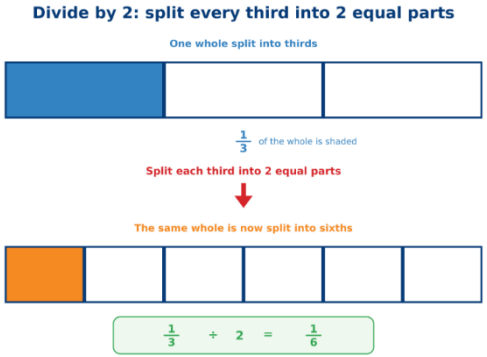
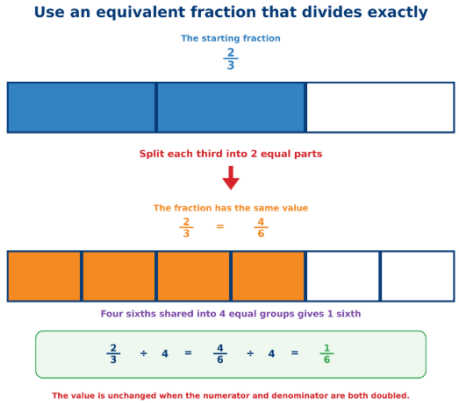
REHEARSE • REASON — The fraction … is equivalent to the decimal …

$\frac{1}{5}$ = 0.2 $\frac{2}{5}$ = 0.4 $\frac{3}{5}$ = 0.6



REPRESENT • REASON — — is equal to $\frac{\quad}{100}$



Divide a fraction by an integer **REPRESENT • REASON —** Use fraction diagrams to divide each unit-fraction part equally, then simplify and justify the equivalent fraction. This is the first time children divide fractions by an integer.	**REHEARSE • REASON —** … ones divided by 2 is … ones so … sevenths divided by 2 is … sevenths.  $\frac{4}{7} \div 4 = \frac{1}{7}$ $\frac{4}{7} \div 2 = \frac{2}{7}$	**REPRESENT —** I am dividing by … , so I can split each part into … equal parts. $\frac{1}{3} \div 2 = \frac{1}{6}$ 	**REASON —** … is equivalent to … so … ÷ … = … ÷ …  $\frac{2}{3} = \frac{4}{6}$ So $\frac{2}{3} \div 4 = \frac{4}{6} \div 4 = \frac{1}{6}$

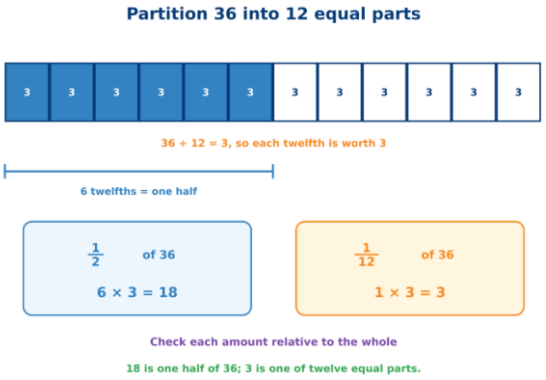
Fraction of an amount

REPRESENT • REASON —
Use a bar model or ratio table to find one unit fraction, then scale by the numerator. Reverse the process to find the whole and check proportionality.

Children divide and multiply to find fractions of an amount. Bar models can still be used to support understanding where needed.

REHEARSE — To find $\frac{1}{\square}$ I divide by…

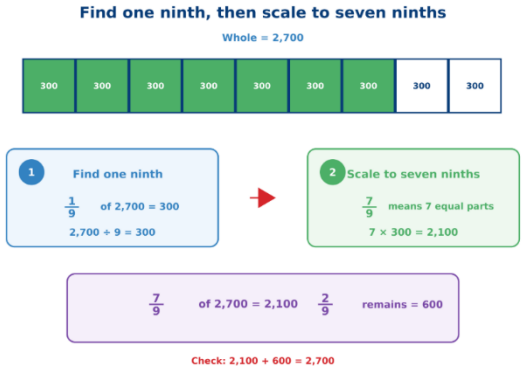
$\frac{1}{2}$ of 36 = 36 ÷ 2



$\frac{1}{12}$ of 36 = 36 ÷ 12

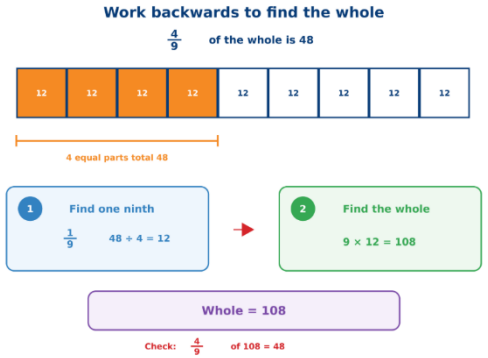
REHEARSE • REASON — If $\frac{1}{\square}$ is equal to …, then — are equal to…

$\frac{7}{9}$ of 2,700 = $\frac{1}{9}$ of 2,700 x 7



REASON — If $\frac{1}{\square}$ is equal to …, then — are equal to…

$\frac{4}{9}$ of ___ = 48



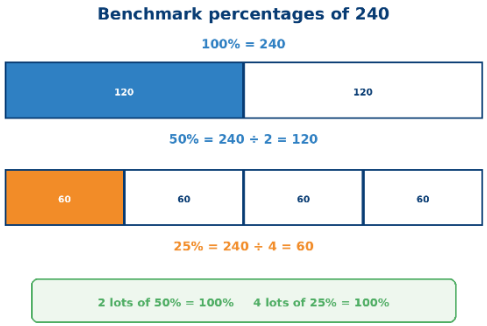
Calculate percentages

REHEARSE • REASON —
Secure benchmark percentages, then combine or scale them and justify the most efficient route.

Children first learn how to find 1%, 10%, 20%, 25% and 50% before using multiples of these amounts to find any percentage.

REPRESENT • REHEARSE — There are … lots of … % in 100%
To find … %, I need to divide by …

50% of … = …÷ 2
25% of … = …÷ 4

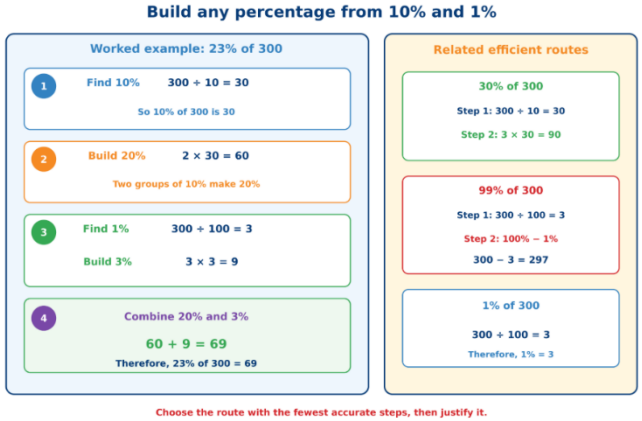


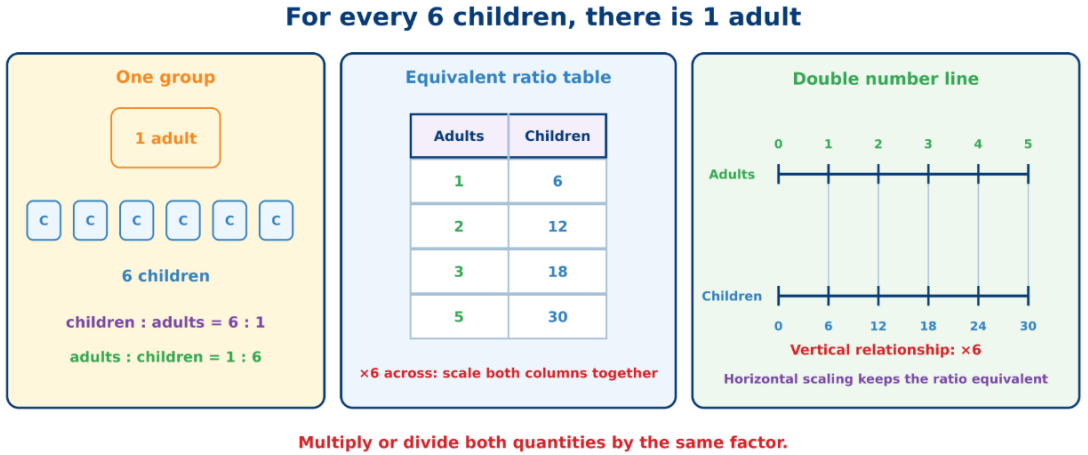
REASON — … % is made up of … %, and … %

To find 30%, I can find 10% and then multiply it by 3

To find 23%, I can use 10% ×2 and 1% ×3

To find 99%, I can find 1%, then subtract from 100%



Calculations involving ratio **REPRESENT • REASON —** Use double number lines or ratio tables to expose the multiplicative relationship. Scale both quantities by the same factor and explain why the ratio remains equivalent. Encourage children to see the multiplicative relationship between ratios. They will need to multiply or divide each value by the same number to keep the ratio equivalent. Double number lines and ratio tables help children to see both horizontal and vertical multiplicative relationships.	**REHEARSE • REASON —** For every … , there are … For every 6 children on a school trip, there is 1 adult. The ratio of adults to children is 6 : 1  **Multiply or divide both quantities by the same factor.**

REPRESENT • REHEARSE • REASON in Year 6 at Foster's

REPRESENT — Make the mathematics visible: Connect place-value counters and partial quotients to formal short and long division. Use bar models, fraction representations and ratio tables when they expose proportional structure.

Progression in strategy: Pupils select and justify mental, short or long division, apply the agreed order of operations and interpret remainders as whole numbers, fractions, decimals or rounding according to context.

Mathematical language: Use dividend, divisor, quotient, remainder, partial quotient, factor, multiple, inverse, integer, decimal, equivalent, percentage and ratio.

REHEARSE — Build accuracy and automaticity: Daily arithmetic retrieval secures efficient facts, compatible multiples, factor relationships, powers of 10 and connected fraction and decimal calculations.

Recording, checking and responsive teaching: Books and digital learning show sufficient working. Pupils estimate and check through multiplication, a second method or the context; live responses and Entry Tickets inform targeted support.

REASON — Explain, justify and solve: Secure pupils compare layouts, diagnose errors and justify conclusions involving remainders, decimals, fractions, percentages, ratio and the order of operations.