



THE COLOUR WORKS

You are the new apprentice. Forty-two jobs, one workshop, and a cat who watches everything.

Apprentice name

Colour in a pot each time you finish a bench



Mixing Bench

Sheets 3-8



Pattern Bench

Sheets 9-14



Order Bench

Sheets 15-20



Word Bench

Sheets 21-26



Letters Bench

Sheets 27-31



Reply Bench

Sheets 32-36



Screen Bench

Sheets 37-38



Answers

Sheets 39-44

Nothing in this book is a test. There are no marks, no time limits and no way to lose. If a job goes wrong, that is information — cross it out and go again. The workshop has plenty of paper.

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What this is. Not a practice test — a set of jobs that teach the specific things Ontario's own assessment data says Grade 3 children reliably get stuck on. Paint mixing carries the ratio work because ratios *are* paint recipes. Every bench targets a named weak spot and fixes it by doing, not explaining.

How to use this book

Short version: one sheet at a time, no marking, and stop while they still want more.

The six things this book is actually for

The problem, from the province's own data	Where it is fixed
Additive thinking. A child sees "four times as many" and adds instead of multiplying. The single most diagnostic error there is.	Mixing Bench — every paint recipe is a ratio
Rules applied once. A child finds a pattern rule and uses it for one step, then guesses.	Pattern Bench — draw the arrows, count the arrows
Half-finished answers. Two-step questions answered in one step.	Order Bench — every job has a "how many steps?" box
Vocabulary. Faces and edges, likely and unlikely, mode and most.	Word Bench — on real objects, not diagrams
Evidence without a connection. The right quote, but never a reason.	Letters Bench — one sentence, taught to automaticity
Writing that stops instead of ending.	Reply Bench — plan three parts, always land the last one

Four rules that make it work

- 1. Never more than one sheet a day.** Two is a chore. One is a visit to the workshop.
- 2. Do not mark it.** The answer key at the back is for the child to check their own work, after they have finished and only if they want to. A page of red pen turns a workshop into a test.
- 3. Say the number sentence out loud.** "One to five" beats "times by five" every time — it is the relationship you want remembered, not the arithmetic.
- 4. Real paint beats imagined paint.** Where a sheet says to mix something, mix it if you possibly can. Poster paint, food colouring, even two coloured pencils overlapping.

Colour note. The mixing in this book is real paint mixing, not screen mixing. Red and yellow make orange. Blue and yellow make green. Red and blue make purple. Red and green make *brown* — not yellow. If your child checks against actual paint, it will match.

If you only have ten minutes a week, do Sheets 4, 12, 17 and 29 — additive-versus-multiplicative, the arrow habit, the two-step check, and evidence-plus-because. Those four carry most of the value in the book.

Your first day

Marigold runs The Colour Works. She has left you a note.

Welcome. Two things before you touch anything.

One. A recipe is not a total. "One red to two white" does not mean three pots. It means: however much red you use, use twice as much white. One and two. Two and four. Ten and twenty.

Two. Paint is not light. Red and green do not make yellow here. They make brown. Try it and see. — M.

Mix these for real if you can

Two colours, one blob each. Poster paint, food colouring, or two pencil colours scribbled over each other.

red + yellow

write what you got

.....

blue + yellow

write what you got

.....

red + blue

write what you got

.....

red + green

Most people guess wrong. Write what actually happened.

.....

all three: red + yellow + blue

.....

The workshop rule. Every colour you make gets written down. A colour you cannot make again is not a colour, it is an accident.

Why start here. Physical mixing before any arithmetic. The red-and-green square is deliberate — children expect yellow because screens work that way. Being wrong about it once, with real paint, is worth ten explanations.

Times it, or add it?

Every job in the workshop is one of two kinds. Getting the kind right matters more than the answer.

ADD IT

Something is **joined on**. Words that give it away: *more than, altogether, as well, extra.*

$$6 + 4 = 10$$

TIMES IT

Something is **repeated**. Words that give it away: *times as many, each, per, for every, groups of.*

$$6 \times 4 = 24$$

Sort these. Write A for add, T for times. Do not work out the answer yet.

1

The shelf had 6 pots. Marigold put 4 more on.

2

A box holds 4 times as many pots as the shelf. The shelf holds 6.

3

Each brush jar holds 5 brushes. There are 3 jars.

4

There were 30 pots. 12 were sold.

5

Every litre of white needs 5 drops of blue. You are making 4 litres.

6

The green tin weighs 200 g. The red tin weighs 150 g more.

Say it out loud: "Is something being *joined on*, or *repeated*?" That one question is the whole sheet.

This is the sheet. Ontario's data shows children at Level 2 sense the right *direction* — the answer should get bigger — and then reach for the wrong operation. Sorting without solving separates the decision from the arithmetic, which is exactly where the error lives. Do this one more than once.

Recipes that grow

A recipe works at any size. That is the whole point of a recipe.

BLUSH — 1 scoop red to 2 scoops white. Say it: *one to two*.

 1 →   2   2 →     4

Fill in the missing amount

Colour	Recipe: this...	...to this	You use	So you need
Blush	1 red	2 white	4 red	
Sky	1 blue	5 white	3 blue	
Mist	1 green	10 white	2 green	
Blush	1 red	2 white	7 red	

Now the hard direction

5 You have used **30 scoops of white** making Blush (1 to 2). How many scoops of red did you use?

6 One large pail holds the same as **2 small pails**. You pour **8 large pails** into the vat. How many small pails is that?

Careful on number 6. Lots of people write 2, because 2 is in the question. Read it again. Eight large. Each one is worth two.

.....
Expectation B2.9 — the most commonly dropped expectation in Grade 3, and the one behind the question where students at Level 2 scored 27% against Level 3's 75%. Number 6 is that question's shape exactly.

The drying rack

The rack is numbered, but not every hook is labelled. The gaps are always equal – that is what makes it a scale.

Label the arrows

Look at two labels you can see. Work out one gap. Then count on.

0102030

A

B

C

One gap =

A =

B =

C =

200350

D

E

F

One gap =

D =

E =

F =

Rounding the stock count

To the nearest ten, then the nearest hundred.

Pots counted	Nearest ten	Nearest hundred
247		
85		
661		
950		

Why scales matter. Only about a third of students at Level 2 read a number line whose marks advanced in fives. The failure is not arithmetic – it is not expecting the gaps to be equal. Make them point at two labelled numbers and work out one gap before answering.

Trays

Pots come in trays. A tray is rows and columns – which is the fastest picture of multiplication there is.

Draw the tray, then write both sentences

3 rows of 5

draw the pots

$3 \times 5 = \square$

$5 \times 3 = \square$

4 rows of 10

draw the pots

$4 \times 10 = \square$

$10 \times 4 = \square$

The only facts you have to know by heart this year

The 2s, the 5s and the 10s – and the division that undoes each one. Not the rest. Those are next year.

2×3
2×6
2×8
5×3
5×6
5×8
10×3
10×6
10×8

8÷2
14÷2
18÷2
20÷5
35÷5
45÷5
40÷10
70÷10
90÷10

Undo it

Every times fact hides a division fact. Fill both.

$5 \times 6 = \square$

$30 \div 5 = \square$

$10 \times 7 = \square$

$70 \div 10 = \square$

$2 \times 9 = \square$

$18 \div 2 = \square$

A tray turned sideways is still the same tray. 3 rows of 5 and 5 rows of 3 hold the same number of pots. Check it by turning the page.

Expectation B2.2 – recall of $\times 2$, $\times 5$, $\times 10$ and the related division facts is the single highest-value mathematical outcome of Grade 3. Arrays are here because they make commutativity visible and because they are the bridge to area on Sheet 24.

Sharing a batch

Nine jars of paint. Six shelves. Nobody gets a whole number, and that is fine.

Share it, then write it

1 Share 9 jars equally between 6 shelves. Draw it.

draw the nine jars and the six shelves

Each shelf gets

The one that catches everybody

Which is bigger — one third of a tin, or one eighth of a tin?

Do not answer from the numbers. Draw both.

one tin shared by 3

draw

one tin shared by 8

draw

Bigger share:

Because more sharers means...

Same paint, different words

Colour in the amount, then finish the sentence.

Amount	Colour it in	Written as adding unit fractions
three quarters	4 equal parts	$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
two thirds	3 equal parts	
five sixths	6 equal parts	

Equal amounts, different recipes

Tick the pairs that hold the same amount of paint.

☐ $\frac{1}{2}$ and $\frac{4}{8}$

☐ $\frac{1}{3}$ and $\frac{2}{6}$

☐ $\frac{1}{5}$ and $\frac{3}{10}$



Expectations B1.6, B1.7, B2.8. The third-versus-eighth square is the biggest fraction misconception in primary school — children reason "8 is bigger than 3". It cannot be argued away; it has to be drawn or, better, shared out with something real.

Borders

Every frame in the shop gets a painted border. A border is a pattern that repeats — so you only have to invent a little bit of it.

Find the repeating unit and ring it

The unit is the smallest bit that starts over. Draw a ring around one unit, then keep the pattern going.

Border 1



Border 2



Border 3



Design your own

Make a border with a unit of exactly four shapes. Repeat it three times.

your border

My unit is: shapes long. If I repeated it 5 times, I would draw shapes altogether.

Two different questions. "What comes next?" only needs the unit. "What is the 20th shape?" needs the unit *and* a bit of thinking. The second one is coming on Sheet 11.

Expectations C1.1 and C1.2. Ringing the unit before extending is the habit that survives into harder patterns. The last question quietly converts a repeating pattern into a multiplication.

Draw the arrows

This is the most useful habit on the whole bench. When numbers grow or shrink, draw an arrow between each pair and write the jump on it. Then count the arrows, not the numbers.

Like this:

4 $\xrightarrow{+3}$ 7 $\xrightarrow{+3}$ 10 $\xrightarrow{+3}$ 13

Three arrows. Rule: +3. Next: 16.

Your turn – draw every arrow

6 12 18 24 ____ ____

Rule: Next two:

45 39 33 27 ____ ____

Rule: Next two:

150 200 250 300 ____ ____

Rule: Next two:

Shrinking counts too. A pattern that goes down is still a pattern with a rule. Plenty of people can do 6, 12, 18 and then freeze at 45, 39, 33. Same job, arrow points the other way.

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Expectation C1.3. Ontario's data shows children apply a rule once and then estimate – the second number is right and the later ones drift. Drawing every arrow is the fix, because it forces the rule to be applied at each step instead of guessed at the end.

When numbers are missing

Marigold spilled turpentine on the stock list. Some numbers are gone. The rule is still there — you just have to count the gaps, not the numbers you can see.

Watch this carefully.

17 → ____ → ____ → 29

From 17 to 29 is 12. But how many *jumps*? Count the arrows. **Three**. So each jump is $12 \div 3 = 4$.

Almost everyone who gets this wrong says +6. They counted two jumps because they could see two blanks. Blanks are not jumps. Arrows are jumps.

Now these. Draw the arrows first — every time.

8 ____ ____ 20

Number of arrows:

Total change:

Rule:

Fill the blanks in above.

5 ____ ____ ____ 45

Number of arrows:

Total change:

Rule:

Fill the blanks in above.

60 ____ ____ 30

Number of arrows:

Total change:

Rule:

Fill the blanks in above.

Say it every time: "Draw the arrows. Count the arrows. Divide by the arrows."

This is the hardest question type on the whole assessment. On the released set, only 35% of students who *met* the provincial standard got a question of exactly this shape right — and 43% of the highest-achieving group got it wrong too. It is not a weak-student question. It is a counting-the-wrong-thing question, and this habit fixes it.

Price tags that mean the same

The equals sign does not mean "the answer comes next". It means exactly the same as. A balance with the same weight on both sides.

True or false? Tick only the true ones.

$$4 \times 2 = 8 + 0$$

☐

$$4 \times 2 = 4 \div 2$$

☐

$$10 + 10 + 10 = 3 \times 10$$

☐

$$6 \times 5 = 5 \times 6$$

☐

$$345 = 300 + 40 + 5$$

☐

$$345 = 400 - 55$$

☐

The last one surprises people. An equal amount does not have to be made by adding. Taking away can land on exactly the same number.

Make both sides balance

$$7 + 5 = \boxed{} + 4$$

$$2 \times 10 = 4 \times \boxed{}$$

$$\boxed{} - 20 = 60$$

The spilled-ink subtractions

Two digits are missing. Work out what they must have been. Careful – when you regroup, the top digit gets **ten more**, not ten fewer.

$$\begin{array}{r} 4 \boxed{} 2 - 138 \\ \hline 294 \end{array}$$

$$\begin{array}{r} 56 \boxed{} - 247 \\ \hline 316 \end{array}$$

$$\begin{array}{r} 800 - \boxed{} 55 \\ \hline 545 \end{array}$$

Expectations C2.2 and C2.3. Children in difficulty pick $4 \div 2$ for 4×2 – inverse and equivalent get conflated – and avoid subtraction options entirely. The missing-digit work is here because the characteristic error is subtracting where regrouping requires adding.

The stamping machine

The workshop has a machine that stamps patterns onto paper. You write the instructions. A loop is an instruction that says "do this again, this many times".

Reading a loop

REPEAT 3 TIMES: stamp 5 dots

That is 3 goes, 5 dots each go. 15 dots. It is *not* 5 goes of 3 — read which number sits with REPEAT.

How many dots?

REPEAT 4 TIMES:
stamp 10 dots

Dots:

REPEAT 5 TIMES:
stamp 2 dots

Dots:

REPEAT 2 TIMES:
stamp 5 dots
stamp 5 dots

Dots:

REPEAT 10 TIMES:
stamp 1 dot

Dots:

Which one is the loop?

Ring the instruction that repeats something a set number of times.

- A move forward 3
- B REPEAT 6 TIMES: turn a quarter turn
- C stamp 1 star
- D wait 2 seconds

Write the code

Marigold wants 20 dots stamped, in 4 goes. Write her instruction.

REPEAT TIMES: stamp dots

Notice what a loop actually is. It is a repeating pattern wearing different clothes. REPEAT 3 TIMES: stamp 5 — that is 5, 10, 15. You have been doing this since Sheet 9.

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Expectations C3.1 and C3.2. Around half of students at Level 2 could not identify a loop – the terminology, not the logic. Children who swap the repeat count and the stamp count are the commonest error, so the two are deliberately swapped between questions here.

Colour by rule

Work out each answer. Then colour that square using the key. A picture appears – but only if the rules are right.

answer 1-20 → red

answer 21-40 → blue

answer 41-60 → yellow

answer 61 or more → green

☐	Work it out	Answer	Colour
A	The rule is +5. Start at 3. What is the 4th number?		
B	REPEAT 5 TIMES: stamp 10 dots. How many dots?		
C	1 red to 2 white. You use 9 red. How much white?		
D	45, 39, 33 ... what comes two steps later?		
E	7 → ____ → ____ → 19. What is the rule? Write the JUMP.		
F	6×5		
G	One large pail = 2 small. 8 large pails = ? small		
H	$800 - 255$		

If two squares end up the same colour, that is allowed. The picture is not ruined. Check the ones you are unsure about with the key at the back – after you have tried them all.

Review sheet. Every question is a shape the province's data flags: rule-applied-to-every-term, loops, ratios, shrinking patterns, gap-counting, recall facts, proportional scaling and regrouping. If one colour comes out wrong, that is a precise diagnosis – go back to the sheet it came from.

The two-step habit

Most orders that go wrong are not wrong. They are half right — somebody did the first step and stopped. Every job on this bench has a box to fill in before you start.

Here is what half-finished looks like.

A shelf holds 5 rows of 6 pots. Another holds 2 rows of 8. **How many more** does the first shelf hold?

Step 1: $5 \times 6 = 30$ Step 2: $2 \times 8 = 16$ Step 3: $30 - 16 = 14$

Somebody who stops after step 1 writes 30. It is a real number from a real calculation and it is completely wrong. The question said *how many more*.

Ring the words that tell you there is a second step

how many more

altogether

left over

the difference

in total

change from

how much longer

each

Now these

1. A tray holds 4 rows of 5 pots. A crate holds 3 rows of 10. How many **more** pots are in the crate?

How many steps does this need? Did I do them all?

Working:

.....

Answer:

2. Marigold mixed 250 ml of green and 175 ml of blue. She poured 300 ml into a jar. How much is **left**?

How many steps does this need? Did I do them all?

Working:

.....

Answer:

3. Brushes come in packs of 5. You buy 6 packs and lose 4 brushes. How many do you have **now**?

How many steps does this need? Did I do them all?

Working:

Answer:

The most common failure in the whole assessment. On the released questions, only 26% of students at Level 2 answered a two-step comparison correctly – and the answer they chose was consistently the result of doing just one of the steps. The box is not decoration; make them fill it in before working.

The till

Change is always two jobs. First: how much change. Second: which coins. People who get this wrong nearly always did the first and forgot there was a second.

Worked example. A brush costs \$3.40. The customer pays with \$5.

Step 1 — how much: $\$5.00 - \$3.40 = \$1.60$

Step 2 — which coins: $\$1 + 50¢ + 10¢$ (three coins)

Fill the till slips

Item	Price	Paid with	Change	Coins and notes you would hand back
Small brush	\$2.25	\$5.00		
Pot of red	\$6.80	\$10.00		
Canvas	\$12.50	\$20.00		
Sponge	\$0.75	\$2.00		

The one with two purchases

5. A customer buys a canvas for \$12.50 and a sponge for \$0.75. She pays with two twenty-dollar bills. How much change?

How many steps does this need? Did I do them all?

Working:

.....
.....

Change:

Two twenty-dollar bills is not twenty dollars. Read that part twice. It catches more people than the subtraction does.

Expectation F1.1. Only a third of students at Level 2 handled a change question correctly, against three quarters at Level 3. The structure defeats them — subtract, then change representation and add coins. Question 5 has the exact shape of a released item where Level 3 scored 61%.

Around the workshop

You are at **START**, facing right. Two rules before you move.

Rule 1

The square you are standing on **does not count** as a move. Moving forward 1 means you land on the *next* square.

Rule 2

Clockwise is the way a clock's hands go. Facing right, a quarter turn clockwise leaves you facing **down**.

		KILN			
				PAPER	
START					
	DYES				SINK

Follow the instructions. Mark where you end up.

1. Forward 2. Quarter turn clockwise. Forward 1.

I end up at:

2. Forward 4. Quarter turn counterclockwise. Forward 2.

I end up at:

3. Quarter turn clockwise. Forward 1. Quarter turn counterclockwise. Forward 5.

I end up at:

Write the instructions yourself

Get from **START** to the **SINK**. Use forward moves and quarter turns only.

How many forward moves did you use altogether?

Try it with your body. Stand up, face a wall, and turn a quarter clockwise. Doing it once beats reading about it three times.

Expectation E1.4. Two errors show up together in the province's data: counting the starting square as a move, and swapping clockwise with counterclockwise. Both are addressed directly above, which is why the rules are stated before any question.

Framing

Two different jobs, two different measurements. Mixing them up is the single most common measuring mistake there is.

PERIMETER – the frame

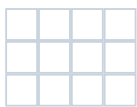
The wood that goes **around the edge**. Add up all the sides. Measured in cm.

AREA – the glass

The flat sheet that **covers the middle**. Count the squares. Measured in square cm (cm²).

For each picture, work out both

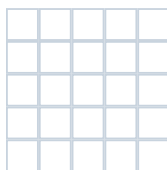
4 × 3 squares



Frame (perimeter): cm

Glass (area): cm²

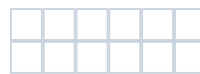
5 × 5 squares



Frame (perimeter): cm

Glass (area): cm²

6 × 2 squares



Frame (perimeter): cm

Glass (area): cm²

How many MORE?

4. Picture A covers 12 squares. Picture B covers 20 squares. How many **more** squares does B cover?

How many steps does this need? Did I do them all?

Answer:

If you wrote 20, read the question again. It did not ask how many B covers.

Gaps and overlaps

Marigold covered a picture with squares but left gaps, and overlapped some. Her count came to 14. The real area is 12. Tick what could have gone wrong.

She counted a square twice where they overlapped

☐

She used squares of two different sizes

☐

Expectations E2.1, E2.7-E2.9. Only 36% of students who met the standard answered an area-difference question correctly – the dominant wrong answer was the total rather than the difference. Question 4 is deliberately that trap, with the step box as the guard.

Measuring properly

The workshop measures four different things. Each one has its own units — and its own way of going wrong.

Length — pick a sensible unit

mm · cm · m · km. Write one in each box.

1 the width of a paintbrush bristle

2 the length of a canvas

3 the height of the workshop door

4 the distance to the paint supplier

Fill in: 1 cm = mm · 1 m = cm · 1 km = m

Capacity — the same jug, three ways

Marigold fills a jar using a small cup. She counts **8 cups**. Her helper fills the same jar using a bigger cup and counts **5**.

Who is right?

Explain what a bigger unit does to the count.

Mass — the pan balance

A pot of red balances **7 marbles**. A pot of blue balances **4 marbles**.

Which is heavier?

By how many marbles?

Two pots of blue would balance marbles.

Time — the drying clock

Write the time in both ways.

The paint goes on at	It dries for	It comes off at
9:15	45 minutes	
1:30	1 hour 20 minutes	
11:50	25 minutes	

1 minute = seconds · 1 hour = minutes

Expectations E2.2-E2.6. The capacity question targets E2.5 directly – a different-sized unit changes the count, not the amount. Children often think one of the two counters must have made a mistake.

A real order

Everything on this bench, in one job. Take your time. Fill the step box before each part.

ORDER 214 — Willowbrook School

18 pots of Blush (1 red to 2 white) · 4 trays, 5 brushes per tray · 2 canvases at \$12.50 each · delivery to the SINK door

1. Blush is 1 scoop red to 2 scoops white. To make 18 pots you need 6 scoops of red. How many scoops of white?

How many steps does this need? Did I do them all?

Answer:

2. 4 trays, 5 brushes per tray. Two brushes are broken and thrown away. How many good brushes go in the order?

How many steps does this need? Did I do them all?

Answer:

3. 2 canvases at \$12.50 each. The school pays with three twenty-dollar bills. How much change?

How many steps does this need? Did I do them all?

Answer:

4. The order took 35 minutes to pack and 25 minutes to deliver. It left at 2:20. What time was it finished?

How many steps does this need? Did I do them all?

Answer:

Check your work the workshop way: read the question one more time and ask "did I answer *that*?" Not "is my arithmetic right" — "did I answer the question that was asked".

Review sheet. Ratio scaling, multi-step with a subtraction, two-step money with a misleading payment, and elapsed time. Each one is a shape that appears in the province's released questions.

Boxes, properly named

Paint gets packed into boxes. To order the right box you have to describe it exactly – and "sides" is not exact enough.

FACE

A flat surface you could paint. A cube has 6.

EDGE

A line where two faces meet. You could run a finger along it.

VERTEX

A corner where edges meet. More than one: *vertices*.

Go and get a real box. A cereal box, a tissue box, a tin. Put a finger on a face. Run it along an edge. Poke a vertex. This sheet is nearly impossible from a picture and easy from an object.

Count them on real things

Object	Shape name	Faces	Edges	Vertices
A cereal box				
A dice or sugar cube				
A tin of beans				
A party hat				

The pyramid puzzle

A pyramid has 5 faces that are triangles. What shape is its base?

Careful. The base is *not* one of the triangles – it is the flat bottom the triangles lean on. Count the triangles, then think how many sides the base must have.

triangle

square

hexagon

pentagon

Answer:

Expectation E1.1. About half of students at Level 2 could not correctly count faces, edges and vertices. And on the released set, only 26% of students who *met the standard* got the pyramid question right – most chose "square", the pyramid they have seen in books. It is a vocabulary question wearing a geometry costume.

The colour spinner

Every morning Marigold spins to decide the colour of the day. Five words describe how likely something is — and they are not the same as each other.

impossible

→

unlikely

→

equally likely

→

likely

→

certain

The trap: "likely" does *not* mean "possible". Lots of things are possible and still unlikely. Likely means **more than half** the time.

A spinner with 8 equal parts

5 red • 2 blue • 1 yellow • 0 green

draw the spinner and colour the eight parts

Write one of the five words for each

1

Landing on red

2

Landing on green

3

Landing on yellow

4

Landing on a colour that is not green

5

Landing on blue

Now yours

Colour a spinner of 8 parts so that landing on **blue** is **unlikely** but **not impossible**.

your spinner

I used blue parts out of 8, because unlikely means fewer than half

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Expectation D2.1. Around 55% of students at Level 2 handled likely-and-unlikely correctly against 85% at Level 3. The misconception is precise: any outcome that *could* happen gets called likely. Building a spinner to a specification is the fastest way to break it.

What sold this week

Two traps live on this sheet. Read the key before you count anything, and remember that mode means "happened most often", not "the biggest number".

The pictograph

KEY: one ■ stands for 4 pots

Red ■ ■ ■ ■ ■

Blue ■ ■ ■

Yellow ■ ■ ■ ■ ■ ■

Green ■ ■

1

How many pots of red sold?

2

How many pots of yellow sold?

3

How many more yellow than green?

4

How many pots altogether?

If you wrote 5 for the first one, you counted the symbols. Read the key again.

Mode is not "the most"

Brush sizes sold today: 2, 5, 2, 8, 2, 5, 10

The mode is The largest number is

These are different questions with different answers. Mode = which one turned up most often.

Mean — if everyone had the same

Four shelves hold 6, 4, 8, 2 pots. Share them out so every shelf has the same number.

move the pots

Each shelf would hold — that is the mean.

=====

Expectations D1.3 and D1.4. About 40% of students at Level 2 read a pictograph key correctly against 85% at Level 3 – the wrong answer is always the symbol count. And asked for the mode, children in difficulty pick the largest value. Both traps are set deliberately here.

Sorting the stock

Three ways to sort the same shelf. Each one answers a slightly different question.

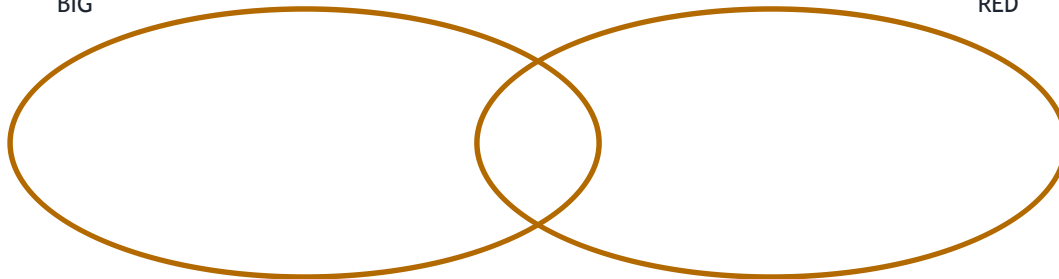
The Venn — two hoops that overlap

The middle is for things that are **both**. Outside both hoops is for things that are **neither**.

Sort these pots: a big red • a small red • a big blue • a small green • a big yellow • a small blue

BIG

RED



Which region holds things that are big but **not** red? Ring it.

The Carroll — a box with four rooms

	Red	Not red
Big		
Small		

Put the same six pots in. Every pot goes in exactly one room.

The tree — one question at a time

Is it red?

YES → is it big? YES: ☐ NO: ☐

NO → is it big? YES: ☐ NO: ☐

Write how many pots land in each ending.

Same six pots, three diagrams, same information. If your three answers disagree, one of the diagrams has a pot in the wrong place. Find it.

Expectation D1.1. The region children misread most often in a Venn is the *only this, not that* part — they read the whole hoop instead of the crescent. The Carroll table and the tree are included because they make the same sort unambiguous.

The stocktake

Once a year the whole workshop gets counted. Numbers up to a thousand, written every way there is.

Four ways to say the same number

Numeral	In words	Hundreds, tens, ones	Added up
407			
	six hundred and fifty		
		2 hundreds, 0 tens, 9 ones	
913			$900 + 10 + 3$

The zero has a job. In 407 the zero is not nothing – it is holding the tens place open. Take it away and you get 47, which is a completely different amount of paint.

Order the stock cards

Write them smallest to largest.

318

381

138

813

183

Count on

Fill the gaps. Say the rule out loud first.

450 500 ____ ____ 650 ____

Rule:

200 400 ____ ____ 1000

Rule:

Expectations B1.1, B1.2, B1.4, B1.5. Writing numbers in words is one of the things students at Level 3 are most secure on – this sheet is here for completeness and confidence, not because it is a weak spot. The counting-on strips reuse the arrow habit from Sheet 10.

The workshop word wall

Every word on this bench, in one place. Fill in what each one means – in your own words, not copied. Then draw or find one example of each.

Word	What it means, in my words	An example I found
face		
edge		
vertex		
perimeter		
area		
impossible		
unlikely		
likely		
certain		
mode		
mean		
loop		
clockwise		
ratio		

Stick this one on a wall. Not in a drawer. The words only stay if they are visible when nobody is thinking about them.

Why a word wall. Ontario's analysis found language failures across every single mathematics strand – not calculation failures, vocabulary ones. A child who cannot separate *mode* from *most*, or *edge* from *side*, loses marks on mathematics they can actually do. Keep this sheet up all year.

One sentence that changes everything

When you answer a question about something you have read, there is a sentence shape that turns a half-answer into a whole one.

"_____, which shows that _____."

First blank: the bit from the text. The actual words.

Second blank: what it tells you. The thinking.

Why it matters

Half an answer

"She dropped the brush."

True, and copied correctly. But the reader has to work out **why** you mentioned it. That is your job, not theirs.

A whole answer

"She dropped the brush, which shows that she was nervous."

Same evidence. One extra clause. Now the reader knows what you think and why you think it.

Finish these

The evidence is given. You write the second half.

"Tom checked the door twice before he left", which shows that

.....

"The paint tin had not been opened for years", which shows that

.....

"She read the letter three times, then folded it very small", which shows that

.....

Never just repeat the question. If the question is "How do you know Tom was worried?" and your answer starts "Tom was worried because..." — good, keep going. If it *stops* there, it has said nothing at all.

This is the highest-value reading habit in the book. Ontario's published rubric turns entirely on whether the child connects the evidence to the point or leaves the reader to do it. A response that quotes the right line but never says why lands at 2 out of 4. The same response plus "which shows that..." lands at 3 or 4. One taught sentence, worth a whole level.

The letter in the paint tin

Read it twice. The second time, underline anything that tells you something the writer did not say straight out.

Nia had worked at The Colour Works for six days. On the seventh, Marigold handed her a key.

“Back room,” Marigold said. “Third shelf. Bring me the green tin.”

The back room smelled of turpentine and old wood. Nia had never been allowed in. She counted the shelves twice before she reached up, and even then her hand hovered. The tin was heavier than she expected, and something slid about inside it — something that was not paint.

She carried it out with both arms and set it on the bench very slowly, the way you set down something that might still be somebody else's.

Marigold did not look up. “Open it, then.”

Inside, on top of a folded cloth, was a brush. The handle had been worn smooth and pale in one place, where a thumb had rested for years. Underneath it was a card with three words on it.

“That was my teacher's,” Marigold said. “She gave it to me on my seventh day.”

Answer with evidence — and finish the sentence

1 How do you know Nia had **not** been in the back room before? Use words from the story.

.....

.....

2 How do you know the tin did **not** have paint in it?

.....

.....

3 Why do you think Nia set the tin down slowly? Give a reason and say which words made you think it.

.....

.....

4 What do you think the three words on the card said? There is no wrong answer — but say what in the story made you choose them.

.....

.....

Expectation C3.2, and C2.4. Every question here needs an inference plus the words that support it. Question 4 is deliberately open — it is a personal response (C3.6) that still has to be anchored to the text.

The noticeboard

Information texts are built to be found in, not just read through. The headings are signposts. Notice them.

Looking After Your Brushes

Why it matters

A good brush can last twenty years. A brush left standing in water for one night can be ruined for good, because the bristles bend and never straighten.

Washing

Rinse in lukewarm water — never hot. Hot water loosens the glue that holds the bristles into the metal band. Work the soap in with your fingers, from the handle towards the tip.

Drying and storing

Reshape the tip while the brush is damp. Lay it flat, or hang it with the bristles pointing down. Standing a wet brush upright lets water run into the band, where it will rust.

Questions

1 What is this whole notice **mostly** about? One sentence.

.....

2 Which heading would you look under to find out about hot water?

.....

3 Why did the writer put headings on this notice? What do they do for the reader?

.....

.....

4 The notice says hot water “loosens the glue”. What does **loosens** mean here? Use the rest of the sentence to help you.

.....

5 Name **two** things that can ruin a brush, in the order the notice mentions them.

.....

.....

“Mostly about” is not the same as “everything in it”. The main idea is the one sentence that would still be true if you forgot the details.

Expectations C2.6, C1.3 and B2.4. Question 3 is the one worth pressing on — children can name a text feature long before they can say what it *does*. Question 4 is vocabulary in context, the commonest reading question shape on the assessment.

Breaking words open

You do not need to have met a word before. Most long words are short words with pieces stuck on.

PREFIX

Goes at the front and changes the meaning. *un-*, *re-*, *pre-*, *dis-*

BASE

The main word hiding in the middle.

SUFFIX

Goes on the end and changes the job. *-ful*, *-less*, *-ly*, *-able*

Split them up

Word	Prefix	Base	Suffix	So it means...
unhelpful				
repaintable				
colourless				
carefully				
dislikeable				

Same word, different sentence

Write what the underlined word means in that sentence.

1 The paint had a strange finish – rough, almost like sand.

.....

2 Nia would finish the last shelf before lunch.

.....

3 The brush was fine enough to paint a single eyelash.

.....

4 Marigold said the work was fine, but she did not smile.

.....

A word can change job without changing spelling. When a question asks what a word means, it means *here* – in this sentence, in this story.

Expectations B2.3 and B2.4. The most common vocabulary question on the assessment gives a word from the passage and asks what it means in context. A child with a method – look at the parts, look at the sentence – has a strategy. A child with memorised word lists has a lottery ticket.

Two kinds of writing

Look back at Sheet 28 (the story) and Sheet 29 (the notice). They are built completely differently, on purpose.

	The story — “The letter in the paint tin”	The notice — “Looking After Your Brushes”
What is it for?		
How is it organised?		
Does it have headings?		
Who is telling it?		
How do you read it — start to end, or hunt for a bit?		

Point of view

Ring the right one and say how you know.

The story is told in

first person (I / we)

third person (she / he / they)

I know because quote a few words

Rewrite this line as if Nia were telling it herself:

“She carried it out with both arms and set it on the bench very slowly.”

One more inference

Marigold gave Nia the key on the **seventh** day. Her own teacher gave *her* the brush on **her** seventh day. What is Marigold doing, and how do you know?

Expectations C1.2, C1.6 and C3.3. Comparing two forms directly is the fastest way to make text structure visible. The last question requires connecting two facts that are eight paragraphs apart — which is what “analysing a text” means at this age.

Three kinds of letter

The workshop gets three kinds of post, and each one needs a different kind of reply. Getting the kind right matters more than the handwriting.

A STORY

Something **happened**. Beginning, middle, end. Told in order.

"Tell us about the day the kiln broke."

PERSUADING

You want someone to **agree**. An opinion, then reasons.

"Should the shop open on Sundays?"

EXPLAINING

Someone needs to **know how**. Facts and steps, in order.

"How do I mix the colour Blush?"

Which kind is each letter asking for?

- 1 "My brush went hard. What did I do wrong and how do I stop it happening again?"

story

persuading

explaining
- 2 "Our school wants to know why art lessons are worth the money. Can you write something?"

story

persuading

explaining
- 3 "My grandad says he bought paint from you in 1974. Do you have any tales from back then?"

story

persuading

explaining
- 4 "What is the difference between perimeter and area? My teacher explained but I did not follow."

story

persuading

explaining

The same subject, three ways

Subject: the workshop cat. Write one sentence of each kind.

A story sentence

.....

A persuading sentence

.....

An explaining sentence

.....

Expectation D2.1. The assessment prompt could be narrative, persuasive or informational, and a child who has only ever written stories is exposed. Sorting prompts by kind – before writing anything – is the cheapest possible insurance.

Plan three, land three

The commonest way a good piece of writing loses marks is that it stops instead of ending. Plan for three parts you can actually finish – not five you cannot.

Two minutes of planning beats ten minutes of rescuing. Before writing a single sentence, fill in the three boxes. If you cannot fill box three, you do not have an ending yet – and you should find one now, not later.

The planner

Prompt: “Tell us about the day something in the workshop went wrong.”

1 · How it starts – where are we, who is there?

.....

.....

2 · The middle – what goes wrong?

.....

.....

3 · How it ends – this is the box people skip

.....

.....

Words that carry a reader across

Ring the ones you might use. Then use at least two.

At first

Then

After that

Suddenly

Meanwhile

Because of this

In the end

By the time

Now write it

Three paragraphs, one per box. Aim to finish, not to fill the page.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Check before you stop: does the last sentence sound like an ending, or like the pen ran out? If it is the second one, add one more sentence that closes it.

Expectations D1.4 and D2.1. Organisation is a scored criterion in its own right, and a piece with no ending is disorganised by definition. Planning three developed parts rather than starting five is the single most reliable way to protect that score.

Write the interesting word

Here is something almost nobody tells you. Spelling a hard word wrong costs you less than swapping it for a boring word you can spell.

Safe, and worse

The paint was nice. The room was nice too. It was a nice day.

Not one spelling mistake. Also not one interesting idea.

Brave, and better

The paint was glossy and smelt fantastically of turpentin.

Two spelling slips. You can still see exactly what she meant — and that is the actual standard.

The real rule for spelling and punctuation: it has to not *get in the way*. It does not have to be perfect. Errors that a reader sails straight past cost you almost nothing.

Upgrade the dull word

Cross out the boring word. Write a braver one above it. Do not worry about the spelling.

- 1 The cat was nice.

.....

- 2 Marigold went across the workshop.

.....

- 3 The kiln made a bad noise.

.....

- 4 It was a big tin.

.....

Fix these — but only where it stops you understanding

Some of these need fixing. Some are fine as they are. Tick the ones that are fine.

The brushes was clean.

☐

she picked up the tin

☐

I painted the door and then I painted the frame and then I painted the step and then I stopped.

☐

The colour was beutiful.

☐

Two different jobs. Writing is one job. Fixing is a different job that happens *afterwards*. Stopping mid-sentence to worry about a spelling is how good sentences die.

.....

The Conventions scale is only three points, and the middle point is simply “errors do not interfere with communication”. Fear of spelling errors is more expensive than the errors — children who write short safe sentences trade away Topic Development marks, which are worth more, to protect a Conventions mark that was never at risk.

Make them agree with you

Persuading has a shape. Opinion, then reasons, then say it again — differently.

- 1 • **What I think.** One clear sentence. No maybes.
- 2 • **Because.** Two or three reasons, the strongest one last.
- 3 • **So.** Say what should happen. Do not just stop.

Strong reason or weak reason?

Opinion: *The workshop should get a second cat.* Tick the reasons that would actually convince someone.

Because cats are nice.

☐

Because there are mice in the paper store and one cat cannot patrol both floors.

☐

Because I want one.

☐

Because customers stay longer when the cat is in the window, and they buy more.

☐

What do the two strong ones have that the weak ones do not?

Your turn

Pick one. Ring it, then write your reply. Three parts. Land the ending.

Every school should teach painting

The workshop should open on Sundays

Learning your times tables is worth it

1 • What I think

.....

2 • Because — my reasons, strongest last

.....

.....

3 • So — what should happen

.....

Expectations D1.1, D2.1 and D2.3. A strong reason gives a consequence a reader can picture. “Because I want one” is an assertion, not a reason — separating the two is most of what persuasive writing is at this age.

Explain it so they can do it

A customer wants to make Blush. Write the instructions. Someone who has never been in a workshop has to be able to follow them.

What you need

.....

.....

What to do – in order

Number your steps. Use *first*, *next*, *then*, *finally*.

.....

.....

.....

How to know it worked

.....

Two different jobs, in this order

REVISE – the ideas

Read it as if you had never seen it. Ask:

- ☐ Is a step missing?
- ☐ Would a stranger know how much paint?
- ☐ Is there a boring word I could upgrade?
- ☐ Does it have an ending?

EDIT – the mechanics

Only now. Read it slowly, out loud. Ask:

- ☐ Capital letters at the start?
- ☐ Full stops at the end?
- ☐ Any word I know I always get wrong?
- ☐ Does every sentence make sense on its own?

Test it for real

Hand your instructions to someone else and watch them try. Do not help. Do not explain. Write down the first place they get stuck – that is the sentence that needed work.

They got stuck at:

.....

Revise first, edit second, always. There is no point perfecting the spelling of a sentence you are about to delete.

Expectations D2.5 and D2.6. Handing the instructions to a real reader is the whole sheet – it converts “check your work” from an instruction a child ignores into evidence they cannot argue with.

The shapes questions come in

Some marks are lost for reasons that have nothing to do with mathematics or reading — a question shaped in a way nobody has seen before. Here are the shapes, on paper.

This is not about being clever. It is about not meeting a question type for the first time on a day that feels important.

1 • Choose ONE

Only one answer is right. Fill in one circle.

Which is the mode of 3, 7, 3, 9, 3?

☐ 3 ☐ 7 ☐ 9 ☐ 22

2 • Choose ALL that are right

More than one can be correct. This one catches people — they stop after finding one. Fill in **every** box that applies.

Which of these equal 20?

☐ 4×5 ☐ $10 + 10$ ☐ $25 - 5$ ☐ 2×9 ☐ $40 \div 2$

3 • Match them up

On a screen you would drag. On paper, draw a line.

6 faces, 12 edges

cone

2 flat faces, 0 vertices

pentagonal pyramid

1 vertex, 1 curved surface

cube

5 triangular faces

cylinder

4 • Put them in order

On a screen you would drag them into place. Here, number them 1 to 5, smallest first.

408 84 480 48 804

5 • Pick from a menu

A drop-down gives you the choices. Ring the one that fits.

Landing on red is impossible unlikely likely certain when 5 of the 8 parts are red.

Cheap marks. The assessment uses drag-and-drop, drop-down menus and multi-select checklists. Only about a third of Grade 3 students report using the internet at home for school work, so device fluency cannot be assumed. Number 2 is the important one — multi-select

questions are where children stop after the first correct answer.

The last sheet

Nine things worth remembering. Tick them off as you read. Then close the book — you have done the work.

☐ **Read the question twice**
Most lost marks are misread questions, not unknown answers.

☐ **Ask how many steps**
Then check you did them all. Half-finished answers look like real answers.

☐ **Look at the key and the scale**
On any graph, any number line. Before you count anything.

☐ **“How many more” means the difference**
Not the total. Not the bigger number.

☐ **Draw the arrows**
And count the arrows, not the numbers.

☐ **Times it, or add it?**
Is something being repeated, or joined on?

☐ **Evidence, then *which shows that***
Never leave the reader to do the thinking.

☐ **Do not fix spelling while writing**
Write first. Fix afterwards. Two different jobs.

☐ **Go back and check before you finish**
And take a breath. There is always more time than you think.

Something to know. Every single thing in this book is ordinary Grade 3 work. None of it is a trick and none of it is extra. If you can do the jobs in this workshop, you can do the mathematics and the reading — because they are the same thing wearing an apron.



Signed off by the workshop cat

Apprentice



Worth saying out loud on the day. Extra time may be given to *all* students – it is not an accommodation anyone has to qualify for. A surprising share of marks lost to rushing are lost to a belief that is simply false.

Answers

For checking your own work after you have finished — not for marking. Where a job is open-ended, the note says what a good answer has in it rather than giving one.

Sheet 3 • Mixing Bench

Mix red+yellow = orange • blue+yellow = green • red+blue = purple • red+green = BROWN • all three = brown or muddy grey

Sheet 4 • Mixing Bench

- 1 A — 4 joined on
- 2 T — 4 times as many
- 3 T — 3 groups of 5
- 4 A — a subtraction; still the joining-on family
- 5 T — 5 drops for every litre
- 6 A — 150 g more

Sheet 5 • Mixing Bench

- Blush ×4 8 white
- Sky ×3 15 white
- Mist ×2 20 white
- Blush ×7 14 white
- 5 15 scoops of red — halve the white
- 6 16 small pails — 8×2

Sheet 6 • Mixing Bench

- Top rack one gap = 5 • A = 5 • B = 15 • C = 25
- Lower rack one gap = 50 • D = 250 • E = 400 • F = 450
- 247 250 • 200
- 85 90 • 100
- 661 660 • 700
- 950 950 • 1000

Sheet 7 • Mixing Bench

- 3 rows of 5 15 both ways
- 4 rows of 10 40 both ways
- Undo $30 \div 5 = 6$ • $70 \div 10 = 7$ • $18 \div 2 = 9$
- Facts $5 \times 6 = 30$ • $10 \times 7 = 70$ • $2 \times 9 = 18$

Sheet 8 • Mixing Bench

- 1 $1\frac{1}{2}$ jars each — 9 shared by 6 is one whole and one half
- Bigger one third — the more people share it, the smaller each share
- two thirds $\frac{1}{3} + \frac{1}{3}$
- five sixths $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$
- Equal pairs $\frac{1}{2} = \frac{4}{8}$ ✓ • $\frac{1}{3} = \frac{2}{6}$ ✓ • $\frac{1}{5}$ and $\frac{3}{10}$ ✗ ($\frac{1}{5} = \frac{2}{10}$)

.....

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.

Answers, continued

Sheet 9 · Pattern Bench

Border 1 unit = ▲● (2 shapes) → ▲ ● ▲ ●

Border 2 unit = ■■▲ (3 shapes) → ■ ■ ▲ ■

Border 3 unit = ●▲▲■ (4 shapes) → ● ▲ ▲ ■

Own border 4 shapes × 5 repeats = 20 shapes

Sheet 10 · Pattern Bench

6 12 18 24 rule +6 → 30, 36

45 39 33 27 rule -6 → 21, 15

150 200 250 300 rule +50 → 350, 400

Sheet 11 · Pattern Bench

8 ___ 20 3 arrows · change 12 · rule +4 → 8, 12, 16, 20

5 ___ 45 4 arrows · change 40 · rule +10 → 5, 15, 25, 35, 45

60 ___ 30 3 arrows · change -30 · rule -10 → 60, 50, 40, 30

Sheet 12 · Pattern Bench

True $4 \times 2 = 8 + 0$ ✓ · $10 + 10 + 10 = 3 \times 10$ ✓ · $6 \times 5 = 5 \times 6$ ✓ · $345 = 300 + 40 + 5$ ✓ · $345 = 400 - 55$ ✓

False $4 \times 2 = 4 \div 2$ ✗ (8 and 2)

Balance $7 + 5 = 8 + 4$ → $8 \cdot 2 \times 10 = 4 \times 5$ → $5 \cdot 80 - 20 = 60$ → 80

Subtractions $432 - 138 = 294$ → missing 3 · $563 - 247 = 316$ → missing 3 · $800 - 255 = 545$ → missing 2

Sheet 13 · Pattern Bench

Dots $4 \times 10 = 40$ · $5 \times 2 = 10$ · 2 goes of $(5 + 5) = 20$ · $10 \times 1 = 10$

The loop B — it is the only one with REPEAT

Write it REPEAT 4 TIMES: stamp 5 dots

Sheet 14 · Pattern Bench

A $3 \rightarrow 8 \rightarrow 13 \rightarrow 18$ · answer 18 · RED

B 50 · YELLOW

C 18 white · RED

D 27 then 21 · answer 21 · BLUE

E 3 arrows, change 12, rule +4 · answer 4 · RED

F 30 · BLUE

G 16 · RED

H 545 · GREEN

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.

Answers, continued

Sheet 15 • Order Bench

Two-step words how many more • left over • the difference • change from • how much longer

- 1 crate $3 \times 10 = 30$ • tray $4 \times 5 = 20$ • $30 - 20 = 10$ more • 2 steps
- 2 $250 + 175 = 425$ • $425 - 300 = 125$ ml left • 2 steps
- 3 $6 \times 5 = 30$ • $30 - 4 = 26$ brushes • 2 steps

Sheet 16 • Order Bench

Small brush \$2.75 — e.g. \$2 + 50¢ + 25¢

Pot of red \$3.20 — e.g. \$2 + \$1 + 20¢

Canvas \$7.50 — e.g. \$5 + \$2 + 50¢

Sponge \$1.25 — e.g. \$1 + 25¢

- 5 $12.50 + 0.75 = \$13.25$ • paid \$40.00 • change \$26.75 • 3 steps

Sheet 17 • Order Bench

Grid Rows top to bottom 1-4, columns left to right 1-6. START = row 3, col 1, facing right.

- 1 Forward 2 → r3c3. Turn clockwise → facing down. Forward 1 → r4c3.
- 2 Forward 4 → r3c5. Turn counterclockwise → facing up. Forward 2 → r1c5.
- 3 Turn clockwise → facing down. Forward 1 → r4c1. Turn counterclockwise → facing right. Forward 5 → r4c6 = SINK.

Own route Any correct route. Shortest: turn clockwise, forward 1, turn counterclockwise, forward 5 — 6 forward moves.

Sheet 18 • Order Bench

4×3 perimeter 14 cm • area 12 cm²

5×5 perimeter 20 cm • area 25 cm²

6×2 perimeter 16 cm • area 12 cm²

- 4 $20 - 12 = 8$ more squares • 2 steps

Gaps Both are possible — overlaps double-count, and unequal units make the count meaningless

Sheet 19 • Order Bench

Units bristle = mm • canvas = cm • door = m • supplier = km

Conversions 1 cm = 10 mm • 1 m = 100 cm • 1 km = 1000 m

Capacity Both are right. A bigger cup means fewer of them fill the same jar — bigger unit, smaller count.

Mass Red is heavier, by 3 marbles. Two pots of blue = 8 marbles.

Time $9:15 + 45 \text{ min} = 10:00$ • $1:30 + 1\text{h}20 = 2:50$ • $11:50 + 25 \text{ min} = 12:15$

Time units 60 seconds • 60 minutes

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.

Answers, continued

Sheet 20 • Order Bench

- 1 6 red → 12 scoops of white (1 to 2)
- 2 $4 \times 5 = 20 \cdot 20 - 2 = 18$ good brushes · 2 steps
- 3 $2 \times 12.50 = \$25.00 \cdot$ paid \$60.00 · change \$35.00 · 3 steps
- 4 $35 + 25 = 60$ min = 1 hour · $2:20 + 1$ hour = 3:20 · 2 steps

Sheet 21 • Word Bench

- Cereal box rectangular prism · 6 faces · 12 edges · 8 vertices
- Cube cube · 6 faces · 12 edges · 8 vertices
- Tin cylinder · 2 flat faces + 1 curved surface · 2 edges · 0 vertices
- Party hat cone · 1 flat face + 1 curved surface · 1 edge · 1 vertex (the point)
- Pyramid PENTAGON — 5 triangular faces lean on a 5-sided base

Sheet 22 • Word Bench

- 1 red likely — 5 of 8 is more than half
 - 2 green impossible — there is no green
 - 3 yellow unlikely — 1 of 8
 - 4 not green certain
 - 5 blue unlikely — 2 of 8
- Own spinner 1, 2 or 3 blue parts out of 8 — fewer than half but more than none

Sheet 23 • Word Bench

- 1 red 5 symbols $\times 4 = 20$ pots
 - 2 yellow $6 \times 4 = 24$ pots
 - 3 more yellow than green $24 - 8 = 16$ pots
 - 4 altogether $20 + 12 + 24 + 8 = 64$ pots
- Mode 2 — it appears three times
- Largest 10
- Mean $6 + 4 + 8 + 2 = 20 \cdot 20 \div 4 = 5$ pots each

Sheet 24 • Word Bench

- Venn BIG only: big blue, big yellow · RED only: small red · BOTH: big red · NEITHER: small green, small blue
- Carroll Big+Red: big red (1) · Big+Not red: big blue, big yellow (2) · Small+Red: small red (1) · Small+Not red: small green, small blue (2)
- Tree Red-Big 1 · Red-Small 1 · NotRed-Big 2 · NotRed-Small 2 — six pots altogether

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.

Answers, continued

Sheet 25 · Word Bench

407 four hundred and seven · 4 hundreds 0 tens 7 ones · $400 + 0 + 7$

650 six hundred and fifty · 6 hundreds 5 tens 0 ones · $600 + 50$

209 two hundred and nine · 2 hundreds 0 tens 9 ones · $200 + 9$

913 nine hundred and thirteen · 9 hundreds 1 ten 3 ones

Order 138, 183, 318, 381, 813

Count on 1 +50 → 450, 500, 550, 600, 650, 700

Count on 2 +200 → 200, 400, 600, 800, 1000

Sheet 26 · Word Bench

Word wall Open task — no fixed answers. Look for: face = flat surface · edge = where two faces meet · vertex = corner · perimeter = distance around · area = space covered · mode = most often · mean = shared equally · loop = repeat instruction · ratio = one amount for every other amount

Sheet 27 · Letters Bench

Which shows that Open task — answers vary. Look for a REASON, not a repeat. Tom → he was careful or anxious. The tin → nobody had painted in a long time. The letter → the news mattered to her, or she wanted to keep it private.

Sheet 28 · Letters Bench

- 1 “Nia had never been allowed in” — stated. Also “She counted the shelves twice”, which shows she did not know the room.
- 2 “something slid about inside it — something that was not paint”. Also it was heavier than she expected.
- 3 Answers vary. Look for: she thought it belonged to someone else — “the way you set down something that might still be somebody else’s”.
- 4 Open. Any answer anchored to the story — e.g. something about passing the brush on. Credit the reasoning, not the guess.

Sheet 29 · Letters Bench

- 1 How to look after brushes so they last — washing, drying and storing them properly.
- 2 Washing
- 3 Headings tell the reader what each part is about, so you can find the bit you need without reading everything.
- 4 Loosens = makes less tight, so the bristles could come out. The next words “that holds the bristles into the metal band” give it away.
- 5 Standing in water overnight (bends the bristles) · hot water (loosens the glue) · standing a wet brush upright (rust)

Sheet 30 · Letters Bench

unhelpful un + help + ful = not full of help

repaintable re + paint + able = able to be painted again

colourless (no prefix) + colour + less = without colour

carefully (no prefix) + care + fully = in a way full of care

dislikeable dis + like + able = able to be disliked, not likeable

1 finish the surface or texture of the dried paint

2 finish to complete, to get to the end of

3 fine very thin or delicate

4 fine acceptable, all right — but only just

.....

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.

Answers, continued

Sheet 31 · Letters Bench

- Story** to entertain · told in time order as events happen · no headings · a narrator, third person · read start to end
- Notice** to inform or instruct · sorted into topics · yes, three headings · the workshop, no named person · hunt for the bit you need
- Point of view** third person — “Nia had worked”, “She counted”. Rewritten: “I carried it out with both arms and set it on the bench very slowly.”
- Inference** She is passing on what was passed to her — repeating her teacher’s gift at the same moment in Nia’s training. The matching seventh day is the clue.

Sheet 32 · Reply Bench

- 1 explaining — they want to know how and why
- 2 persuading — they want an argument
- 3 story — they want a tale from the past
- 4 explaining — a difference, with facts
- Cat** Open. Story = something the cat did. Persuading = why the cat should stay. Explaining = what the cat is for or how to look after it.

Sheet 33 · Reply Bench

- Planner** Open task. Check only for: three boxes filled BEFORE writing, and a final paragraph that closes rather than trails off. Two linking words used.

Sheet 34 · Reply Bench

- Upgrades** Open. Look for specificity, not correctness: nice → curious, elderly, enormous · went → strode, wandered, hurried · bad → grinding, shrieking · big → enormous, hefty
- Fine as they are** “The colour was beutiful” — one misspelling, meaning is completely clear. The long and-then sentence is understandable but repetitive — fix by varying, not by shortening ideas.
- Need fixing** “The brushes was clean” → were (grammar). “she picked up the tin” → capital S and a full stop.

Sheet 35 · Reply Bench

- Strong reasons** the mice and two floors ✓ · customers stay longer and buy more ✓
- Weak reasons** “cats are nice” and “I want one” — opinions repeated, not evidence
- What they have** A consequence a reader can picture, and something that would still be true if the writer changed their mind.
- Your turn** Open. Check for: one clear opinion, at least two reasons, strongest last, and a closing sentence that says what should happen.

Sheet 36 · Reply Bench

- Instructions** Open. A good answer names amounts (1 scoop red to 2 scoops white), gives ordered numbered steps, uses at least two sequencing words, and says how to tell it worked (an even pink with no streaks).
- Revise then edit** Ideas first, mechanics second — never the other way round.
- Test** No fixed answer. The point is that the first sticking point identifies the weak sentence.

Sheet 37 · Screen Bench

- 1 3 — it appears three times
- 2 $4 \times 5 \checkmark \cdot 10 \div 10 \checkmark \cdot 25 - 5 \checkmark \cdot 2 \times 9 \times (18) \cdot 40 \div 2 \checkmark$ — FOUR correct
- 3 6 faces 12 edges = cube · 2 flat faces 0 vertices = cylinder · 1 vertex 1 curved surface = cone · 5 triangular faces = pentagonal pyramid
- 4 48, 84, 408, 480, 804

If something came out wrong, that is the most useful page in the book. Go back to that sheet, find the step where it turned, and do that one job again. Nobody needs to redo the whole bench.

For the grown-up. Resist marking with these. The evidence on self-checking is clear: a child who finds their own error remembers it; a child who has it found for them remembers being wrong.