

Mathematics Foundation

Chapter 3 — Algebra: following instructions and repeating patterns

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Following a sequence of instructions; copying, continuing and creating repeating patterns

Algebra · 3A · VC2MFA01

This is read with the teacher. The teacher reads all the words. You look, say and do. You do not need to read.

*follow a short sequence of instructions; recognise, copy, continue and create repeating patterns
represented in different ways — VC2MFA01*

What we are learning

Follow the instructions

The teacher says what to do. You do it.

You do one thing at a time. You do the things in order. The first thing first. Then the next thing.

Here are three things to do, in order:

1. Put your pencil on the table.
2. Put your pencil in your bag.
3. Sit down.

Did you do them in order? Then you follow the instructions.

What is a repeating pattern?

Look at the beads:

red, blue, red, blue, red, blue

It goes the same way all the time. This is a repeating pattern.

A repeating pattern can be things you see: red and blue beads. It can be shapes: circles and triangles. It can be sounds: tap, pat, tap, pat. It can be moves: jump, hop, jump, hop. It can be drumbeats and dance moves in music time.

Copy, continue and create

Copy a pattern: make the same one.

Continue a pattern: say or put what comes next.

Create a pattern: make your own.

Patterns at home

We see repeating patterns at home and at school.

At home: setting the table to eat. Fork, spoon, fork, spoon. The same way, every day.

Look for more repeating patterns at home and at school.

We do it first

Do these with the teacher. Use the things on the mat, or the things in the picture.

Example 1 — follow the instructions

The teacher says three things. Do them in order.

1. Put the ball on the mat.
2. Put the cup next to the ball.
3. Put the spoon next to the cup.

What we do

Put the ball on the mat.

Put the cup next to the ball.

Put the spoon next to the cup.

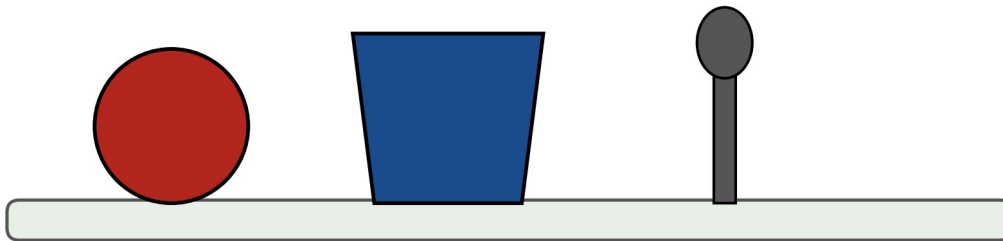
∴ The things are in a line: ball, cup, spoon.

Why

The ball is first.

The cup is next. It goes next to the ball.

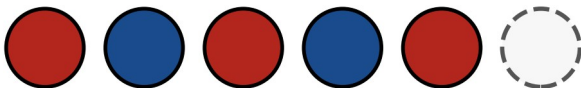
The spoon is last. It goes next to the cup.



The ball, the cup and the spoon in a line on the mat.

Example 2 — continue the pattern

The beads make a repeating pattern. The last bead is not there.



Beads: red, blue, red, blue, red. One more bead goes on the end.

What we do

Say the pattern: red, blue, red, blue, red.

Go on saying it. The next word is blue.

Put a blue bead on the end.

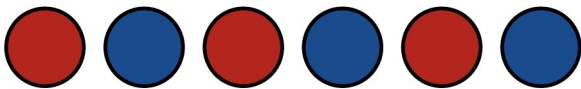
∴ The next bead is blue. The pattern goes on: red, blue, red, blue, red, blue.

Why

Say it the way it goes.

Red and blue come in the same order, all the time.

Blue is what comes next.



Beads: red, blue, red, blue, red, blue.

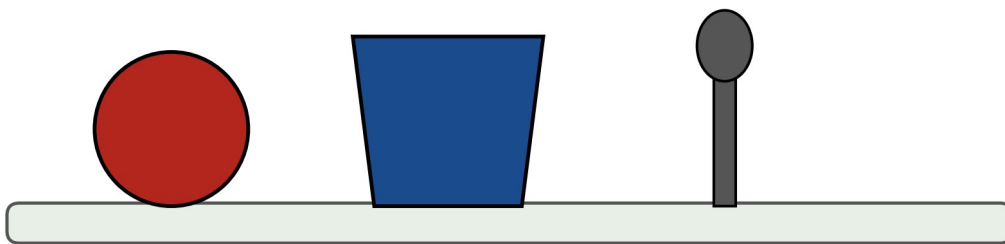
Your turn

The teacher reads all the words. You say or do the answers. The teacher puts the answers down.

With help

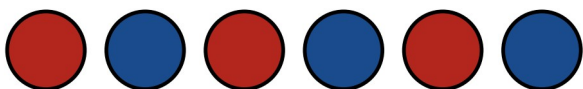
Q1. The teacher says: Put the ball on the mat. Put the cup next to the ball. Put the spoon next to the cup.

- Do the three things in order.
- Look at the picture. Are your things the same as the picture?



The ball, the cup and the spoon in a line on the mat.

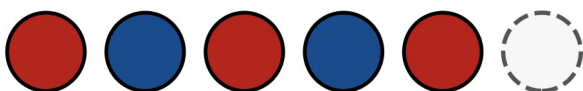
Q2. Look at the beads. Copy the pattern with your beads.



Beads: red, blue, red, blue, red, blue.

Say the colour words as you go.

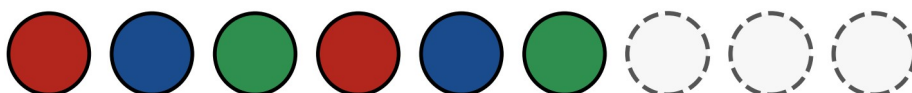
Q3. Look at the beads. One bead is not there.



Beads: red, blue, red, blue, red. One more bead goes on the end.

- Say the pattern.
- What comes next? Put the bead there. ____

Q4. Look at the beads. Three beads are not there.



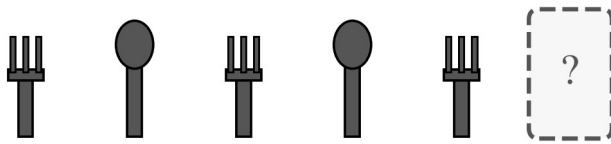
Beads: red, blue, green, red, blue, green. Three more beads go on the end.

- Say the pattern.
- Put the next three beads there. ____, ____, ____

Q5. The teacher does these moves: jump, hop, jump, hop.

- Copy the moves.
- Go on. What comes next? Do it. ____
- Do the moves one more time.

Q6. Setting the table to eat. Look at the picture. One thing is not there.



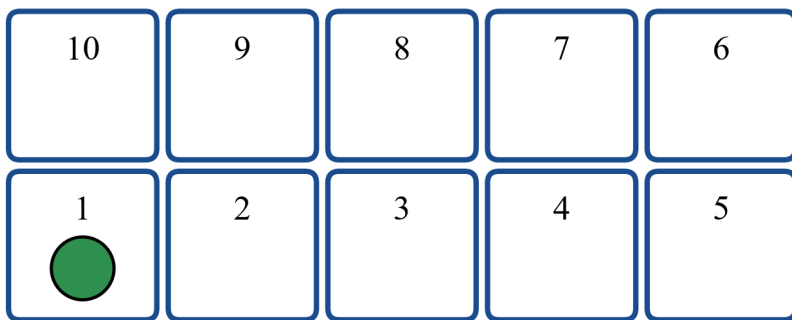
A fork, a spoon, a fork, a spoon, a fork. One more thing goes on the end.

- Say the pattern.
- What comes next? Put it on the table. _____

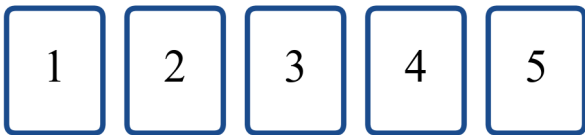
On your own

Q7. The track game.

You need: the track, the number cards and a toy.



A track with 10 places. The places have the numbers 1 to 10. A green toy is on place 1.



Five number cards: 1, 2, 3, 4, 5.

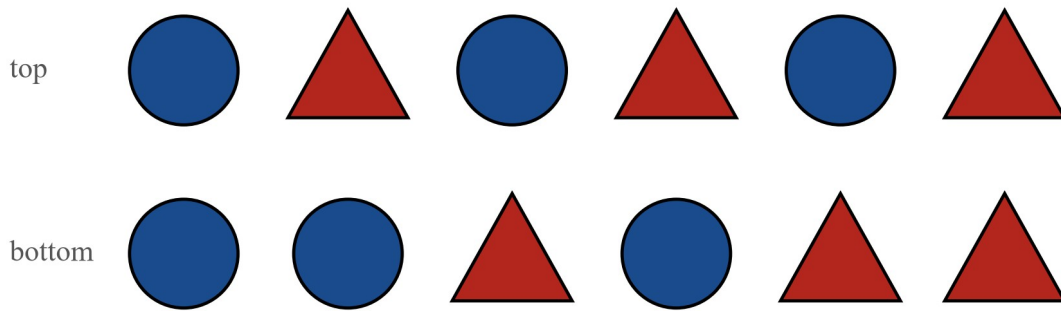
- Your turn. Turn over a number card.
- Say the number.
- Move your toy that many places on the track.
- The game ends at 10.

Q8. The teacher says four things. Do them in order.

- Put the toy on the mat.
- Put the toy in the cup.
- Put the toy under the table.
- Put the toy in the box.

Where is the toy now? _____

Q9. Look at the shapes.



A top line and a bottom line of shapes. The top line is circles, triangles, circles, triangles, circles, triangles. The bottom line is circles, circles, triangles, circles, triangles, triangles.

- Say the top line.
- Say the bottom line.
- Which line is a repeating pattern? _____
- Say how you know.

Q10. Make your own repeating pattern with beads. Say it to the teacher. A friend makes the same pattern.

Q11. Make your own repeating pattern with sounds and moves. Do it for the class. The class does the same one.

Q12. Find a repeating pattern at home or at school. It can be something you see or something you do. Say it to the teacher.

Answers

Q1. b. Yes — ball, cup, spoon, in a line.

Q2. Red, blue, red, blue, red, blue.

Q3. b. Blue.

Q4. b. Red, blue, green.

Q5. b. Jump.

Q6. b. A spoon.

Q7. The toy moves the same number of places as the number on the card. Answers will be different.

Q8. The toy is in the box.

Q9. c. The top line.

Q10. Answers will be different. A pattern that goes the same way all the time is right.

Q11. Answers will be different. A pattern that goes the same way all the time is right.

Q12. Answers will be different. One example: fork, spoon, fork, spoon — setting the table.

How to do each one

Q1. Ball first. Cup next to the ball. Spoon next to the cup. ∴ Ball, cup, spoon — the same as the picture.

Q2. Say the pattern: red, blue, red, blue, red, blue. Put one bead for each colour word. ∴ Your beads go red, blue, red, blue, red, blue.

Q3. Say the pattern: red, blue, red, blue, red. What comes after red? Blue. ∴ The next bead is blue.

Q4. Say the pattern: red, blue, green, red, blue, green. Go on saying it: red, blue, green. ∴ The next three beads are red, blue, green.

Q5. Say the moves: jump, hop, jump, hop. What comes after hop? Jump. ∴ The next move is jump.

Q6. Say the pattern: fork, spoon, fork, spoon, fork. What comes after fork? A spoon. ∴ The next thing is a spoon.

Q7. Turn over the card 4. Say *four*. Move the toy 4 places: 2, 3, 4, 5. ∴ The toy is now on 5.

Q8. Mat, then cup, then table, then box. The last thing is: the toy in the box. ∴ The toy is in the box.

Q9. Top: circles and triangles, in the same order all the time. Bottom: circles and triangles, not in the same order. ∴ The top line is the repeating pattern.

Q10. One example: red, green, red, green, red, green. ∴ A pattern that goes the same way all the time is right.

Q11. One example: tap, pat, tap, pat. ∴ A pattern that goes the same way all the time is right.

Q12. One example: setting the table — fork, spoon, fork, spoon. ∴ It goes the same way every day: a repeating pattern.

For the teacher

This part is for adults. It is not read to the class.

- **VC2MFA01 has two ideas, and the two of them are here.** Following a short sequence of instructions (Example 1; Q1, Q7, Q8 — elaborations VC2MFA01 .E01 and .E02) and repeating patterns (Example 2; Q2

–Q6 and Q9–Q12 — elaborations VC2MFA01 .E03 and .E04). The chapter checkpoint (CP3) scores the two ideas separately.

- **VC2MFA01.E05 is not in this book.** VC2MFA01 .E05 says: “recognising and describing repeating patterns that can be observed on Country/Place and in Aboriginal and Torres Strait Islander artwork, cultural performances and material cultures, for example, shell and seed necklaces, dances and songs”. Aboriginal and Torres Strait Islander content is not covered in ClassBasics books (Rule 1, CONTENT_POLICY.md); the note at the start of the book says why. The dot point is named here so the omission is never silent — at book level it is recorded as a §2A exclusion and reported by the coverage audit as ACCEPTED.
- **Level boundaries kept.** The repeating unit is not named or identified (Level 1, VC2M1A02). No skip counting, no number sequences, no coins in patterns (Level 1, VC2M1A01). No pronumerals, no symbols for unknowns, no missing-number-in-a-sequence tasks. No chance or fairness talk (D6; first Probability at Level 3, VC2M3P01). The track game in Q7 is a game of rules: the child follows the steps and counts places; nothing is predicted.
- **E02 in class.** VC2MFA01 .E02 suggests a dice game — move a specified number of places from the result on a dice. Run it orally: count the dots, move that many places. Q7 runs the same game with number cards, so the child sees the number as a numeral too.

Checkpoint CP3

Chapter 3 — Algebra: following instructions and repeating patterns · Observed checkpoint · 6 marks

The teacher reads all the words. The child says and does. The child does not need to read. The child does not write anything.

follow a short sequence of instructions; recognise, copy, continue and create repeating patterns represented in different ways — VC2MFA01

Chapter	3 — Algebra
Content description	VC2MFA01
Format	Observed: one instruction-following task and one pattern task, scored separately. Run one-to-one or in a small group over a normal week, with the materials on the desk.
Marks	6 — Task 1 (follow the instructions): 3 marks; Task 2 (repeating patterns): 3 marks
Timing	Nothing is timed. Guidance duration for the teacher's planning: about 5 minutes per child, across a normal week. This is a guide for planning the week, not a limit on the child.
Equipment	A toy, a mat, a cup and a box (Task 1); red, blue, green and yellow beads, and shape cards — circles, squares, triangles and rectangles (Task 2); the recording sheet in the Marking guide
Calculator	None. There is no calculator anywhere in this book.
Response	Oral and practical. The child writes nothing. The teacher records the marks.

Teacher note. (adult-facing) CP3 is an observed checkpoint, not an exam (TOC §7, D10). **Nothing is timed**, and **no written response is required**: the child says and does, and the teacher records the marks. **No calculator** and no digital device is used anywhere in this checkpoint. Run it one-to-one or in a small group, with the materials on the desk, across a normal week. Per §7, the two ideas in VC2MFA01 are scored separately: Task 1 scores following a short sequence of instructions, and Task 2 scores repeating patterns. The tasks draw on 3A — Task 1 on Q1 and Q8, Task 2 on Q2–Q6, Q9, Q10 and Q11. The 96 MCQs keyed to VC2MFA01 belong to the digital question layer and play no part here (D9). **Safety at point of use**: the beads are small — they go on the table, and the children are watched with them. Level discipline: the repeating unit is not named or identified, and there is no skip counting, no number sequences and no coins in patterns (Level 1, VC2M1A01 and VC2M1A02); no pronumerals, symbols or unknowns; no chance or fairness talk anywhere (D6) — Task 1 is a sequence to follow, not a game of chance. VC2MFA01.E05 is not drawn on: Aboriginal and Torres Strait Islander content is excluded per CONTENT_POLICY Rule 1, and the front-of-book note carries the explanation; coverage of VC2MFA01 is judged against the CD text and its achievement-standard extract, not against a count of elaborations used (D13).

Task 1 — Follow the instructions (VC2MFA01) — 3 marks

Guidance duration: about 2 minutes per child. This is for planning the week, not a limit on the child.

Materials on the desk: a toy, a mat, a cup and a box. The mat is on the table. The toy is on the table.

Teacher script. Say the three steps one time, in order. Then the child does them. Record what the child does.

1. Say: *We will move the toy. Listen. Three things to do, in order. One: put the toy on the mat. Two: put the toy in the cup. Three: put the toy in the box.*
2. The child does the three things in order. Watch each step. One mark for each step done in the order said — 3 marks.

3. If the child asks, or does a step out of order, say the three steps one more time. The child starts one more time. Record the better run.

Record: the steps the child did, the order they were done in, and if the steps were said two times.

Task 2 — Repeating patterns (VC2MFA01) — 3 marks

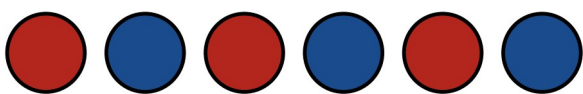
Guidance duration: about 3 minutes per child. This is for planning the week, not a limit on the child.

Materials on the desk: red, blue, green and yellow beads for the teacher and for the child; shape cards — circles, squares, triangles and rectangles.

Beads are small. Watch the children with them. Beads go on the table.

Teacher script. Write down what the child says and makes.

1. **Copy.** Make a bead line: red, blue, red, blue, red, blue. Say: *Look at my beads. They go the same way all the time. Make the same one with your beads.* Watch the child make it: the same way, all the way. (1 mark)



Beads: red, blue, red, blue, red, blue.

2. **Go on.** Do these moves and say them: jump, hop, jump, hop, jump. Say: *Now you. What comes next? Do it and say it.* The child does jump, or says *jump*. (1 mark)
3. **Make your own.** Say: *Make your own repeating pattern. You can use the beads, the shapes, sounds or moves. Say it to me as you go.* Watch the child make a pattern with the same order at least two times, and say it. (1 mark)

Marking guide

This part is for adults. It is not read to the class.

Checkpoint CP3 — total: 6 marks. Task 1 (following instructions): 3 marks. Task 2 (repeating patterns): 3 marks. Whole marks only: each row scores 1 or 0.

Where the 6 marks come from. §7 derives checkpoint marks as 4 marks per owned CD, with a floor of 6 marks per chapter. Chapter 3 owns one CD (VC2MFA01), so the floor applies and CP3 carries 6 marks. Per §7, VC2MFA01 carries two distinct ideas and they are scored separately — one instruction-following task and one pattern task: Task 1 carries 3 marks and Task 2 carries 3 marks.

The rubric’s words. The achievement-standard extract for VC2MFA01, quoted verbatim from the authority file (maths_F.json, VCAA Victorian Curriculum F–10 Mathematics 2.0):

“Students represent, continue and create simple repeating patterns.”

The Task 2 rubric is written in the extract’s own words — **represent, continue and create, simple repeating patterns** — so the teacher’s judgement maps to the VCAA wording without translation. The extract speaks to the pattern idea of the CD. The instruction-following idea is in the CD’s own text — “*follow a short sequence of instructions*” (VC2MFA01, quoted verbatim at the top of this checkpoint) — and the Task 1 rubric is written in those words. Together the two rubrics cover VC2MFA01 in full.

Reasoning. VC2MFA01 carries no reasoning verb in its CD text — it does not say *explain, communicate reasoning or give reasons* — so CP3 has no separate reasoning mark. This is unlike VC2MFN03 (“explain or demonstrate reasoning”, scored in CP1), VC2MFM01 (“communicating reasoning”, scored in CP4) and VC2MFSP01 (“giving reasons”, scored in CP5). The child still says their pattern in Task 2 step 3: that describing is part of the create mark, as VC2MFA01.E03 names it — “describing the pattern they have created” — and is not a separate reasoning mark.

Rubric — Task 1, following instructions (3 marks)

One mark for each step done in the order said.

Mark	What to look for	Accept
1	Step 1 is done first: the toy goes on the mat.	Slow is fine. The toy is on the mat before it goes to the cup or the box.
1	Step 2 is done after step 1: the toy goes in the cup.	The cup move comes after the mat move.
1	Step 3 is done after step 2: the toy goes in the box.	The box move comes last. The toy ends in the box.

A mark is for a step done in the order said. Steps done out of order score 0 on that run. If that happens, say the three steps one more time and let the child start one more time, and record the better run. One second run only.

Rubric — Task 2, repeating patterns (3 marks)

Mark	Achievement-standard wording	What to look for	Accept
1	“represent” ... “simple repeating patterns”	The child represents the bead pattern with their own beads: red, blue, red, blue, red, blue — the same colours, the same order, all the way.	Saying it as they go (“red, blue, red, blue...”) still counts; the copy is the mark.
1	“continue” ... “simple repeating patterns”	The child continues the move pattern: after jump, hop, jump, hop, jump, the child does jump or says	Doing it counts; saying it counts.

Mark	Achievement-standard wording	What to look for	Accept
1	“create” ... “simple repeating patterns”	<i>jump.</i> The child creates their own simple repeating pattern and says it — with beads, shapes, sounds or moves — the same order at least two times.	red, green, red, green; circle, square, circle, square; tap, pat, tap, pat; jump, hop, jump, hop. A pattern that goes only one time through (red, green, red) does not get the mark: say <i>go on</i> once.

Total: /6. The other 46 checkpoint marks in this book come from CP1, CP2, CP4, CP5 and CP6; the checkpoint total is 52.

Marking rules.

- Whole marks only; each row scores 1 or 0. Task 1 total 3; Task 2 total 3; checkpoint total 6.
- Award the mark for the child’s own words and doings. Scribe the words as said.
- A child who needs a second try at a row may have one; record the better evidence. In Task 1 the second say is built into the script.
- Sounds and moves are patterns too (VC2MFA01 . E03): tap, pat, tap, pat scores the create row the same as beads do.
- Not scored here, because it is not Foundation: naming or identifying the repeating unit (Level 1, VC2M1A02); skip counting, number sequences and coins in patterns (Level 1, VC2M1A01); pronumerals, symbols and unknowns. No chance or fairness talk anywhere (D6).
- Nothing is timed and no written response is required (TOC §7).

Elaboration traceability (join keys, per D13 — linkage, not a syllabus). Task 1 draws on VC2MFA01 . E01 — “carrying out a specified sequence of actions to move an object from one location to another”: the toy moves from the table, by way of the mat and the cup, to the box. Task 2 draws on VC2MFA01 . E03 — “recognising, copying and describing different repeating patterns using materials, shapes, sounds and movements” — across its three rows: copy (beads), continue (moves), create (beads, shapes, sounds or moves). Together the two tasks honour the CD’s “represented in different ways”. VC2MFA01 . E02 (the rule-based dice game) and VC2MFA01 . E04 (patterns in daily activities, such as setting the table) live in 3A’s classroom tasks (Q7; Q6 and Q12) and are not needed for scoring here. VC2MFA01 . E05 is not used: Aboriginal and Torres Strait Islander content is excluded per CONTENT_POLICY Rule 1, and the front-of-book note carries the explanation. Coverage of VC2MFA01 is judged against the CD text and its achievement-standard extract, never against a count of elaborations used (D13).

Sample record — full marks (6 of 6).

Task 1. The teacher says the three steps one time. The child puts the toy on the mat, then in the cup, then in the box.

Row	Evidence	Mark
Step 1 in order	The toy goes on the mat first.	1
Step 2 in order	The toy goes in the cup next.	1
Step 3 in order	The toy goes in the box last.	1

Task 2. The child copies red, blue, red, blue, red, blue, saying it as they go. After jump, hop, jump, hop, jump the child jumps: “Jump!”. The child then makes a sound pattern: tap, pat, tap, pat, tap, pat — “It goes the same way all the time.”

Row	Evidence	Mark
“represent”	red, blue, red, blue, red, blue copied, the same order all the way	1
“continue”	did jump, and said it	1
“create”	tap, pat, tap, pat, tap, pat, said as made	1

Task 1: 3. Task 2: 3. **Total: 6 of 6.**

Sample record — part marks (4 of 6).

Task 1. The child puts the toy on the mat, then in the cup, then back on the mat. The second say does not help: the box step is not done.

Row	Evidence	Mark
Step 1 in order	The toy goes on the mat first.	1
Step 2 in order	The toy goes in the cup next.	1
Step 3 in order	The toy goes back on the mat; it never goes in the box.	0

Task 2. The child copies the bead line. After jump, hop, jump, hop, jump the child hops — the order says jump. The child makes red, blue, green, red, blue, green and says it: “Red, blue, green — the same way all the time.”

Row	Evidence	Mark
“represent”	red, blue, red, blue, red, blue copied	1
“continue”	did hop; the order says jump	0
“create”	red, blue, green, red, blue, green, said as made	1

Task 1: 2. Task 2: 2. **Total: 4 of 6.** The last step of a sequence and the continue row are the marks children most often lose; both come back in the end-of-year review.

Recording sheet

Task	Mark
1. Follow the instructions	____ /3
2. Repeating patterns	____ /3
Total	____ /6

A child who scores 0 or 1 on a task has not yet shown that half of VC2MFA01. Return to the matching 3A tasks — instructions: Q1 and Q8; patterns: Q2–Q6, Q9, Q10 and Q11 — then run this checkpoint again.