

# Mathematics Towards Foundation D

## Chapter 1 — Number: how many? Naming, subitising, counting and partitioning

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### Contents

| Section                                                           | Page |
|-------------------------------------------------------------------|------|
| Numbers zero to 10: naming, representing and ordering             | 2    |
| Subitising: seeing how many, up to 4, without counting            | 14   |
| Checkpoint CP1 — the VC2MFDN02 part                               | 22   |
| Counting and comparing collections to 10, with reasoning          | 24   |
| Observation for assessment — this subtopic's part of Checkpoint 1 | 34   |
| Part-part-whole: partitioning and combining collections up to 10  | 35   |
| Checkpoint 1 (CP1) — Chapter 1: Number — how many?                | 45   |
| Checkpoint 1 (CP1) — Rubric and recording sheet                   | 53   |
| Checkpoint 1 summary                                              | 58   |

## Numbers zero to 10: naming, representing and ordering

*This page is used with the teacher. The teacher gives all the words in the student's own way — spoken, signed, on a communication device, or with pictures. The student looks, says, signs, points, gazes or uses things to touch. The student does not need to read.*

*name, represent and order numbers including zero to at least 10, using physical and virtual materials and numerals — VC2MFDN01, content description, quoted verbatim from maths\_AD.json*

*students make connections between number names, numerals and position in the sequence of numbers from zero to at least 10. — VC2MFDN01, achievement standard extract, quoted verbatim from maths\_AD.json*

*The six elaborations below are quoted verbatim from the authority file (maths\_AD.json). They are VCAA's illustrations of the content description, not the syllabus. The content description is the expectation; the elaboration ids (E01–E06) are the join keys for MCQ and coverage linkage.*

*recognising the order in the sequence of numbers to 10 and identifying the number that is 'one less' than a given number and the number that is 'one more'; for example, playing instructive card games that involve reading and ordering number cards, or using counting songs, storybooks, number lines and rhymes to establish the forwards and backwards counting sequence of numbers in the context of active counting activities — VC2MFDN01.E01*

*identifying when a given number sequence is incorrect; for example, recognising when a number is out of order in purposely designed incorrect number lines — VC2MFDN01.E02*

*matching numerals to the correct number of items; for example, when shown a collection of beanbags, counting them and choosing the correct numeral or collecting a quantity of objects by reading a numeral; for example, collecting 7 pencils after reading the numeral 7 — VC2MFDN01.E03*

*counting forwards and backwards by ones to at least 10 in varied ways, such as using a number line, counting chart and ten-frames — VC2MFDN01.E04*

*participating in activities that use modelled language to indicate ordinal position in a sequence; for example, identifying who was 'first', 'second' and 'third' when lining up or when following steps in a recipe — VC2MFDN01.E05*

*recognising and reading numerals written on familiar objects; for example, recognising and reading numerals in images, text or illustrations in storybooks or room numbers at school — VC2MFDN01.E06*

## Theory

### How many? Counting things

We count to see how many.

We can count things we can touch: beanbags, blocks, pencils and cups.

Touch each thing as you count. Say one number word for each thing: one, two, three, and so on.

The last word you say is how many.

5 beanbags sit in a line. Touch the beanbags and count: one, two, three, four, five. The last word is five, so there are 5 beanbags.

### Number names and numerals

All numbers have a name you can say. All numbers have a numeral. A numeral is a number, written down.

These are the numeral cards from 0 to 10:

Numeral cards from 0 to 10, in order.

*Numeral cards from 0 to 10, in order.*

| Numeral | Word  | Numeral | Word  |
|---------|-------|---------|-------|
| 0       | zero  | 6       | six   |
| 1       | one   | 7       | seven |
| 2       | two   | 8       | eight |
| 3       | three | 9       | nine  |
| 4       | four  | 10      | ten   |
| 5       | five  |         |       |

We see numerals all the time: on doors, on buttons in a lift, on a bus, on a screen.

We say *ten* for the numeral 10. We say *zero* for the numeral 0.

### ***Zero is for no things***

Zero is a number. Zero is for no things.

A box with no beanbags in it has zero beanbags.

A box with no beanbags in it.

*A box with no beanbags in it.*

Counting starts at zero. Zero comes before 1.

An empty ten-frame shows zero. A full ten-frame shows 10.

### ***Numbers are in order***

Number words come in the same order all the time: 0, 1, 2, 3, and so on, to 10.

A number line puts the numbers in order:

A number line from 0 to 10.

*A number line from 0 to 10.*

Count forwards: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

Count backwards: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0.

As you count on, the numbers go up. As you count back, the numbers go down.

A counting chart and a ten-frame help too:

A ten-frame with 7 counters on it.

*A ten-frame with 7 counters on it.*

7 counters sit on the ten-frame. 10 counters fill the frame. No counters — the frame shows zero.

Card games with numeral cards help with the order of the numbers.

### ***One more, one less***

One jump on the line is one more. One jump back is one less.

8 is after 7. 8 is one more than 7. 6 is before 7. 6 is one less than 7.

6 is between 5 and 7.

### ***Position words: first, second, third***

Words can say where a thing sits in a line. These words are called **ordinal words**.

first, second, third

Three balls in a line: red, blue and yellow, with the words first, second and third under them.

*Three balls in a line: red, blue and yellow, with the words first, second and third under them.*

In this line:

- the red ball is **first**
- the blue ball is **second**
- the yellow ball is **third**

The yellow ball is **last**.

We use these words when we line up. We use them when we follow steps in a recipe.

### **Numerals we see**

Numerals sit on things we see every day: the numeral on a door, the buttons in a lift, the number on a bus, numerals on a screen.

A door with the numeral 7 on it, and a lift button with the numeral 3 on it.

*A door with the numeral 7 on it, and a lift button with the numeral 3 on it.*

Say the numeral you can see.

### **Teacher script**

*This script is the deliverable for the teaching sequence. Deliver every line in the student's own communication modality — speak it, sign it, give it on the student's device, or pair it with a picture or an object. Adult notes are in [square brackets]; the words for the student are in quote marks.*

### **Materials**

- numeral cards 0–10 — large cards that are easy to hold; cards can also sit flat on the table for a student who points to or gazes at them
- counters in more than one size and texture — large foam counters, small tiles, textured counters
- beanbags, pencils, blocks and cups
- 3 boxes
- a ten-frame — table size and large floor size; a ten-frame app on a tablet or screen works too (virtual materials)
- a number line 0–10 — on the table, on the floor, or on a screen
- a counting chart 0–10
- a tablet or screen with a counting activity (virtual materials)
- the student's communication system to hand — device, picture cards, or the signs the student uses

*Every task that asks for a point also works with an eye gaze. Every task that asks for picking up also works with placing, pushing, or hand-over-hand movement. Offer both without being asked.*

### **Set up the communication**

- Have these words ready in the student's communication system: the number words *zero to ten; more; less; first; second; third; last; before; after; between*.
- Say each numeral with its number word, every time: "This is 3. Three."
- Give the student time to answer after each ask.
- Watch for the answer in any form: a look, a gaze, a reach, a point, a vocalisation, a sign, a picture, a word on the device, or a movement.
- An answer with help is still an answer. Record what the student shows.

### **Step 1 — Count things**

[Put 5 beanbags in a line.]

Say: “We count to see how many.”

Touch each beanbag and count out loud: “One, two, three, four, five.”

Say: “The last word is how many. There are 5.”

Say: “Touch and count with me.” [Count together. Counting can be hand-over-hand or co-active. Join in with the student’s own way of counting.]

### **Step 2 — Number names and numerals**

[Show the numeral cards one at a time, 0 to 10.]

Say the name of each numeral: “This is 3. Three.”

[Hold two cards, say one number word.] Say: “Show me \_\_\_\_.”

The student answers in their own way: say the word, sign it, point, gaze, give the card, or choose on the device.

### **Step 3 — Zero**

[Hold up the empty box.]

Say: “Look. No beanbags. Zero.”

[Hold up the 0 card.] Say: “This is 0. We say zero. Zero is for no things.”

[Put the 0 card next to the empty box.] Say: “Zero beanbags. The card is 0.”

### **Step 4 — The numbers are in order**

[Put the numeral cards in order, 0 to 10, on the table or the floor.]

Say: “The numbers go in the same order all the time.”

Count forwards together: “0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.”

Count backwards together: “10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0.”

Use the number line: touch each numeral as you count. Use the counting chart the same way.

### **Step 5 — One more, one less**

[Put a counter on 6 on the number line.]

Say: “One more than 6.” [Jump one place, to 7.] Say: “One more than 6 is 7.”

Say: “One less than 6.” [Jump back past 6, to 5.] Say: “One less than 6 is 5.”

The student takes a turn: give a number, the student jumps and says or shows one more; then one less.

### **Step 6 — First, second, third**

[Line up 3 objects.]

Say: “This one is first. This one is second. This one is third.”

Use the words in a real line: “Who is first in our line today? Who is second? Who is third?”

Use the words in a real recipe: “What is the first step? The second step? The third step?”

The student shows first, second and third by pointing, gazing, placing a counter, or choosing on the device.

## Step 7 — Numerals we see

[Show pictures or real objects with numerals: a door number, a lift button, the number on a bus, a numeral on a screen.]

Say: “Numerals are everywhere. What number can you see?”

The student says or shows the numeral.

## Step 8 — Same mathematics, different materials

Repeat any step with different materials: counters, blocks, pencils, the floor ten-frame, or a ten-frame app on a tablet.

On a tablet, the student touches the screen to put counters on the frame — or uses their switch or gaze access if that is their way.

Say: “7 is 7. 7 counters, 7 beanbags, 7 on the screen. The number is the same.”

## Worked examples

*Do these with the teacher. Use things to touch, or use what you can see here. The student says or shows each answer; the teacher puts the answer down.*

### Worked example 1 — get the number I say

The teacher says *seven*. Get 7 counters.

| Working                                                                 | Comment                                   |
|-------------------------------------------------------------------------|-------------------------------------------|
| The number word is <i>seven</i> .                                       | <i>Seven</i> is the name of the number 7. |
| Get the counters one by one.                                            | Touch each counter as you get it.         |
| Say one word for each counter: one, two, three, four, five, six, seven. | One word goes with one counter.           |
| Stop at seven. Count the counters one by one.                           | The last word says how many.              |

∴ There are 7 counters. The last word is *seven*.

### Worked example 2 — count and choose the numeral

5 beanbags sit in a line. The numeral cards are 5, 2 and 0. Choose the right card. Then: the box is empty. Choose the right card for the box.

| Working                                          | Comment                           |
|--------------------------------------------------|-----------------------------------|
| Count the beanbags: one, two, three, four, five. | Touch each beanbag.               |
| The last word is five.                           | 5 beanbags go with the numeral 5. |
| Choose the card 5.                               | The cards are 5, 2 and 0.         |
| The box has no beanbags in it.                   | No things is zero.                |
| Choose the card 0 for the box.                   | Zero is for no things.            |

∴ 5 beanbags go with the numeral 5. The empty box goes with the numeral 0.

### Worked example 3 — one less and one more

What number is one less than 6? What number is one more than 6?

A number line from 4 to 8, with a dot on 6, one less on 5 and one more on 7.

*A number line from 4 to 8, with a dot on 6, one less on 5 and one more on 7.*

Go to 6 on the number line. Jump back one: 5. One less than 6 is 5. Jump on one: 7. One more than 6 is 7.

∴ One less than 6 is 5. One more than 6 is 7.

### Worked example 4 — read numerals and put the numbers in order

Three numeral cards:

Three numeral cards: 4, 0 and 9.

*Three numeral cards: 4, 0 and 9.*

Read each numeral. Put the numbers in order, smallest to biggest.

Read the cards: 4 is *four*, 0 is *zero*, 9 is *nine*. Zero is for no things, so 0 is first. After 0 is 4. After 4 is 9.

∴ In order: 0, 4, 9.

### Worked example 5 — who is first?

Three cups sit in a line:

Three cups in a line: blue, red and green.

*Three cups in a line: blue, red and green.*

Say where each cup is. Use position words.

The blue cup is first. The red cup is second. The green cup is third. The green cup is last.

∴ First is the blue cup, second is the red cup, third is the green cup.

### Practice questions

*The teacher gives all the words in the student's own way. The student says or does the answer — speak, sign, point, gaze, place, or choose on the device. The teacher puts the answer down.*

**Q1.** Count the dots.

Six red dots.

*Six red dots.*

- Touch each dot and count.
- The last word you say is \_\_\_\_
- There are \_\_\_\_ dots.

**Q2.** One numeral card is missing.

Numeral cards from 2 to 6, with the 4 card missing.

*Numeral cards from 2 to 6, with the 4 card missing.*

- Say 2, 3, and go on. The missing card is \_\_\_\_

**Q3.** Three dots sit on the number line.

A number line from 0 to 10, with dots on 2, 6 and 9.

*A number line from 0 to 10, with dots on 2, 6 and 9.*

- The first dot is on 2. Say *two*.
- The second dot is on \_\_\_\_ Say the word.
- The third dot is on \_\_\_\_ Say the word.

**Q4.** Fill in the missing numbers.

| Number | One less | One more |
|--------|----------|----------|
| 4      | _____    | _____    |
| 8      | _____    | _____    |

**Q5.** Say the colours of the balls.

Three balls in a line: yellow, green and red, with the words first, second and third under them.

*Three balls in a line: yellow, green and red, with the words first, second and third under them.*

- a. The first ball is \_\_\_\_\_
- b. The second ball is \_\_\_\_\_
- c. The third ball is \_\_\_\_\_

**Q6.** Boxes and beanbags.

Two boxes. Box A has five beanbags. Box B has no beanbags in it.

*Two boxes. Box A has five beanbags. Box B has no beanbags in it.*

- a. Count the beanbags in box A. There are \_\_\_\_\_
- b. Count the beanbags in box B. There are \_\_\_\_\_
- c. The numeral cards are 5 and 0. The card for box B is \_\_\_\_\_

**Q7.** Say the numerals as words.

- a. 3 \_\_\_\_\_
- b. 7 \_\_\_\_\_
- c. 10 \_\_\_\_\_

**Q8.** Words to numerals.

- a. five \_\_\_\_\_
- b. eight \_\_\_\_\_
- c. zero \_\_\_\_\_

**Q9.** Count the beanbags. How many are there?

Nine beanbags, five and four.

*Nine beanbags, five and four.*

**Q10.** The teacher says *six*. Get 6 counters. Count the counters one by one. Say how you can see there are 6.

**Q11.** Use the number line.

- a. What number is between 4 and 6? \_\_\_\_\_
- b. What number is between 8 and 10? \_\_\_\_\_

**Q12.** Put the numbers in order, smallest to biggest.

- a. 7, 2, 10 → \_\_\_\_\_
- b. 0, 9, 4 → \_\_\_\_\_

**Q13.** These numeral cards are in the wrong order.

Numeral cards 0 to 10, with 4 and 3 swapped: 0, 1, 2, 4, 3, 5, 6, 7, 8, 9, 10.

*Numeral cards 0 to 10, with 4 and 3 swapped: 0, 1, 2, 4, 3, 5, 6, 7, 8, 9, 10.*

- a. Say the numbers as you look: 0, 1, 2, 3, 4, 5 ...
- b. The two cards in the wrong place are \_\_\_\_\_ and \_\_\_\_\_

**Q14.** Numerals we see.

A door with the numeral 7 on it, and a lift button with the numeral 3 on it.

*A door with the numeral 7 on it, and a lift button with the numeral 3 on it.*



- a. The numeral on the door is \_\_\_\_
- b. The numeral on the lift button is \_\_\_\_

## Observation checkpoint — VC2MFDN01 (4 marks)

*These items are 1A's contribution to **Checkpoint 1** (Chapter 1 — Number: how many?, 16 marks across VC2MFDN01–VC2MFDN04). 4 marks per owned CD. Run one-to-one, with counters, ten-frames, dot cards and numeral cards on the desk. There is no timed element and no written response; the guidance durations are for a teacher planning the week, not a limit on the student.*

### Administration — binding for every item

- Observe each item on **at least 3 separate occasions**. A single observation is not evidence. The recorded judgement is the student's **best sustained** response, not an average and not the most recent.
- Assisted and partial responses are scored, not zeroed: hand-over-hand, partial physical prompt, co-active movement, eye-gaze and aided communication (device, picture exchange, sign) are legitimate observed responses.
- Deliver every instruction in the student's own modality. No task depends on the student reading anything.
- Guidance: about 10 minutes per occasion, spread across the week.

### Item 1 — number names and numerals (1 mark)

Materials: numeral cards 3, 7 and 0.

Script: [Place the three cards in front of the student.] Say: "Show me three." [Wait for the answer: point, gaze, hand, device, sign or word.] Say: "Show me seven." [Wait.] Say: "Show me zero." [Wait.] For a student who says or signs number words, also hold up each card and ask: "What is this number?"

Award the mark when the student matches all three numerals to their number names, in any modality, with or without assistance.

### Item 2 — numerals and quantities, including zero (1 mark)

Materials: counters; numeral cards 5, 2 and 0; 7 pencils; the empty box.

Script: [Count out 5 counters together.] Say: "How many?" [The student chooses the card, or says or signs the word.] [Hold up the empty box.] Say: "How many in here?" [Wait for zero — the card 0, the word, or a shake of the head.] [Show the card 7.] Say: "Get me this many pencils."

Award the mark when the student matches a counted quantity to its numeral and shows zero for no things, in any modality, with or without assistance.

### Item 3 — position in the sequence (1 mark)

Materials: numeral cards 4, 0 and 9, mixed up; the number line 0–10.

Script: [Place the three cards out of order.] Say: "Put the numbers in order." [The student arranges them, points or gazes to show the order, or orders them with assistance.] Then: [Point to 6 on the number line.] Say: "One more than 6 is what?"

Award the mark when the student shows the order 0, 4, 9, in any modality, with or without assistance. The one-more ask is supporting evidence.

### Item 4 — ordinal position (1 mark)

Materials: 3 familiar objects, such as a cup, a spoon and a pencil.

Script: [Line up the three objects.] Say: "Which one is first?" [Wait.] Say: "Which one is second?" [Wait.] Say: "Which one is third?" [Wait.]

Award the mark when the student shows first, second and third, in any modality, with or without assistance.

## Rubric — in the language of the achievement standard

The achievement standard extract for VC2MFDN01: “students make connections between number names, numerals and position in the sequence of numbers from zero to at least 10.”

| Item                       | Connection observed                                                    | Marks    |
|----------------------------|------------------------------------------------------------------------|----------|
| 1                          | between number names and numerals (3, 7, 0)                            | 1        |
| 2                          | between numerals and quantities, including zero                        | 1        |
| 3                          | with position in the sequence of numbers (ordering; one more)          | 1        |
| 4                          | with position in a sequence using ordinal words (first, second, third) | 1        |
| <b>Total for VC2MFDN01</b> |                                                                        | <b>4</b> |

*Record the modality the student used on each occasion. “To at least 10” sets a floor, not a ceiling: if a student counts, orders or names numbers past 10, let them, and record it.*

*Teacher note — handoff. This subtopic hands forward to the Foundation book’s VC2MFN01 (numbers to at least 20, including zero). The next step is a bigger range, not new ideas.*

## Answers

**Q1.** b. *six* c. 6.

**Q2.** a. 4.

**Q3.** b. 6, *six*. c. 9, *nine*.

**Q4.** 4: one less is 3, one more is 5. 8: one less is 7, one more is 9.

**Q5.** a. yellow b. green c. red.

**Q6.** a. 5 b. 0 c. 0.

**Q7.** a. three b. seven c. ten.

**Q8.** a. 5 b. 8 c. 0.

**Q9.** 9.

**Q10.** 6 counters. The last word is *six*.

**Q11.** a. 5 b. 9.

**Q12.** a. 2, 7, 10 b. 0, 4, 9.

**Q13.** b. 4 and 3.

**Q14.** a. 7 b. 3.

## Fully-worked solutions

**Q1.**

Six red dots.

*Six red dots.*

Touch the dots and count: one, two, three, four, five, six. The last word is six.

∴ There are 6 dots.

**Q2.**

Numeral cards from 2 to 6, with the 4 card missing.

*Numeral cards from 2 to 6, with the 4 card missing.*

Say the cards in order: 2, 3, 4, 5, 6. The missing card is 4.

∴ The missing card is 4.

**Q3.**

A number line from 0 to 10, with dots on 2, 6 and 9.

*A number line from 0 to 10, with dots on 2, 6 and 9.*

- a. The first dot is on 2: *two*.
- b. The second dot is on 6: *six*.
- c. The third dot is on 9: *nine*.

∴ The dots are on 2, 6 and 9.

**Q4.**

Start at 4. Jump back one: 3. Jump on one: 5. Start at 8. Jump back one: 7. Jump on one: 9.

| Number | One less | One more |
|--------|----------|----------|
| 4      | 3        | 5        |
| 8      | 7        | 9        |

∴ For 4: one less is 3, one more is 5. For 8: one less is 7, one more is 9.

#### Q5.

Three balls in a line: yellow, green and red, with the words first, second and third under them.

*Three balls in a line: yellow, green and red, with the words first, second and third under them.*

- The first ball is yellow.
- Count on: first is yellow, second is green.
- Third is red.

∴ First is yellow, second is green, third is red.

#### Q6.

Two boxes. Box A has five beanbags. Box B has no beanbags in it.

*Two boxes. Box A has five beanbags. Box B has no beanbags in it.*

- Count the beanbags in box A: one, two, three, four, five. There are 5.
- Box B has no beanbags in it. There are 0.
- Zero is for no things, so the card for box B is 0.

∴ Box A has 5, box B has 0, and box B goes with the card 0.

#### Q7.

- 3 is *three*.
- 7 is *seven*.
- 10 is *ten*.

∴ The words are three, seven, ten.

#### Q8.

- Five is 5.
- Eight is 8.
- Zero is 0.

∴ The numerals are 5, 8 and 0.

#### Q9.

Nine beanbags, five and four.

*Nine beanbags, five and four.*

Touch each beanbag and count: one, two, three, four, five, six, seven, eight, nine. The last word is nine.

∴ There are 9 beanbags.

#### Q10.

Get the counters one by one. Say: one, two, three, and so on. Stop at six. Count the counters one by one. The last word is six, so there are 6 counters.

∴ There are 6 counters, and the count ends at six.

**Q11.**

- a. On the number line: 4, 5, 6. Between 4 and 6 is 5.
- b. On the number line: 8, 9, 10. Between 8 and 10 is 9.

∴ Between 4 and 6 is 5. Between 8 and 10 is 9.

**Q12.**

- a. Count on: 2 is first, after 2 is 7, after 7 is 10.
- b. Zero is for no things, so 0 is first. After 0 is 4. After 4 is 9.

∴ a. 2, 7, 10. b. 0, 4, 9.

**Q13.**

Numeral cards 0 to 10, with 4 and 3 swapped: 0, 1, 2, 4, 3, 5, 6, 7, 8, 9, 10.

*Numeral cards 0 to 10, with 4 and 3 swapped: 0, 1, 2, 4, 3, 5, 6, 7, 8, 9, 10.*

Say the order: 0, 1, 2, 3, 4, 5. On the cards, 4 comes before 3. The two cards in the wrong place are 4 and 3.

∴ 4 and 3 are out of order.

**Q14.**

A door with the numeral 7 on it, and a lift button with the numeral 3 on it.

*A door with the numeral 7 on it, and a lift button with the numeral 3 on it.*

- a. The numeral on the door is 7: *seven*.
- b. The numeral on the lift button is 3: *three*.

∴ The door is 7 and the lift button is 3.

## Subitising: seeing how many, up to 4, without counting

*This is done with the teacher. The teacher reads, signs or presents all the words in the student's own communication way. The student looks, listens, says, signs, points, looks with their eyes, or uses their communication system. The student does not need to read. No task needs speech. No task needs writing.*

*recognise and name the number of objects within a collection up to 4 using subitising — VC2MFDN02, maths\_AD.json*

### Theory

#### Seeing how many

Sometimes we can see how many. We do not need to count.

Look at this dot card.

A dot card with 2 black dots side by side on a plain white card.

*A dot card with 2 black dots side by side on a plain white card.*

How many dots?

You can see it: 2. You did not count the dots one by one. You saw them.

Seeing how many, without counting, is called **subitising**. To subitise is to look at things and see how many there are, without counting one by one.

Small groups can be seen straight away: 1, 2, 3 and 4. Here, we subitise up to 4.

#### The same number can look different

4 dots can sit in a line. 4 dots can sit in a square. 4 dots can be spread out.

Three groups of 4 black dots: 4 dots in a line, 4 dots in a square, and 4 dots spread out.

*Three groups of 4 black dots: 4 dots in a line, 4 dots in a square, and 4 dots spread out.*

They look different. They are all 4.

The way the dots sit is the **arrangement**. The arrangement changes. The number stays the same.

We can subitise dots on cards, objects, counters and arrays. An array is dots in rows. A square of dots is an array.

#### Games that help

Games make subitising strong.

In the **matching pairs** game, the teacher holds up 2 dot cards. Both cards show the same number, sitting in a different way. Look at both cards. See the same number.

In the **concentration** game, dot cards sit face down on the table. Take a turn. Turn over 2 cards. Look at them. The cards show the same number? Keep the pair. The cards show a different number? Turn them back down.

In the **counter toss**, the teacher tosses 4 two-coloured counters on the table. Look at the counters. See how many of one colour. You do not need to count.

#### Seeing the parts

4 can be 2 and 2. 4 can be 3 and 1.

This dot card shows 4 as 2 and 2.

A dot card with 4 black dots: 2 dots, a space, then 2 dots.

*A dot card with 4 black dots: 2 dots, a space, then 2 dots.*

See the first 2. See the other 2. See them together: 4.

Subitising helps us see the parts of a number.

*Teacher note: seeing parts within 4 sets the student up for 1D, part–part–whole up to 10. In 1B the parts stay within 4.*

*Teacher note: subitising is the curriculum's own word (VC2MFDN02). It is defined here at first use, as required.*

## What this can look like

The content description is the expectation. The elaborations below are VCAA's examples of ways the content might look. They are carried for MCQ and coverage linkage — VC2MFDN02.E01–VC2MFDN02.E04 — and they are not a teaching order.

*subitising regular and irregular arrangements; for example, recognising 4 objects when presented in different ways, such as on dot cards, and as objects, arrays and counters — VC2MFDN02.E01*

*playing instructive card games that rely on the recognition of numbers represented in different ways; for example, playing memory games and matching pairs of quantities on dot cards or similar where the arrangement on each is different, or playing concentration with dot cards of different arrangements — VC2MFDN02.E02*

*tossing 4 two-coloured counters and instantly recognising the total number of one of the colours without counting — VC2MFDN02.E03*

*using subitising strategies up to 4 to partition and combine collections in different counting activities — VC2MFDN02.E04*

Source: VCAA, Victorian Curriculum F–10 Mathematics Version 2.0, Foundation Level D, via `maths_AD.json`, retrieved 2026-08-16.

## Materials

- **Dot cards:** cards with 1, 2, 3 and 4 dots. Some cards are regular — the dots sit in a line or a square. Some cards are irregular — the dots are spread out. Big dots, plain card, one arrangement on each card.
- **Two-coloured counters:** 4 for each student. Red on one side, yellow on the other.
- **Everyday objects:** bottle tops, buttons and blocks. Keep them in different sizes and textures. Use the set the student can see, hold and reach.
- **Numeral cards 1–4:** made in 1A. The student points to them or looks at them to answer. They are not for reading.
- **Ten-frame card:** a card with 10 boxes in 2 rows, and counters to put in the boxes.
- **A cloth or cover:** to cover objects, then show them for a short time.
- **Response cards and symbols:** the numeral cards 1–4, and the number symbols 1–4 on the student's own communication system. Every card set can sit on an eye-gaze board, so a student who does not point can look at the answer.

## Teacher script — teaching sequence

*The words in SAY lines are short on purpose. Say, sign or present them in the student's own communication way. Model the words on the student's system before you ask. After every question, WAIT — give the student time. Accept every way of answering: speech, sign, pointing, eye-gaze, placing objects, or a symbol on the communication system.*

### Step 1 — see it

DO: Hold up the dot card with 2 dots. Hold it still, where the student can see it.

SAY: *Look. How many?*

WAIT. The student answers in their way.

SAY: *2. You saw it. You did not count.*

## Step 2 — see 1, 2, 3, 4

DO: Show the dot cards 1, 2, 3 and 4, one at a time. Show each card for a short time — about 1 or 2 seconds — then put it down.

SAY: *How many?*

If the student counts, that is fine. SAY: *Good. Now let's try to see it.* Show the card again, for a short time. Model the seeing: *I see 3.*

## Step 3 — the same number, a different way

DO: Show 3 dots in a line. Then show 3 dots spread out.

SAY: *How many here? WAIT. How many here? WAIT.*

SAY: *Both are 3. They look different. The number is the same.*

## Step 4 — objects

DO: Put 4 bottle tops on the table. Cover them with the cloth. Lift the cloth for a short time, then cover them again.

SAY: *How many did you see?*

WAIT. The student answers in their way. Do the game again with 1, 2, 3 and 4 objects, and with different objects.

## Step 5 — games

DO: Play matching pairs and concentration with the dot cards. Play the counter toss with 4 two-coloured counters. The scripts are in the worked examples and in the game rules above.

If the counter toss lands all one colour, say the number, then toss again.

## Step 6 — see the parts

DO: Show the dot card with 4 dots as 2 and 2.

SAY: *Look. See the 2 here. See the 2 here. How many altogether?*

WAIT. The student answers in their way.

SAY: *4 is 2 and 2.*

Do it again with 4 as 3 and 1.

## Worked examples

*Do these with the teacher. Use things to touch, or use what you can see here.*

### Worked example 1 — see the dots

A dot card shows 4 dots in a square.

A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.

*A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.*

Look at the card. How many dots?

Working

Comment

Look at the card.

Do not count the dots one by one.

See the dots together.

A square of dots is easy to see.

Say the number: *four*.

You saw it, without counting.

∴ There are 4 dots.



## Worked example 2 — same number, different look

Here are 2 groups of buttons.

3 buttons in a line, and 3 buttons spread out.

*3 buttons in a line, and 3 buttons spread out.*

How many buttons in each group?

Working

Comment

Look at the first group.

3 buttons in a line.

Look at the second group.

3 buttons, spread out.

See how many in each group.

Both groups are 3.

$\therefore$  Both groups are 3. The arrangement is different. The number is the same.

## Worked example 3 — toss the counters

The teacher tosses 4 two-coloured counters. The counters land: 3 red, 1 yellow.

4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.

*4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.*

How many red? How many yellow?

Working

Comment

Look at the red counters.

See them, without counting.

How many red?

3 red.

Look at the yellow counters.

1 yellow.

$\therefore$  3 red and 1 yellow. 4 counters altogether.

## Worked example 4 — see the parts

The dot card shows 4 dots as 2 and 2.

A dot card with 4 black dots: 2 dots, a space, then 2 dots.

*A dot card with 4 black dots: 2 dots, a space, then 2 dots.*

See the parts. How many altogether?

Working

Comment

See the first 2 dots.

See them here.

See the other 2 dots.

See them there.

See them together.

2 and 2 make 4.

$\therefore$  4 is 2 and 2.

## Practice questions

*The teacher presents every word in the student's communication way. The student answers by saying, signing, pointing, looking, placing objects, or using their communication system. The teacher records the answer. No question needs speech. No question needs reading.*

**Q1.** Look at the dot card.

A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.

*A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.*

How many dots? \_\_\_\_

**Q2.** Look at the dot card.

A dot card with 3 black dots in a line.

*A dot card with 3 black dots in a line.*

How many dots? \_\_\_\_

**Q3.** 4 cards. Each card shows 4 dots in a different way.

4 dot cards, labelled A, B, C and D. Card A shows 4 dots in a line. Card B shows 4 dots in a square. Card C shows 4 dots spread out. Card D shows 4 dots on a ten-frame.

*4 dot cards, labelled A, B, C and D. Card A shows 4 dots in a line. Card B shows 4 dots in a square. Card C shows 4 dots spread out. Card D shows 4 dots on a ten-frame.*

Say how many on each card.

- a. Card A: \_\_\_\_
- b. Card B: \_\_\_\_
- c. Card C: \_\_\_\_
- d. Card D: \_\_\_\_

**Q4.** Find the same number.

3 dot cards, labelled A, B and C. Card A shows 3 dots in a line. Card B shows 3 dots spread out. Card C shows 2 dots.

*3 dot cards, labelled A, B and C. Card A shows 3 dots in a line. Card B shows 3 dots spread out. Card C shows 2 dots.*

Which card shows the same number as card A? \_\_\_\_

**Q5.** The teacher tosses 4 two-coloured counters.

4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.

*4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.*

- a. How many red? \_\_\_\_
- b. How many yellow? \_\_\_\_

**Q6.** Bottle tops under the cloth.

The teacher puts 3 bottle tops on the table. The teacher covers them with the cloth. The teacher lifts the cloth for a short time, then covers them again.

A cloth lifted on one side, with 3 bottle tops showing under it.

*A cloth lifted on one side, with 3 bottle tops showing under it.*

How many bottle tops did you see? \_\_\_\_

**Q7.** Look at the ten-frame.

A ten-frame card with 2 counters: 1 counter in the first box, 1 counter in the second box, and the other boxes empty.

*A ten-frame card with 2 counters: 1 counter in the first box, 1 counter in the second box, and the other boxes empty.*

How many counters? \_\_\_\_

**Q8.** See the parts.

A dot card with 4 black dots: 2 dots, a space, then 2 dots.

*A dot card with 4 black dots: 2 dots, a space, then 2 dots.*

- a. See the first part: \_\_\_\_\_
- b. See the other part: \_\_\_\_\_
- c. How many altogether? \_\_\_\_\_

**Q9.** The matching pairs game.

Sam turns over 2 cards. One card shows 2 dots in a line. The other card shows 2 dots spread out.

2 dot cards face up on the table: one card shows 2 dots in a line, the other card shows 2 dots spread out.

*2 dot cards face up on the table: one card shows 2 dots in a line, the other card shows 2 dots spread out.*

Do the 2 cards show the same number? Answer with your yes and no way: the YES and NO cards, or your yes and no symbols.

---

**Q10.** Choose the numeral card.

The numeral cards 1, 2, 3 and 4 sit on the table. The teacher shows a dot card.

A dot card with 4 black dots spread out, and numeral cards 1, 2, 3 and 4 under it.

*A dot card with 4 black dots spread out, and numeral cards 1, 2, 3 and 4 under it.*

Point to, look at, or place the numeral card that shows how many dots.

---

## Answers

**Q1.** 4.

**Q2.** 3.

**Q3.** a. 4 b. 4 c. 4 d. 4.

**Q4.** Card B.

**Q5.** a. 3 b. 1.

**Q6.** 3.

**Q7.** 2.

**Q8.** a. 2 b. 2 c. 4.

**Q9.** Yes. Both cards show 2.

**Q10.** 4.

## Fully-worked solutions

**Q1.**

A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.

*A dot card with 4 black dots in a square: 2 dots on top, 2 dots below.*

Look at the card. See the dots together: 2 on top, 2 below. You do not need to count.

∴ There are 4 dots.

**Q2.**

A dot card with 3 black dots in a line.

*A dot card with 3 black dots in a line.*

Look at the card. See the dots together.

∴ There are 3 dots.

**Q3.**

4 dot cards, labelled A, B, C and D. Card A shows 4 dots in a line. Card B shows 4 dots in a square. Card C shows 4 dots spread out. Card D shows 4 dots on a ten-frame.

*4 dot cards, labelled A, B, C and D. Card A shows 4 dots in a line. Card B shows 4 dots in a square. Card C shows 4 dots spread out. Card D shows 4 dots on a ten-frame.*

Look at each card. The dots sit in a different way on each card. The number is the same on every card.

∴ a. 4 b. 4 c. 4 d. 4.

**Q4.**

3 dot cards, labelled A, B and C. Card A shows 3 dots in a line. Card B shows 3 dots spread out. Card C shows 2 dots.

*3 dot cards, labelled A, B and C. Card A shows 3 dots in a line. Card B shows 3 dots spread out. Card C shows 2 dots.*

Card A shows 3. Card B shows 3, spread out. Card C shows 2. Card B shows the same number as card A.

∴ Card B.

**Q5.**

4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.  
*4 two-coloured counters on a table: 3 counters red-side up, 1 counter yellow-side up.*

Look at the red counters. See them, without counting: 3 red. Look at the yellow counters: 1 yellow.

∴ a. 3 b. 1.

**Q6.**

A cloth lifted on one side, with 3 bottle tops showing under it.  
*A cloth lifted on one side, with 3 bottle tops showing under it.*

The cloth lifts for a short time. See the bottle tops together.

∴ There are 3 bottle tops.

**Q7.**

A ten-frame card with 2 counters: 1 counter in the first box, 1 counter in the second box, and the other boxes empty.  
*A ten-frame card with 2 counters: 1 counter in the first box, 1 counter in the second box, and the other boxes empty.*

Look at the boxes with counters. See them together.

∴ There are 2 counters.

**Q8.**

A dot card with 4 black dots: 2 dots, a space, then 2 dots.  
*A dot card with 4 black dots: 2 dots, a space, then 2 dots.*

See the first part: 2 dots. See the other part: 2 dots. See them together: 2 and 2 make 4.

∴ a. 2 b. 2 c. 4.

**Q9.**

2 dot cards face up on the table: one card shows 2 dots in a line, the other card shows 2 dots spread out.  
*2 dot cards face up on the table: one card shows 2 dots in a line, the other card shows 2 dots spread out.*

One card shows 2 dots in a line. The other card shows 2 dots spread out. Both cards show 2. The number is the same. Sam keeps the pair.

∴ Yes. Both cards show 2.

**Q10.**

A dot card with 4 black dots spread out, and numeral cards 1, 2, 3 and 4 under it.  
*A dot card with 4 black dots spread out, and numeral cards 1, 2, 3 and 4 under it.*

Look at the dot card. See the dots together: 4 dots. The numeral card 4 shows how many.

∴ 4.

## Checkpoint CP1 — the VC2MFDN02 part

Checkpoint CP1 is the Chapter 1 checkpoint. It is observed, one-to-one, with counters, ten-frames, dot cards and number cards, across multiple occasions (TOC §7). CP1 carries 16 marks across VC2MFDN01, VC2MFDN02, VC2MFDN03 and VC2MFDN04. This is the part owned by VC2MFDN02: **4 marks**, one for each task below.

### How to run the tasks

- Run every task on **at least 3 separate occasions**. A single observation is not evidence at this level (TOC D10).
- Record the response on each occasion. The judgement is the student's **best sustained** response — not an average, and not the most recent.
- Nothing is timed. The guidance time is for the teacher planning the week, never a limit on the student. Each task is short — a few minutes — and can sit inside a familiar routine.
- No speech, reading or writing is required. The student answers in their own communication way: speech, sign, AAC device, picture exchange, eye-gaze, or placing and pointing to numeral cards.
- Show each card for a short time — about 1 or 2 seconds — then hide it. A short show makes counting one by one hard to do, so a right answer is evidence of subitising. If the student counts, say *Good. Now let's try to see it*, and show the card again.
- Assisted and partial responses are scored, not zeroed (TOC D10). Hand-over-hand, partial physical prompt, co-active movement, eye-gaze and aided communication are legitimate observed responses.

### Task 1 (1 mark) — regular arrangement

Materials: the dot card with 4 dots in a square; numeral cards 1–4 in front of the student, as answer cards.

DO: Show the card for about 2 seconds. Hide it.

SAY: *How many dots did you see?*

WAIT. The student answers in their way: says *four*, signs it, points to or looks at the numeral card 4, or selects 4 on their communication system.

### Task 2 (1 mark) — irregular arrangement

Materials: the dot card with 4 dots spread out; numeral cards 1–4.

DO: Show the card for about 2 seconds. Hide it.

SAY: *How many dots did you see?*

WAIT. The student answers in their way. The dots sit in a different way from Task 1. The number is the same.

### Task 3 (1 mark) — objects on a frame

Materials: the ten-frame card with 3 counters in the first 3 boxes; numeral cards 1–4. A real-object version is fine too: 3 bottle tops under the cloth, shown for a short time.

DO: Show the card for about 2 seconds. Hide it.

SAY: *How many counters did you see?*

WAIT. The student answers in their way.

### Task 4 (1 mark) — subitising the parts

Materials: 4 two-coloured counters; numeral cards 1–4.

DO: Toss the 4 counters on the table. They land 3 red and 1 yellow. If the toss lands all one colour, say the number, then toss again.

SAY: *How many red?*

WAIT. The student answers in their way. The student sees the red counters without counting one by one.

## Rubric

The rubric is written in the language of the achievement standard extract carried for this CD:

*They use counting strategies to quantify collections to at least 10 and subitise to quantify collections to 4.*  
— achievement standard, Foundation Level D, maths\_AD.json

The CP1 tasks for VC2MFDN02 score this part of the sentence: **subitise to quantify collections to 4**. Each task is scored 1 or 0 on the best sustained response across the at-least-three occasions:

- **1 mark** — the student quantifies the collection: they communicate the right number in their own modality. Assisted and partial responses count: hand-over-hand, partial physical prompt, co-active movement, supported eye-gaze, aided communication with modelling, and choosing the right numeral from the answer cards all score the mark.
- **0 marks** — no quantifying response is observed yet, across the occasions. This is not a failure. Keep teaching, then observe again.

## Record

| Task                      | Occasion 1 | Occasion 2 | Occasion 3 | Best sustained response | Mark |
|---------------------------|------------|------------|------------|-------------------------|------|
| 1 — regular arrangement   |            |            |            |                         | /1   |
| 2 — irregular arrangement |            |            |            |                         | /1   |
| 3 — objects on a frame    |            |            |            |                         | /1   |
| 4 — subitising the parts  |            |            |            |                         | /1   |

Record the student's response in their own modality on each occasion. Then write the best sustained response, and the mark.

## Counting and comparing collections to 10, with reasoning

*This subtopic is led by the teacher. The teacher says all the words in the student's own way of communicating — speech, sign, pictures, a communication device, or eye gaze. The student looks, listens, touches, and shows. The student does not need to read. The student does not need to write.*

*quantify and compare collections to at least 10 using counting, and explain or demonstrate reasoning —*  
VC2MFDN03

**Teacher notes — what this subtopic is, and where its edges are.** This subtopic is the reasoning subtopic of Chapter 1. The student counts collections of up to 10 things to say how many, compares collections using *more*, *less* and *same*, and then shows or tells how they know. The reasoning is part of the content description itself — VC2MFDN03 says *explain or demonstrate reasoning* — so every task here ends with *How do you know?* and the teacher scores the strategy, not only the answer.

This subtopic owns VC2MFDN03 and no other code. Counting is the tool. It is not the place where number names, numerals, order, zero or ordinal words are taught (that is subtopic 1A, VC2MFDN01), where seeing how many without counting is taught (subtopic 1B, VC2MFDN02), where collections are split and put together (subtopic 1D, VC2MFDN04), or where adding and taking away begin (subtopic 2A, VC2MFDN05). Counting on and counting back are 2A strategies; here the student counts every item, one by one.

**Materials.** Counters in more than one size and texture, ten-frames, number cards 1 to 10, dot cards, and everyday objects — fruit, cups, spoons, socks, pencils, cards. Activities that use small items also work with large items. A task that asks for pointing also works with a look, a reach, a placed object, a sign, or a message on a communication device. Every question in this subtopic can be answered in any of these ways; the communication load is never the mathematics.

**Assessment note.** Evidence for this subtopic is gathered by observation, across at least three separate occasions, and the recorded judgement is the student's best sustained response — not an average, not the most recent. Assisted and partial responses count: hand-over-hand, a partial physical prompt, co-active movement, eye gaze and aided communication are legitimate observed responses. The observed task for this subtopic sits at the end of this section as part of Checkpoint 1.

### Theory

#### ***Counting tells us how many***

We count to find out how many things are in a group.

**Say:** *Let's count.*

**Do:** Put out a group of things. Not more than 10. Line them up or spread them out. Touch each thing, one at a time. Say one number word for each thing: one, two, three, and so on.

**Look for:** One number word goes with one thing. Each thing is counted only once. The order does not matter — the same group gives the same count.

The last number word said is how many.

VC2MFDN03.E02 puts it this way: *showing understanding that each object in a group is counted only once and the last number counted answers the question of 'How many?'.*

Eight apples sit on a ten-frame. Touch the apples and count: one, two, three, four, five, six, seven, eight. The last word is eight, so there are 8 apples.

Eight red apples on a ten-frame, in two rows of four.

*Eight red apples on a ten-frame, in two rows of four.*

#### ***One for each***

Counting works because each thing gets one number word, and each number word gets one thing. This is called **one-to-one correspondence**.



**Say:** *One for each.*

**Do:** Match things from one group to things in another group. One cup gets one spoon. One sock gets one shoe.

If every thing finds a partner and nothing is left over, the two groups are **the same**. If things are left over in one group, that group has **more**. The other group has **less**.

VC2MFDN03.E01 puts it this way: *using one-to-one correspondence to determine that groups of objects are the same*. For example, a group of 8 pineapples and a line of 8 pineapples are the same quantity — count them or match them to show it.

### **More, less, same**

Three words do all the comparing in this subtopic:

- **more** — this group has a bigger count
- **less** — this group has a smaller count
- **same** — the counts are the same

Two ways to compare:

1. **Match them.** Put the things in one group against the things in the other group, one for each. Look for leftovers.
2. **Count them.** Count each group. Then compare the counts.

At Level D the word is not enough. The student is also asked *How do you know?* and shows or tells the reason — the leftover things, the two counts, or the matching.

### **Show how you know**

*How do you know?* is the question of this subtopic.

A reason can be:

- pointing to the things left over after matching
- counting both groups and saying the two counts
- placing things on a ten-frame and looking
- matching one group to the other, one for each

Any of these, shown in any modality, is reasoning. A student who points to the leftover counters has explained. A student who counts both groups and looks to the bigger count has explained.

### **Worked examples**

*Do these with the teacher. Use real things on the table, or use what you can see here.*

#### **Worked example 1 — how many oranges?**

Nine oranges sit in a line.

Nine oranges in a line.

*Nine oranges in a line.*

**Say:** *How many oranges are there?*

| Working                                                                                    | Comment                                                            |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Touch each orange, one at a time.                                                          | One orange gets one touch.                                         |
| Say one number word for each orange: one, two, three, four, five, six, seven, eight, nine. | One number word goes with one orange. Each orange is counted once. |
| The last word is nine.                                                                     | The last number word answers <i>How many?</i>                      |

∴ There are 9 oranges.

### Worked example 2 — same or not?

A group of 6 cups and a line of 6 cups.

Six cups in a group on the left. Six cups in a line on the right.

*Six cups in a group on the left. Six cups in a line on the right.*

**Say:** *Are the two groups the same? How do you know?*

Working

Comment

Match the cups, one for each. Put each cup in the group next to a cup in the line.

One cup gets one partner.

Every cup finds a partner. Nothing is left over.

No leftovers on either side.

Count to check: the group counts to 6, and the line counts to 6.

The same count means the same quantity.

∴ The two groups are the same. There are 6 cups and 6 cups.

### Worked example 3 — which group has more?

A group of 7 pencils and a group of 4 pencils.

Seven pencils on top. Four pencils underneath.

*Seven pencils on top. Four pencils underneath.*

**Say:** *Which group has more? How do you know?*

Match the pencils, one for each. Each of the 4 pencils in the small group finds a partner in the big group. The big group has pencils left over.

Count to check: the big group counts to 7, and the small group counts to 4.

∴ The group of 7 pencils has more. We know because there are pencils left over after matching, and 7 is a bigger count than 4.

### Worked example 4 — who has more pairs?

Three friends play a card game where they collect pairs (VC2MFDN03.E04). The game ends. Sam has 3 pairs. Priya has 6 pairs. Alex has 2 pairs.

Sam's 3 pairs of cards, Priya's 6 pairs of cards, and Alex's 2 pairs of cards.

*Sam's 3 pairs of cards, Priya's 6 pairs of cards, and Alex's 2 pairs of cards.*

**Say:** *Who has more? Who has less?*

Count each friend's pairs. One pair is one thing to count. Sam: one, two, three — 3 pairs. Priya: one, two, three, four, five, six — 6 pairs. Alex: one, two — 2 pairs.

Compare the counts: 6 is the biggest count, and 2 is the smallest count.

∴ Priya has more. Alex has less. We know because we counted each friend's pairs, and 6 is more than 3 and more than 2.

### Practice questions

*The teacher says all the words in the student's own way of communicating. The student answers by touching, looking, placing, signing, speaking, or using a communication device. The teacher puts the answer down.*

**Q1.** Count the bananas.

Six bananas in a line.

*Six bananas in a line.*

- Touch each banana and count.
- The last word you say is \_\_\_\_
- There are \_\_\_\_ bananas.

**Q2.** Count the oranges. Then answer the question.

Nine oranges in a group.

*Nine oranges in a group.*

- Touch each orange and count.
- How many oranges are there?* \_\_\_\_

**Q3.** Count the apples.

Ten apples on a ten-frame, in two rows of five.

*Ten apples on a ten-frame, in two rows of five.*

- Touch each apple and count.
- The last word you say is \_\_\_\_
- There are \_\_\_\_ apples.

**Q4.** Spoons and cups.

Seven cups in a line. Seven spoons in a line underneath.

*Seven cups in a line. Seven spoons in a line underneath.*

- Put one spoon with each cup.
- Does every cup get a spoon? \_\_\_\_
- The spoons and the cups are the \_\_\_\_.

**Q5.** Two groups of blocks.

Five blue blocks in a group on the left. Five blue blocks in a group on the right.

*Five blue blocks in a group on the left. Five blue blocks in a group on the right.*

- Count the blocks in each group.
- The groups are the \_\_\_\_ (same / not the same).
- How do you know?* Show or tell.

**Q6.** Pineapples (VC2MFDN03.E01).

Eight pineapples in a group on the left. Eight pineapples in a line on the right.

*Eight pineapples in a group on the left. Eight pineapples in a line on the right.*

- Count the pineapples in the group. There are \_\_\_\_
- Count the pineapples in the line. There are \_\_\_\_
- The group and the line are the \_\_\_\_ (same / not the same).

**Q7.** Biscuits.

Seven biscuits on the top plate. Three biscuits on the bottom plate.

*Seven biscuits on the top plate. Three biscuits on the bottom plate.*

- Count the biscuits on each plate.
- The top plate has \_\_\_\_ biscuits. The bottom plate has \_\_\_\_ biscuits.
- Which plate has more? \_\_\_\_
- How do you know?* Show or tell.

**Q8. Hats.**

Four hats on the left. Six hats on the right.

*Four hats on the left. Six hats on the right.*

- Count the hats on each side.
- Which side has less? \_\_\_\_
- How do you know?* Show or tell.

**Q9. Socks.**

Six socks on the left. Nine socks on the right.

*Six socks on the left. Nine socks on the right.*

- Count the socks on each side.
- Are the two sides the same? \_\_\_\_
- Which side has more? \_\_\_\_

**Q10. Three groups of marbles.**

A group of 4 marbles, a group of 7 marbles, and a group of 2 marbles.

*A group of 4 marbles, a group of 7 marbles, and a group of 2 marbles.*

- Count each group.
- The counts are \_\_\_\_, \_\_\_\_ and \_\_\_\_.
- Which group has more than the other two? \_\_\_\_
- Which group has less than the other two? \_\_\_\_

**Q11. Sam and Alex have cards. Sam has 5 cards. Alex has 8 cards.**

Sam's 5 cards on the left. Alex's 8 cards on the right.

*Sam's 5 cards on the left. Alex's 8 cards on the right.*

- Count Sam's cards. There are \_\_\_\_
- Count Alex's cards. There are \_\_\_\_
- Who has more? \_\_\_\_
- How do you know?* Show or tell.

**Q12. The pair game is over (VC2MFDN03.E04). Sam has 4 pairs. Priya has 6 pairs.**

Sam's 4 pairs on the left. Priya's 6 pairs on the right.

*Sam's 4 pairs on the left. Priya's 6 pairs on the right.*

- Count Sam's pairs. There are \_\_\_\_
- Count Priya's pairs. There are \_\_\_\_
- Who has more?* \_\_\_\_
- Who has less?* \_\_\_\_

**Q13. Make a group.**

The teacher shows a group of 4 counters.

- Make a group that has **more** than 4.
- Make a group that has the **same** as 4.
- Make a group that has **less** than 4.

**Q14. Two towers.**

A tower of 9 blocks next to a tower of 6 blocks.

*A tower of 9 blocks next to a tower of 6 blocks.*

- Count the blocks in each tower.
- Which tower has more blocks? \_\_\_\_\_
- How do you know?* Show or tell.

**Q15.** The teacher counts 6 blocks: *one, two, three, four, five, six, seven.*

Six blocks in a line.

*Six blocks in a line.*

- Is the count right? \_\_\_\_\_
- Count the blocks the right way: \_\_\_\_\_
- How do you know?* Show or tell.

**Q16.** One counter on each spot.

An empty ten-frame with 10 spots.

*An empty ten-frame with 10 spots.*

- Put one counter on each spot of the ten-frame.
- How many counters did you use? \_\_\_\_\_
- The counters and the spots are the \_\_\_\_\_.

**Q17.** Two ten-frames.

A ten-frame with 7 counters on the left. A full ten-frame with 10 counters on the right.

*A ten-frame with 7 counters on the left. A full ten-frame with 10 counters on the right.*

- Count the counters in each ten-frame.
- Which ten-frame has more? \_\_\_\_\_
- Are they the same? \_\_\_\_\_

**Q18.** There are 10 chairs. There are 8 cups. One cup goes on each chair.

Ten chairs in a line. Eight cups on a table next to them.

*Ten chairs in a line. Eight cups on a table next to them.*

- Count the chairs. There are \_\_\_\_\_
- Count the cups. There are \_\_\_\_\_
- Are there enough cups for the chairs? \_\_\_\_\_
- How do you know?* Show or tell.

## Answers

**Q1.** b. *six* c. 6.

**Q2.** b. 9.

**Q3.** b. *ten* c. 10.

**Q4.** b. yes c. same.

**Q5.** b. same c. both groups count to 5; matching leaves nothing over.

**Q6.** a. 8 b. 8 c. same.

**Q7.** b. 7, 3 c. the top plate d. 7 is a bigger count than 3.

**Q8.** b. the left side c. 4 is a smaller count than 6.

**Q9.** b. no c. the right side.

**Q10.** b. 4, 7, 2 c. the group of 7 d. the group of 2.

**Q11.** a. 5 b. 8 c. Alex d. 8 is a bigger count than 5.

**Q12.** a. 4 b. 6 c. Priya d. Sam.

**Q13.** a. any group of 5 to 10 counters b. a group of 4 counters c. any group of 1 to 3 counters.

**Q14.** b. the tower of 9 c. 9 is a bigger count than 6.

**Q15.** a. no b. one, two, three, four, five, six c. there are 6 blocks, and each block is counted only once.

**Q16.** b. 10 c. same.

**Q17.** b. the full ten-frame c. no.

**Q18.** a. 10 b. 8 c. no d. 8 is less than 10; after one cup goes on each chair, 2 chairs have no cup.

## Fully-worked solutions

**Q1.**

Six bananas in a line.

*Six bananas in a line.*

Touch the bananas and count: one, two, three, four, five, six. The last word is six.

∴ There are 6 bananas.

**Q2.**

Nine oranges in a group.

*Nine oranges in a group.*

Touch the oranges and count: one, two, three, four, five, six, seven, eight, nine. The last number counted answers the question *How many?*

∴ There are 9 oranges.

**Q3.**

Ten apples on a ten-frame, in two rows of five.

*Ten apples on a ten-frame, in two rows of five.*

Touch the apples and count: one, two, three, four, five, six, seven, eight, nine, ten. The last word is ten.

∴ There are 10 apples.

**Q4.**

Seven cups in a line. Seven spoons in a line underneath.

*Seven cups in a line. Seven spoons in a line underneath.*

Put one spoon with each cup: one, two, three, four, five, six, seven. Every cup gets a spoon. Nothing is left over.

∴ Yes, every cup gets a spoon. The spoons and the cups are the same.

**Q5.**

Five blue blocks in a group on the left. Five blue blocks in a group on the right.

*Five blue blocks in a group on the left. Five blue blocks in a group on the right.*

Count each group: one, two, three, four, five. Both groups count to 5. Match the blocks one for each: nothing is left over.

∴ The groups are the same. We know because both groups count to 5, and matching leaves nothing over.

**Q6.**

Eight pineapples in a group on the left. Eight pineapples in a line on the right.

*Eight pineapples in a group on the left. Eight pineapples in a line on the right.*

Count the pineapples in the group: one, two, three, four, five, six, seven, eight — 8. Count the pineapples in the line: one, two, three, four, five, six, seven, eight — 8. Both counts are 8.

∴ The group and the line are the same (VC2MFDN03.E01).

**Q7.**

Seven biscuits on the top plate. Three biscuits on the bottom plate.

*Seven biscuits on the top plate. Three biscuits on the bottom plate.*

Count the top plate: one, two, three, four, five, six, seven — 7. Count the bottom plate: one, two, three — 3. Match the biscuits one for each: the top plate has biscuits left over.

∴ The top plate has more. We know because 7 is a bigger count than 3, and there are biscuits left over after matching.

**Q8.**

Four hats on the left. Six hats on the right.

*Four hats on the left. Six hats on the right.*

Count the left side: one, two, three, four — 4. Count the right side: one, two, three, four, five, six — 6. Match the hats one for each: the right side has hats left over, so the left side has less.

∴ The left side has less. We know because 4 is a smaller count than 6.

**Q9.**

Six socks on the left. Nine socks on the right.

*Six socks on the left. Nine socks on the right.*

Count the left side: one, two, three, four, five, six — 6. Count the right side: one, two, three, four, five, six, seven, eight, nine — 9. The counts are not the same.

∴ No, they are not the same. The right side has more.

**Q10.**

A group of 4 marbles, a group of 7 marbles, and a group of 2 marbles.

*A group of 4 marbles, a group of 7 marbles, and a group of 2 marbles.*

Count each group: 4, 7 and 2. Compare the counts: 7 is the biggest count, and 2 is the smallest count.

∴ The group of 7 has more than the other two. The group of 2 has less than the other two.

**Q11.**

Sam's 5 cards on the left. Alex's 8 cards on the right.

*Sam's 5 cards on the left. Alex's 8 cards on the right.*

Count Sam's cards: one, two, three, four, five — 5. Count Alex's cards: one, two, three, four, five, six, seven, eight — 8. Match the cards one for each: Alex has cards left over.

∴ Alex has more. We know because 8 is a bigger count than 5.

**Q12.**

Sam's 4 pairs on the left. Priya's 6 pairs on the right.

*Sam's 4 pairs on the left. Priya's 6 pairs on the right.*

Count Sam's pairs: one, two, three, four — 4 pairs. Count Priya's pairs: one, two, three, four, five, six — 6 pairs.

∴ Priya has more. Sam has less (VC2MFDN03.E04).

**Q13.**

The teacher shows 4 counters.

- More than 4: a group of 5, 6, 7, 8, 9 or 10 counters.
- The same as 4: a group of 4 counters. Match them one for each to check.
- Less than 4: a group of 1, 2 or 3 counters.

∴ More is a bigger count than 4, same is 4, and less is a smaller count than 4.

**Q14.**

A tower of 9 blocks next to a tower of 6 blocks.

*A tower of 9 blocks next to a tower of 6 blocks.*

Count the tall tower: one, two, three, four, five, six, seven, eight, nine — 9. Count the short tower: one, two, three, four, five, six — 6.

∴ The tower of 9 blocks has more. We know because 9 is a bigger count than 6.

**Q15.**

Six blocks in a line.

*Six blocks in a line.*

The teacher said seven number words, but there are 6 blocks. Each block is counted only once, so one block was counted twice. Count the blocks: one, two, three, four, five, six.

∴ No, the count is not right. There are 6 blocks. We know because each block gets one number word, and the last word is six.

**Q16.**

An empty ten-frame with 10 spots.

*An empty ten-frame with 10 spots.*



Put one counter on each spot. Count the counters: one, two, three, four, five, six, seven, eight, nine, ten — 10 counters for 10 spots.

∴ 10 counters. The counters and the spots are the same — one for each, with nothing left over.

**Q17.**

A ten-frame with 7 counters on the left. A full ten-frame with 10 counters on the right.

*A ten-frame with 7 counters on the left. A full ten-frame with 10 counters on the right.*

Count the left ten-frame: one, two, three, four, five, six, seven — 7. Count the right ten-frame: one, two, three, four, five, six, seven, eight, nine, ten — 10. The full ten-frame has counters in every spot.

∴ The full ten-frame has more. They are not the same.

**Q18.**

Ten chairs in a line. Eight cups on a table next to them.

*Ten chairs in a line. Eight cups on a table next to them.*

Count the chairs: one, two, three, four, five, six, seven, eight, nine, ten — 10. Count the cups: one, two, three, four, five, six, seven, eight — 8. Put one cup on each chair. After 8 cups are placed, 2 chairs have no cup.

∴ No, there are not enough cups. We know because 8 is less than 10, and there are chairs left over after matching.

## Observation for assessment — this subtopic's part of Checkpoint 1

Checkpoint 1 assesses subtopics 1A–1D, one-to-one, with counters, ten-frames, dot cards and number cards, across multiple occasions. The part below is this subtopic's contribution: VC2MFDN03, 4 marks, scored separately. It is an observed task with materials on the table, not a written task and not a timed task. The digital MCQ layer keyed to VC2MFDN03 is separate and is not this assessment.

### Teacher script.

1. Put out a group of 8 counters. *Say: Count them. How many are there?*
2. Put out two groups: 7 counters and 4 counters. *Say: Which group has more? How do you know?*
3. Put out two groups: 6 counters and 6 counters, one group bunched and one in a line. *Say: Are they the same? Show me how you know.*
4. Put out three groups: 5, 9 and 3 counters. *Say: Which group has more than the others? Which has less?*

Deliver every prompt in the student's own communication modality. Accept speech, sign, pointing, eye gaze, placing or moving the counters, or a message on a communication device. Repeat on at least three separate occasions and record the best sustained response.

### Rubric — 4 marks, in the language of the achievement standard.

| Mark | Look for                                                                                                                                                            | Source of the language                                                                                                                                                          |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | The student counts a collection of up to 10, one number word per item, and the last number says how many.                                                           | <i>"They use counting strategies to quantify collections to at least 10"</i> — achievement standard extract carried on VC2MFDN03                                                |
| 2    | The student says or shows which of two collections is more, or that they are the same, for collections up to 10.                                                    | <i>"Students compare the size of collections to at least 10."</i> — Level D achievement standard sentence owned by this subtopic per D8 of TOC.md                               |
| 3    | The student matches items one for each, or counts each item once; matching or counting is used to check the comparison.                                             | <i>"using one-to-one correspondence to determine that groups of objects are the same"</i> — VC2MFDN03.E01; <i>"each object in a group is counted only once"</i> — VC2MFDN03.E02 |
| 4    | The student explains or demonstrates how they know — points to leftovers, gives the two counts, or matches the groups. The strategy is scored, not only the answer. | <i>"explain or demonstrate reasoning"</i> — VC2MFDN03                                                                                                                           |

### Scoring notes.

- A single observation is not evidence. Score the best sustained response across at least three occasions.
- Assisted and partial responses are scored, not zeroed: hand-over-hand, co-active movement, eye gaze and aided communication are legitimate observed responses at this level.
- The achievement standard extract carried on VC2MFDN03 in the authority file continues *"...and subitise to quantify collections to 4."* That subitising clause belongs to subtopic 1B (VC2MFDN02), which shares the same extract, and is scored there, not here. The comparison sentence scored at mark 2 is the one assigned to this subtopic in D8 of TOC.md.

## Part–part–whole: partitioning and combining collections up to 10

*Every instruction in this section is delivered in the student’s own communication modality — spoken language, sign, AAC device, picture exchange, eye-gaze or a combination. The student does not read anything. The mathematics is carried in the materials, the pictures and the teacher’s words — never in prose the student must decode.*

*partition and combine collections up to 10 and find the changed value using counting strategies —*  
VC2MFDN04, Victorian Curriculum Mathematics F–10 Version 2.0 (VCAA), Foundation Level D

**Achievement standard extract (Foundation Level D):** “*They partition and combine collections up to 10 in different ways.*”

All curriculum text in this section — the content description, the achievement standard extract and every elaboration quotation — is quoted verbatim from the authority file `maths_AD.json`.

**Range:** every collection in this section is up to 10. That ceiling is set by the CD and is not to be raised — part–part–whole at larger ranges belongs to the Foundation book, not this one.

**Elaboration ids carried for MCQ, short-answer and coverage linkage:** VC2MFDN04.E01, VC2MFDN04.E02, VC2MFDN04.E03, VC2MFDN04.E04. The elaborations are VCAA’s illustrations of the CD, not a syllabus: this section is taught from the content description above, not as a walk through E01, E02, E03, E04.

### What this section teaches (teacher notes)

One collection — the **whole** — can be split into two **parts**, and two parts can be put together to make the whole again. That is the part–part–whole relationship. In this section the student:

- **partitions** a collection of up to 10 into two parts — *partition* means to split the whole into parts — and does it in different ways
- **combines** two parts — *combine* means to put the parts together — and counts to find the whole
- finds the **changed value** when one is added to a collection or one is taken away, using counting strategies: counting all, counting on from the larger number, and counting back

Recording is with numerals. There are no number sentences at Level D: the student is never asked to write  $+$ ,  $-$  or  $=$ . Spoken, signed or aided language carries the relationship instead: *Six is 4 and 2 more. It’s 2 and 4.*

**Builds on:** 1A (numerals and number words to 10; *one more* and *one less* is the conceptual bridge into this section), 1B (seeing how many, up to 4, without counting — used here as a tool for seeing parts inside a whole), and 1C (counting collections to 10).

**Hands forward to:** the Foundation book, where part–part–whole continues to 10 and then to 20 (VC2MFN04). Nothing beyond that is taught here.

### Materials

Set out before the session starts:

- counters — at least 10, in two sizes and two textures where possible (smooth and grippy)
- a part–part–whole mat: one space for the **whole** and two spaces for the **parts** (a plain sheet with three marked spaces works)
- two small bowls, plates or cups
- ten-frame cards and counters to fill them
- a number line 0–10 and a counting chart 0–10
- numeral cards 0–10
- dice (faces 1–6) and dominoes
- dot cards showing 1–10 dots in standard arrangements

**Design notes, applied to every activity here:** materials are offered in more than one size and texture; nothing requires a precise grip — pushing counters into a bowl replaces picking up and placing wherever that helps; every

pointing response has an eye-gaze version (the student looks at the part, the card or the numeral, and the teacher names what was chosen); every spoken response has a sign, picture-card or AAC version. Participation in a modelled activity is a response, not a warm-up.

## Teaching sequence (teacher script)

Deliver each step in the student's modality. The words in quotes are the student-facing script — short, concrete, present tense. Keep the numeral cards in view and pair each number word with its numeral. In the teacher notes, *partition* and *combine* are the curriculum's own words; the words the student hears are *split* and *put together*.

### Step 1 — the whole and its parts

Set up: 6 counters on the whole space of the mat.

SAY: *"Here are some counters. Touch them with me. Count: one, two, three, four, five, six. Six counters. Six is the whole."*

DO: slide 4 counters into one part space and 2 into the other.

SAY: *"Now the six are in two parts. Count this part: one, two, three, four. Count that part: one, two. The parts make the whole. Four and two make six."*

WATCH: does the student give one touch (or one gaze) per counter while counting? Does the student accept that the two parts are still the six?

### Step 2 — the same whole, different parts

Set up: the same 6 counters back on the whole space.

SAY: *"Six again. Let's make six a different way."*

DO: partition into 3 and 3.

SAY: *"Three and three make six. Six is 3 and 3."*

DO: partition into 5 and 1.

SAY: *"Five and one make six. Six can be 4 and 2. Six can be 3 and 3. Six can be 5 and 1. Different parts — the same whole."*

WATCH: can the student partition the six a second way, with or without help? Any split is accepted at first. A split made hand-over-hand still counts.

### Step 3 — put the parts back together

Set up: 5 counters in one bowl, 3 in the other.

SAY: *"Count the counters here: one, two, three, four, five. Count the counters there: one, two, three. Put them together. Count all: one, two, three, four, five, six, seven, eight. Eight counters. Five and three make eight."*

WATCH: counting all is the first combining strategy. Counting on from the larger number comes in Step 5.

### Step 4 — one more, one less: the value changes

Set up: 7 counters in a row.

SAY: *"Count: one, two, three, four, five, six, seven. Seven."*

DO: add one counter.

SAY: *"I put one more. Count again: one, two, three, four, five, six, seven, eight. Now there are eight. Seven and one more is eight."*

DO: take one counter away.

SAY: *“I take one away. Count again: one, two, three, four, five, six, seven. Back to seven.”*

WATCH: recounting all is a counting strategy for finding the changed value — VCAA’s first example is exactly this: *“counting all objects in a collection to find the value, then adding one to or taking one away from the collection and re-counting the collection to find the new total”* (VC2MFDN04.E01).

### Step 5 — counting on, counting back

Set up: a ten-frame with 6 counters.

SAY: *“Six on the frame. One more. Look at the frame: seven. Six and one more is seven.”*

Set up: the number line 0–10; finger, pointer or gaze on 8.

SAY: *“We are on eight. One less: go back one. Seven.”*

Set up: 5 counters here, 3 counters there.

SAY: *“Five counters and three counters. Start where it is more: five. Count on: six, seven, eight. Eight.”*

WATCH: counting on from the larger number and counting back are modelled and shared strategies. VCAA names *“experiencing and participating in modelled and shared counting strategies, including counting on from the larger number and counting back; for example, using concrete materials, number lines, ten-frames and counting charts to determine ‘one more’ and ‘one less’”* (VC2MFDN04.E02). Joining in — with a hand, a gaze, a word or a sign — is participation, and participation is evidence.

### Step 6 — dots: see the parts, say the whole

Set up: a dot card, or a die face, showing 4 dots.

SAY: *“Look. How many dots? ... Four. Can you see the parts? Two and two. Two and two make four.”*

Set up: a domino showing 2 dots and 3 dots.

SAY: *“This side: two. That side: three. Two and three make five. Five dots in all.”*

WATCH: this is the part–part–whole work on standard number configurations — *“identifying numbers represented by dots in standard number configurations such as on dominoes and dice by recognising parts that form the whole”* (VC2MFDN04.E03). Some students will see the small parts without counting: the subitising from 1B is the tool. Both counting and seeing are accepted.

## Worked examples

*Work these together. Use the materials, or look at the pictures. The teacher says the words; the student does, looks, says or signs.*

### Worked example 1 — six, in two ways

Six counters on the mat. Split the six into two parts, then split the six a different way.

| Working                                                                | Comment                      |
|------------------------------------------------------------------------|------------------------------|
| Count the whole: one, two, three, four, five, six.                     | Six is the whole.            |
| Slide 4 counters into one part and 2 into the other.                   | Count each part: 4 and 2.    |
| Say it: <i>Six is 4 and 2 more.</i> Or: <i>It’s 2 and 4.</i>           | The parts make the whole.    |
| Put the six back together. Slide 3 into one part and 3 into the other. | A different way: 3 and 3.    |
| Say it: <i>Six is 3 and 3.</i>                                         | Same whole, different parts. |

∴ Six is 4 and 2 more, and six is 3 and 3. Two ways to make six.

Six counters partitioned into 4 and 2 on a part–part–whole mat.

*Six counters partitioned into 4 and 2 on a part-part-whole mat.*

Six counters partitioned into 3 and 3 on a part-part-whole mat.

*Six counters partitioned into 3 and 3 on a part-part-whole mat.*

### Worked example 2 — put two parts together

Five blocks here. Three blocks there. How many blocks altogether?

| Working                                                                            | Comment                           |
|------------------------------------------------------------------------------------|-----------------------------------|
| Count this part: one, two, three, four, five.                                      | 5 blocks.                         |
| Count that part: one, two, three.                                                  | 3 blocks.                         |
| Put the parts together. Count all: one, two, three, four, five, six, seven, eight. | Counting all finds the whole.     |
| Or start at the bigger part — five — and count on: six, seven, eight.              | Counting on finds the same whole. |

∴ Five and three make eight. There are 8 blocks altogether.

Two groups of blocks, 5 and 3, pushed together to make 8.

*Two groups of blocks, 5 and 3, pushed together to make 8.*

### Worked example 3 — one comes, one goes

Seven beads in the cup. What happens when one comes, and when one goes?

| Working                                                   | Comment                        |
|-----------------------------------------------------------|--------------------------------|
| Count the beads: one, two, three, four, five, six, seven. | Start with 7.                  |
| Put one more in the cup. Count again: one to eight.       | The value changed — now 8.     |
| Take one away. Count again: one to seven.                 | The value changed — back to 7. |

∴ Seven and one more is eight. Eight take away one is seven. Counting again finds the new total.

Seven beads in a cup, one bead being added, making eight.

*Seven beads in a cup, one bead being added, making eight.*

### Practice tasks

*The teacher gives every task in the student's modality. The student says, signs, points, looks, places or uses their device. The teacher records the response on the line. A response with help — hand-over-hand, co-active movement, a partial physical prompt, a model — still counts. Nothing here is timed, and nothing requires the student to read or write.*

**Q1.** One more, count again.

Materials: 4 counters, 1 bowl.

SAY: "Count the counters with me." Count together. Then: "I put one more in. Count again. How many now?"

RESPOND: the student recounts and says, signs or shows the new total — a word, a numeral card, a gaze at a card.

Teacher records: \_\_\_\_\_

**Q2.** One away, count again.

Materials: 9 blocks in a row.

SAY: "Count the blocks." Count together. Then: "I take one away. Count again. How many now?"

Teacher records: \_\_\_\_\_

**Q3.** One more on the ten-frame.

A ten-frame with 6 counters, three and three.

*A ten-frame with 6 counters, three and three.*

Materials: the ten-frame above, numeral cards 6, 7 and 8.

SAY: “Six on the frame. One more. Show me the card.”

RESPOND: the student points to, looks at or places the card for the new total.

Teacher records: \_\_\_\_\_

**Q4.** One less on the number line.

A number line from 0 to 10, with a dot on 8.

*A number line from 0 to 10, with a dot on 8.*

SAY: “We are on eight. One less. Where do we go?”

RESPOND: the student points to, looks at or says the number one back.

Teacher records: \_\_\_\_\_

**Q5.** Count on from the bigger part.

Materials: 6 counters here, 2 counters there.

SAY: “Six and two. Start at six. Count on.” Model if needed: *six ... seven, eight. “How many altogether?”*

Teacher records: \_\_\_\_\_

**Q6.** Domino dots.

A domino showing 4 dots and 3 dots.

*A domino showing 4 dots and 3 dots.*

SAY: “Look at the domino. How many dots in all? What are the parts?”

Teacher records: \_\_\_\_\_ and \_\_\_\_\_; \_\_\_\_\_ dots in all.

**Q7.** Die dots.

A die face showing 6 dots.

*A die face showing 6 dots.*

SAY: “Look at the die. How many dots? Can you see parts?”

Accept counting and seeing. Model one way: *three and three.*

Teacher records: \_\_\_\_\_

**Q8.** Split six: 2 and 4.

Materials: 6 counters on the part–part–whole mat.

SAY: “Six counters. Split them: 2 here and 4 there.” Then: “Tell me about the six.”

RESPOND: any communication of the relationship — *Six is 4 and 2 more. It’s 2 and 4.* A point to both parts and the whole, a gaze pattern, an AAC phrase. Model the words if the student wants them.

Teacher records: \_\_\_\_\_

**Q9.** Split six a different way.

Materials: the same 6 counters, back on the whole space.

SAY: *“Six again. Split them a different way.”*

Accept any other split — 3 and 3, 5 and 1, 1 and 5.

Teacher records: \_\_\_\_ and \_\_\_\_

**Q10.** Ten, split into two parts.

A ten-frame full: 10 counters, seven in the top row and three in the bottom row.

*A ten-frame full: 10 counters, seven in the top row and three in the bottom row.*

SAY: *“Ten counters on the frame. Seven here. How many there?”*

Teacher records: \_\_\_\_

**Q11.** Put two collections together.

Materials: 4 spoons and 5 spoons, two cups.

SAY: *“Count the spoons here. Count the spoons there. Put them together. How many now?”*

Teacher records: \_\_\_\_

**Q12.** Show me how you know.

Materials: 3 cups on the table, 1 cup in your hand.

SAY: *“Three cups on the table. I bring one more. How many now? Show me how you know.”*

RESPOND: any way of showing — counting all, a point to each cup, counting on from three. The strategy is the answer to attend to.

Teacher records: \_\_\_\_



## Answers

**Q1.** 5.

**Q2.** 8.

**Q3.** 7.

**Q4.** 7.

**Q5.** 8.

**Q6.** Parts 4 and 3; 7 dots in all.

**Q7.** 6 dots; for example 3 and 3, or 4 and 2.

**Q8.** *Six is 4 and 2 more.* Or: *It's 2 and 4.* Any communication of the two parts and the whole is accepted.

**Q9.** For example 3 and 3, or 5 and 1. Any split of 6 that is not 2 and 4.

**Q10.** 3.

**Q11.** 9.

**Q12.** 4.

## Fully-worked solutions

**Q1.**

Count the 4 counters: one, two, three, four. One more goes in. Count again: one, two, three, four, five. The last word is five.

$\therefore$  4 counters and one more: the new total is 5.

**Q2.**

Count the 9 blocks: one to nine. One is taken away. Count again: one to eight. The last word is eight.

$\therefore$  9 blocks take away one: the new total is 8.

**Q3.**

The ten-frame shows 6. One more counter makes 7. The frame has 7 filled and 3 empty spaces.

$\therefore$  The card is 7.

**Q4.**

On the number line, the dot is on 8. One less means go back one: 8, then 7.

$\therefore$  We go to 7.

**Q5.**

The parts are 6 and 2. Start at the bigger part, six. Count on: seven, eight. Two words counted on.

$\therefore$  Six and two make 8 altogether.

**Q6.**

One side of the domino shows 4 dots. The other side shows 3 dots. Count all the dots: one, two, three, four, five, six, seven. Or see the parts: 4 and 3 make 7.

$\therefore$  The parts are 4 and 3; there are 7 dots in all.

### Q7.

The die face shows 6 dots. See the parts: three and three, or four and two. Count all to check: one to six.

∴ 6 dots — 3 and 3, or 4 and 2.

### Q8.

The six counters are split into 2 and 4. Count each part: two; four. Count the whole: one to six. The parts make the whole.

∴ *Six is 4 and 2 more. Or: It's 2 and 4.*

### Q9.

The six counters go back together, then are split again. One different way: 3 and 3. Another: 5 and 1. Count each part to check; count the whole to check it is still six.

∴ A different way to make six: 3 and 3, or 5 and 1.

### Q10.

The ten-frame is full: 10 counters. Seven are in one row. Count the rest: one, two, three.

∴ Ten is 7 and 3. There are 3 in the other row.

### Q11.

Count the spoons in the first cup: one, two, three, four. Count the spoons in the second cup: one, two, three, four, five. Put them together. Count all: one to nine.

∴ Four spoons and five spoons make 9 spoons altogether.

### Q12.

Three cups on the table. One more comes. Count all: one, two, three, four. Or count on from three: four.

∴ There are 4 cups now. Counting all, or counting on, shows how.

## Observed checkpoint task — CP1, the VC2MFDN04 part (4 marks)

Chapter checkpoint CP1 observes the four Chapter 1 CDs one-to-one, with counters, ten-frames, dot cards and number cards, across multiple occasions. This is the VC2MFDN04 part. Run it as its own short session, on **at least three separate occasions** — response at this level varies with fatigue, sensory load, pain, medication and whether the student's communication system is to hand. The recorded judgement is the student's **best sustained** response across the occasions: not an average, not the most recent. Nothing is timed. There is no written response — the teacher records.

### Script

Materials: 6 counters, a part-part-whole mat (or two bowls), a ten-frame, dot cards (a die face showing 4 dots; a domino showing 2 and 3), numeral cards 0–10.

SAY: "*Here are six counters. Split them into two parts.*" Observe. Then: "*Put them back together. Split the six a different way.*" Observe.

SAY: "*Four counters here. Two counters there. How many altogether?*" Accept counting all or counting on. Observe.

SAY: "*Six on the ten-frame. One more. How many now?*" Observe.

SAY: "*Tell me about the parts.*" Accept any modality — words, sign, AAC, picture card, a point or a gaze pattern across the parts and the whole. Model *Six is 4 and 2 more* if the student wants a model. Observe.

**Scoring — 4 marks, each scored on its own.** The rubric wording follows the achievement standard extract: “*They partition and combine collections up to 10 in different ways.*”

| Mark | Observe                                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | The student partitions a collection of up to 10 into two parts — the 6 counters into 4 and 2                                                        |
| 1    | The student partitions the same collection in a different way — the 6 into 3 and 3, or 5 and 1                                                      |
| 1    | The student combines the parts, or counts on, to find the whole; finds the changed value when one more is added to the ten-frame                    |
| 1    | The student communicates a part–part–whole relationship in their own modality — <i>Six is 4 and 2 more</i> , a point, a gaze pattern, an AAC phrase |

**Assisted and partial responses are scored, not zeroed.** Hand-over-hand, co-active movement, a partial physical prompt, eye-gaze and aided communication are legitimate observed responses at Level D. VCAA’s own elaboration frames the work as “*experiencing and participating in modelled and shared counting strategies*” (VC2MFDN04.E02) — the experiencing and the participating are the evidence. A rubric that scores only independent performance has failed the achievement standard. Vary the materials across occasions (counters one day, beads another) so the judgement is about the mathematics, not one familiar set of objects.

### Where this section sits

- **Before it:** 1A numbers to 10 with *one more* and *one less*; 1B seeing how many, up to 4, without counting; 1C counting and comparing to 10.
- **After it, in this book:** Chapter 2 acts out adding, taking away and sharing situations with these counting tools.
- **Beyond this book:** the Foundation book takes part–part–whole to 10 and then to 20 (VC2MFN04). This section’s job is to hand a student over who partitions and combines collections up to 10, in different ways, and can say or show it.



# Checkpoint 1 (CP1) — Chapter 1: Number — how many?

Mathematics Towards Foundation D · ClassBasics workbook · Level D

*Observation checkpoint — one-to-one, with counters, ten-frames, dot cards and number cards. The teacher reads, signs or presents everything on these pages in the student's own communication way. The student reads nothing, writes nothing and is never required to speak.*

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## Instrument information

**Instrument**

Checkpoint 1 (CP1) — Chapter 1 assessment

**Book and band**

ClassBasics *Mathematics Towards Foundation D* (book code BK\_MathsADD) — Foundation Level D, the exit level of the Towards Foundation continuum. Level D is a progression level, not a year level; no age is implied anywhere in this instrument.

**Chapter coverage**

Chapter 1 — Number: how many? Naming, subitising, counting and partitioning (sections 1A–1D)

**Content descriptions assessed**

VC2MFDN01 (1A), VC2MFDN02 (1B), VC2MFDN03 (1C), VC2MFDN04 (1D) — each scored separately, 4 marks per content description

**Marks**

**16** — 4 marks per owned content description

**Structure**

Four 1-mark items for VC2MFDN01; four 1-mark items for VC2MFDN02; one observed task scored on a 4-mark rubric for VC2MFDN03; one observed task with four separately scored marks for VC2MFDN04

**Format**

Observed, one-to-one, with counters, ten-frames, dot cards and number cards on the desk, inside ordinary classroom routine

**Timing**

**Untimed.** A guidance duration for planning is about 10 minutes per occasion, spread across the week. This is never a limit on the student.

**Occasions**

Evidence is gathered across **at least three separate occasions**. The recorded mark is the student's **best sustained** response — not an average and not the most recent occasion.

**Permitted materials**

The materials lists below, and the student's own communication system. No worksheets, no written responses, no calculator — none are needed or used. There are no multiple-choice items in this instrument; the MCQ bank keyed to these content descriptions belongs to the digital question layer.

**Recording**

Record every occasion on the CP1 recording sheet: MathsADD\_CP1\_Rubric.md. The recording space for this checkpoint is that sheet.

## Conditions

- **All instructions are delivered in the student's own communication modality** — spoken language, sign, AAC device, picture exchange, eye-gaze, or a combination. No task depends on the student reading anything.
- **No task requires speech or writing.** Every task accepts any response channel: a look, a gaze, a reach, a point, a placed object, a vocalisation, a sign, a picture, a word on the device, or a movement. A response in any channel is a response.

- **Assisted and partial responses are scored, never zeroed.** Hand-over-hand, partial physical prompt, co-active movement, eye-gaze and aided communication (AAC device, picture exchange, sign) are legitimate observed responses at Level D. A response given with support is a response.
  - **The student's communication system is to hand and in reach** on every occasion. If it is not, note that on the recording sheet — it is part of the evidence, not a detail.
  - **This is a school-designed assessment instrument.** It is written by the school for its own students against the Victorian Curriculum F–10 Mathematics Version 2.0 content descriptions named above. It is not a VCAA instrument and has not been reviewed or endorsed by VCAA.
  - Whole pages may be removed from the printed booklet for distribution, provided only whole pages are removed.
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## Teacher guidance — before you begin

CP1 gathers the evidence Chapter 1 has been building: naming, representing and ordering numbers zero to 10 (1A, VC2MFDN01); seeing how many, up to 4, without counting (1B, VC2MFDN02); counting and comparing collections to 10, with reasoning (1C, VC2MFDN03); and partitioning and combining collections up to 10 (1D, VC2MFDN04).

The items below are the same shape as the section observation tasks. Run them one-to-one, when the student is rested, on at least three separate occasions. Vary the materials across occasions — counters one day, blocks another, the tablet ten-frame on a third — so the judgement is about the mathematics, not one familiar set of objects. What the student does on one day is noted, not judged; the judgement is the best sustained response across the occasions.

**What CP1 never asks.** No number sentences, no +, – or = written by the student, no vertical algorithms, no timed element. Ranges are set per content description and are not interchangeable: zero to at least 10 for VC2MFDN01, up to 4 for the subitising in VC2MFDN02, to at least 10 for VC2MFDN03, up to 10 for VC2MFDN04. “To at least 10” sets a floor, not a ceiling: if a student counts, orders or names numbers past 10, let them, and record it.

**What counts as a response.** A look that stays, a gaze, a reach, a point, a placed object, a switch press, an AAC selection, a sign, a vocalisation, a word. Assisted and partial responses count: hand-over-hand, co-active movement, a partial physical prompt, eye-gaze. Record the support you gave; the rubric scores it.

**Support ladder.** For every prompt: wait first — several seconds is not too long. Then gesture towards the materials. Then hand-over-hand or full modelling. Record which step the response came at.

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## Part A — VC2MFDN01 · numbers zero to 10: naming, representing and ordering · 4 marks

**Assessed content description:** VC2MFDN01 — *name, represent and order numbers including zero to at least 10, using physical and virtual materials and numerals* (quoted verbatim from `maths_AD.json`). **Section:** 1A. **Marks:** 4 — one mark per item, each item scored separately.

Shared materials for Part A: numeral cards 0–10 (large, easy to hold; able to sit flat for a student who points to or gazes at them); counters in more than one size and texture; beanbags, pencils and a box; the number line 0–10; three familiar objects for Item A4; the student's communication system, to hand.

### Item A1 — number names and numerals (1 mark)

Script: [Place numeral cards 3, 7 and 0 in front of the student.] Say: “Show me three.” [Wait for the answer: point, gaze, hand, device, sign or word.] Say: “Show me seven.” [Wait.] Say: “Show me zero.” [Wait.] For a student who says or signs number words, also hold up each card and ask: “What is this number?”

Award the mark when the student matches all three numerals to their number names, in any modality, with or without assistance.

## Item A2 — numerals and quantities, including zero (1 mark)

Script: [Count out 5 counters together.] Say: “How many?” [The student chooses the numeral card, or says or signs the word.] [Hold up the empty box.] Say: “How many in here?” [Wait for zero — the card 0, the word, or a shake of the head.] [Show the card 7.] Say: “Get me this many pencils.”

Award the mark when the student matches a counted quantity to its numeral and shows zero for no things, in any modality, with or without assistance. Zero is in scope for this content description; a Part A that starts at 1 has not assessed the whole CD.

## Item A3 — position in the sequence (1 mark)

Script: [Place numeral cards 4, 0 and 9 out of order.] Say: “Put the numbers in order.” [The student arranges them, points or gazes to show the order, or orders them with assistance.] Then: [Point to 6 on the number line.] Say: “One more than 6 is what?”

Award the mark when the student shows the order 0, 4, 9, in any modality, with or without assistance. The one-more ask is supporting evidence.

## Item A4 — ordinal position (1 mark)

Script: [Line up 3 familiar objects — a cup, a spoon and a pencil.] Say: “Which one is first?” [Wait.] Say: “Which one is second?” [Wait.] Say: “Which one is third?” [Wait.]

Award the mark when the student shows first, second and third, in any modality, with or without assistance.

## Response set — how the student can answer, Part A

- **Object or card choice:** pick up, push towards, point to or gaze at the named numeral card; arrange the cards; collect the pencils one by one.
  - **Gesture, eye-gaze, switch or AAC:** look and hold at a card, switch-select, or choose the numeral on the device.
  - **Speech or sign:** say or sign the number word or the ordinal word.
- 

## Part B — VC2MFDN02 · subitising: seeing how many, up to 4 · 4 marks

**Assessed content description:** VC2MFDN02 — *recognise and name the number of objects within a collection up to 4 using subitising* (quoted verbatim from `maths_AD.json`). Subitising is seeing how many there are without counting one by one; the term is defined here at first use, as the curriculum uses it without defining it. **Section:** 1B. **Marks:** 4 — one mark per item, each item scored separately.

Shared materials for Part B: dot cards with 1–4 dots in regular arrangements (line, square) and irregular arrangements (spread out); a ten-frame card with counters; 4 two-coloured counters; numeral cards 1–4 laid flat in front of the student as answer cards, or the same numerals on the student’s eye-gaze board or communication system.

**How to show a card.** Show each card for a short time — about 1 or 2 seconds — then hide it. A short show makes counting one by one hard to do, so a right answer is evidence of subitising. If the student counts, say “Good. Now let’s try to see it”, and show the card again. The 4-dot ceiling is the CD’s own: do not extend Part B past 4.

## Item B1 — regular arrangement (1 mark)

Materials: the dot card with 4 dots in a square; numeral cards 1–4.

Script: Show the card for about 2 seconds. Hide it. Say: “How many dots did you see?” Wait. The student answers in their way: says *four*, signs it, points to or looks at the numeral card 4, or selects 4 on their communication system.

Award the mark when the student quantifies the collection and communicates 4, in any modality, with or without assistance.

### Item B2 — irregular arrangement (1 mark)

Materials: the dot card with 4 dots spread out; numeral cards 1–4.

Script: Show the card for about 2 seconds. Hide it. Say: “How many dots did you see?” Wait. The dots sit in a different way from Item B1. The number is the same.

Award the mark as for Item B1. The arrangement changes; the number stays the same — that is the idea being observed.

### Item B3 — objects on a frame (1 mark)

Materials: the ten-frame card with 3 counters in the first 3 boxes; numeral cards 1–4. A real-object version is fine too: 3 bottle tops under a cloth, shown for a short time.

Script: Show the card for about 2 seconds. Hide it. Say: “How many counters did you see?” Wait.

Award the mark when the student communicates 3, in any modality, with or without assistance.

### Item B4 — subitising the parts (1 mark)

Materials: 4 two-coloured counters; numeral cards 1–4.

Script: Toss the 4 counters on the table. They land, for example, 3 red and 1 yellow. If the toss lands all one colour, say the number, then toss again. Say: “How many red?” Wait. The student sees the red counters without counting one by one.

Award the mark when the student communicates the number of one colour, in any modality, with or without assistance.

### Response set — how the student can answer, Part B

- **Card choice:** point to, pick up or gaze at the numeral card that shows how many.
  - **Gesture, eye-gaze, switch or AAC:** look and hold at a numeral card, switch-select, or choose the numeral on the device.
  - **Speech or sign:** say or sign the number word.
- 

## Part C — VC2MFDN03 · counting and comparing collections to 10, with reasoning · 4 marks

**Assessed content description:** VC2MFDN03 — *quantify and compare collections to at least 10 using counting, and explain or demonstrate reasoning* (quoted verbatim from `maths_AD.json`). **Section:** 1C. **Marks:** 4 — one observed task, scored on the 4-mark rubric below. The reasoning is part of the content description, so the strategy is scored, not only the answer.

Materials: counters in two sizes; two mats; numeral cards 1–10; the student’s communication system, to hand.

### Script

1. Put out a group of 8 counters. Say: “Count them. How many are there?”
2. Put out two groups: 7 counters and 4 counters. Say: “Which group has more? How do you know?”
3. Put out two groups: 6 counters and 6 counters, one group bunched and one in a line. Say: “Are they the same? Show me how you know.”
4. Put out three groups: 5, 9 and 3 counters. Say: “Which group has more than the others? Which has less?”

Deliver every prompt in the student’s own communication modality. Accept speech, sign, pointing, eye gaze, placing or moving the counters, or a message on a communication device.



## Rubric for Part C — in the language of the achievement standard

| Mark | Look for                                                                                                                                                            | Source of the language                                                                                                                                                          |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | The student counts a collection of up to 10, one number word per item, and the last number says how many.                                                           | <i>“They use counting strategies to quantify collections to at least 10”</i> — achievement standard extract carried on VC2MFDN03, quoted verbatim from maths_AD.json            |
| 2    | The student says or shows which of two collections is more, or that they are the same, for collections up to 10.                                                    | <i>“Students compare the size of collections to at least 10.”</i> — Level D achievement standard sentence owned by this subtopic per decision D8 of TOC.md                      |
| 3    | The student matches items one for each, or counts each item once; matching or counting is used to check the comparison.                                             | <i>“using one-to-one correspondence to determine that groups of objects are the same”</i> — VC2MFDN03.E01; <i>“each object in a group is counted only once”</i> — VC2MFDN03.E02 |
| 4    | The student explains or demonstrates how they know — points to leftovers, gives the two counts, or matches the groups. The strategy is scored, not only the answer. | <i>“explain or demonstrate reasoning”</i> — VC2MFDN03                                                                                                                           |

Scoring note: the achievement standard extract carried on VC2MFDN03 continues *“...and subitise to quantify collections to 4.”* That subitising clause belongs to Part B (VC2MFDN02), which shares the same extract, and is scored there, not here.

## Part D — VC2MFDN04 · part–part–whole: partitioning and combining up to 10 · 4 marks

**Assessed content description:** VC2MFDN04 — *partition and combine collections up to 10 and find the changed value using counting strategies* (quoted verbatim from maths\_AD.json). **Section:** 1D. **Marks:** 4 — one observed task with four separately scored marks.

Materials: 6 counters, a part–part–whole mat (or two bowls), a ten-frame, dot cards (a die face showing 4 dots; a domino showing 2 and 3), numeral cards 0–10; the student’s communication system, to hand.

### Script

Say: “Here are six counters. Split them into two parts.” Observe. Then: “Put them back together. Split the six a different way.” Observe.

Say: “Four counters here. Two counters there. How many altogether?” Accept counting all or counting on. Observe.

Say: “Six on the ten-frame. One more. How many now?” Observe.

Say: “Tell me about the parts.” Accept any modality — words, sign, AAC, picture card, a point or a gaze pattern across the parts and the whole. Model *Six is 4 and 2 more* if the student wants a model. Observe.

### The four separately scored marks for Part D

| Mark | Observe                                                                                      |
|------|----------------------------------------------------------------------------------------------|
| 1    | The student partitions a collection of up to 10 into two parts — the 6 counters into 4 and 2 |

| Mark | Observe                                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | The student partitions the same collection in a different way — the 6 into 3 and 3, or 5 and 1                                                      |
| 1    | The student combines the parts, or counts on, to find the whole; finds the changed value when one more is added to the ten-frame                    |
| 1    | The student communicates a part–part–whole relationship in their own modality — <i>Six is 4 and 2 more</i> , a point, a gaze pattern, an AAC phrase |

VCAA’s own elaboration frames this work as “*experiencing and participating in modelled and shared counting strategies*” (VC2MFDN04.E02) — the experiencing and the participating are the evidence. Assisted and partial responses are scored, not zeroed.

## After the third occasion

Transfer each mark from the recording sheet to the summary there: VC2MFDN01 /4, VC2MFDN02 /4, VC2MFDN03 /4, VC2MFDN04 /4 — checkpoint total /16. The rubric wording and the occasion record are on \_MathsADD\_CP1\_Rubric.md. Each of these content descriptions appears again in the end-of-level review (REV), worth 2 marks, before reporting against the Level D achievement standard.





# Checkpoint 1 (CP1) — Rubric and recording sheet

Mathematics Towards Foundation D · ClassBasics workbook · Level D

*Chapter 1 — Number: how many? This sheet is for the teacher to fill in. The student reads nothing and writes nothing here. Whole pages may be removed from the printed booklet for distribution, provided only whole pages are removed.*

|                               |                                                                                                                                                                                                                                                 |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Instrument                    | Checkpoint 1 (CP1) — scoring rubric and observation record                                                                                                                                                                                      |
| Book and band                 | ClassBasics <i>Mathematics Towards Foundation D</i> (BK_MathsADD) — Foundation Level D, Towards Foundation. A progression level, not a year level; no age implied.                                                                              |
| Content descriptions assessed | VC2MFDN01, VC2MFDN02, VC2MFDN03, VC2MFDN04 — each scored separately, 4 marks per content description                                                                                                                                            |
| Marks                         | 16                                                                                                                                                                                                                                              |
| Conditions                    | Observed, one-to-one, untimed; evidence across at least three separate occasions; the recorded marks are the student's best sustained response. School-designed assessment instrument, not a VCAA instrument; not reviewed or endorsed by VCAA. |

Student: \_\_\_\_\_ Communication system used: \_\_\_\_\_

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## The scoring model — the whole of the mark scheme

Each content description is scored out of 4, as separately scored observations (TOC §7: 4 marks per owned CD). Every mark is awarded or not awarded on the student's **best sustained** response across **at least three separate occasions**:

- **1 mark** — the observation described for that mark is seen, in any modality, **with or without assistance**. Assisted and partial responses score: hand-over-hand, partial physical prompt, co-active movement, eye-gaze and aided communication (AAC device, picture exchange, sign) are legitimate observed responses at Level D.
- **0 marks** — no observable response yet, across the occasions. This is not a failure. Record what was offered, keep teaching, then observe again.

### Rules that bind the judgement:

- A single observation is not evidence at Level D. Response varies with fatigue, seizure activity, medication, sensory load, pain, and whether the student's communication system is to hand.
  - The recorded judgement is the student's **best sustained** response — not an average, and not the most recent occasion.
  - Nothing is timed. Fatigue and sensory load are reasons to observe again, never reasons to mark down.
  - Vary the materials across occasions so the judgement is about the mathematics, not one familiar set of objects.
- 

## Record A — VC2MFDN01 · numbers zero to 10: naming, representing and ordering · 4 marks

**Content description** (quoted verbatim from `maths_AD.json`): “*name, represent and order numbers including zero to at least 10, using physical and virtual materials and numerals.*”

**Achievement standard extract carried on this CD** (quoted verbatim): “*students make connections between number names, numerals and position in the sequence of numbers from zero to at least 10.*”

| Item                                                    | Connection observed                             | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained | Mark |
|---------------------------------------------------------|-------------------------------------------------|------------|------------|------------|---------|----------------|------|
| A1 — number names and numerals (3, 7, 0)                | between number names and numerals               |            |            |            |         |                | /1   |
| A2 — numerals and quantities, including zero            | between numerals and quantities, including zero |            |            |            |         |                | /1   |
| A3 — position in the sequence (order 0, 4, 9; one more) | with position in the sequence of numbers        |            |            |            |         |                | /1   |
| A4 — ordinal position (first, second, third)            | with position in a sequence using ordinal words |            |            |            |         |                | /1   |

For each occasion, record: what the student indicated, in which modality, and the support given (none / partial / hand-over-hand). “To at least 10” sets a floor, not a ceiling: if the student names, counts or orders past 10, record it.

**Best sustained total for VC2MFDN01:** \_\_\_\_ / 4

## Record B — VC2MFDN02 · subitising: seeing how many, up to 4 · 4 marks

**Content description** (quoted verbatim from `maths_AD.json`): “*recognise and name the number of objects within a collection up to 4 using subitising.*”

**Achievement standard extract carried on this CD** (quoted verbatim): “*They use counting strategies to quantify collections to at least 10 and subitise to quantify collections to 4.*” This record scores the subitising clause of that sentence; the counting-to-10 clause is scored under Record C.

| Item                                       | Observation                                            | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained | Mark |
|--------------------------------------------|--------------------------------------------------------|------------|------------|------------|---------|----------------|------|
| B1 — 4 dots, regular arrangement (square)  | quantifies the collection to 4 by seeing, not counting |            |            |            |         |                | /1   |
| B2 — 4 dots, irregular arrangement (spread | same number, different arrangement                     |            |            |            |         |                | /1   |

| Item                                                              | Observation                           | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained | Mark |
|-------------------------------------------------------------------|---------------------------------------|------------|------------|------------|---------|----------------|------|
| out)                                                              |                                       |            |            |            |         |                |      |
| B3 — objects on a frame (3 counters on the ten-frame, brief show) | quantifies a collection on a frame    |            |            |            |         |                | /1   |
| B4 — subitising the parts (toss of 4 two-coloured counters)       | quantifies one colour of a tossed set |            |            |            |         |                | /1   |

For each occasion, record: the card or set shown, how long it was shown, what the student communicated, in which modality, and the support given. If the student counted one by one, record it; show the card again and record the second response.

**Best sustained total for VC2MFDN02:** \_\_\_\_ / 4

## Record C — VC2MFDN03 · counting and comparing collections to 10, with reasoning · 4 marks

**Content description** (quoted verbatim from `maths_AD.json`): “*quantify and compare collections to at least 10 using counting, and explain or demonstrate reasoning.*”

**Achievement standard extracts scored here** (quoted verbatim): “*They use counting strategies to quantify collections to at least 10*” — extract carried on VC2MFDN03; and “*Students compare the size of collections to at least 10.*” — the Level D achievement standard sentence owned by this subtopic per decision D8 of TOC.md. A rubric for this record that did not score comparison to 10 would leave that sentence unassessed; mark 2 below is that sentence.

One observed task (script steps 1–4 on the instrument page), scored on the four marks below. The strategy is scored, not only the answer.

| Mark | Look for                                                                                      | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained |
|------|-----------------------------------------------------------------------------------------------|------------|------------|------------|---------|----------------|
| 1    | Counts a collection of up to 10, one number word per item; the last number says how many      |            |            |            |         | /1             |
| 2    | Says or shows which of two collections is more, or that they are the same, for collections up |            |            |            |         | /1             |

| Mark | Look for                                                                                                         | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained |
|------|------------------------------------------------------------------------------------------------------------------|------------|------------|------------|---------|----------------|
| 3    | to 10<br>Matches items one for each, or counts each item once; uses matching or counting to check the comparison |            |            |            |         | /1             |
| 4    | Explains or demonstrates how they know — points to leftovers, gives the two counts, or matches the groups        |            |            |            |         | /1             |

For each occasion, record: the collections used, the student's count, the comparison words (*more, less, same*) in the student's own modality, the reason the student showed, and the support given.

**Best sustained total for VC2MFDN03:** \_\_\_\_ / 4

## Record D — VC2MFDN04 · part–part–whole: partitioning and combining up to 10 · 4 marks

**Content description** (quoted verbatim from `maths_AD.json`): “*partition and combine collections up to 10 and find the changed value using counting strategies.*”

**Achievement standard extract carried on this CD** (quoted verbatim): “*They partition and combine collections up to 10 in different ways.*”

One observed task (script on the instrument page), with four separately scored marks:

| Mark | Observe                                                                          | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained |
|------|----------------------------------------------------------------------------------|------------|------------|------------|---------|----------------|
| 1    | Partitions a collection of up to 10 into two parts — the 6 counters into 4 and 2 |            |            |            |         | /1             |
| 2    | Partitions the same collection in a different way — 3 and 3, or 5 and 1          |            |            |            |         | /1             |
| 3    | Combines the parts, or counts on, to find the                                    |            |            |            |         | /1             |



| Mark | Observe                                                                                                                                                                                   | Occasion 1 | Occasion 2 | Occasion 3 | Further | Best sustained |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|---------|----------------|
| 4    | <p>whole; finds the changed value when one more is added</p> <p>Communicate s a part–part–whole relationship<br/>— <i>Six is 4 and 2 more</i>, a point, a gaze pattern, an AAC phrase</p> |            |            |            |         | /1             |

For each occasion, record: the materials used, the partitions the student made, the strategy for combining (count all or count on), the student’s words or signs about the parts, and the support given.

**Best sustained total for VC2MFDN04:** \_\_\_\_ / 4

## Checkpoint 1 summary

| Content description                                                                                              | Section | Best sustained mark |
|------------------------------------------------------------------------------------------------------------------|---------|---------------------|
| VC2MFDN01 — name, represent and order numbers including zero to at least 10                                      | 1A      | ___ / 4             |
| VC2MFDN02 — recognise and name the number of objects within a collection up to 4 using subitising                | 1B      | ___ / 4             |
| VC2MFDN03 — quantify and compare collections to at least 10 using counting, and explain or demonstrate reasoning | 1C      | ___ / 4             |
| VC2MFDN04 — partition and combine collections up to 10 and find the changed value using counting strategies      | 1D      | ___ / 4             |
| <b>Checkpoint 1 total</b>                                                                                        |         | ___ / 16            |

Each of these content descriptions is assessed again, worth 2 marks, in the end-of-level review (REV) before reporting against the Level D achievement standard.

**Recorded by:** \_\_\_\_\_ **Date:** \_\_\_\_\_