

Mathematics Foundation

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

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1A — Numbers zero to 20: naming, representing and ordering

This is read with the teacher. The teacher reads all the words. The child looks, says and plays with things to touch. The child does not need to read.

name, represent and order numbers, including zero to at least 20, using physical and virtual materials and numerals — VC2MFN01

Theory

How many? Counting things

We count to see how many.

We can count things we can touch: blocks, balls, toys and cups. We can count things we can see.

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

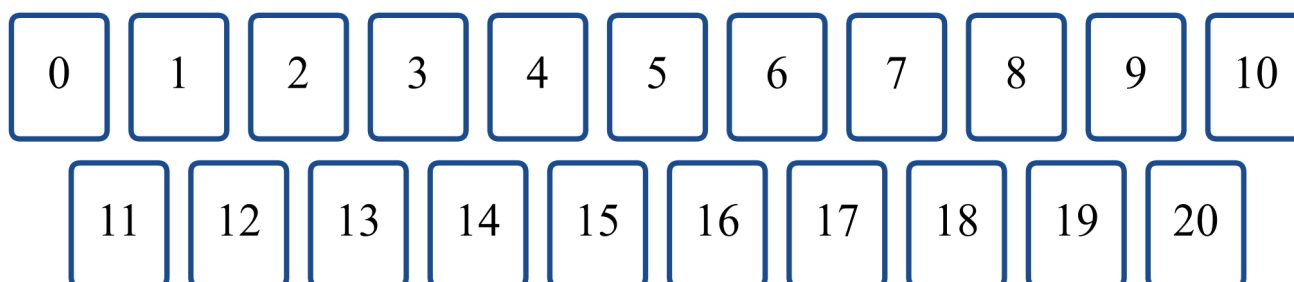
The last word you say is how many.

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

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 20:



Numeral cards from 0 to 20.

Numeral	Word	Numeral	Word
0	zero	11	eleven
1	one	12	twelve
2	two	13	thirteen
3	three	14	fourteen
4	four	15	fifteen
5	five	16	sixteen
6	six	17	seventeen
7	seven	18	eighteen
8	eight	19	nineteen
9	nine	20	twenty
10	ten		

We see numerals all the time: on doors, in books, on a bus.

We say *twelve* for the numeral 12. We say *zero* for the numeral 0.

Zero is for no things

Zero is a number. Zero is for no things.

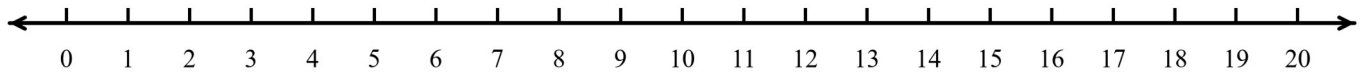
A box with no balls in it has zero balls.

Counting starts at zero. Zero is before 1.

Numbers are in order

Number words come in the same order all the time: 0, 1, 2, 3, and so on, to 20.

A number line puts the numbers in order:



A number line from 0 to 20.

As you count on, the numbers go up. 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.

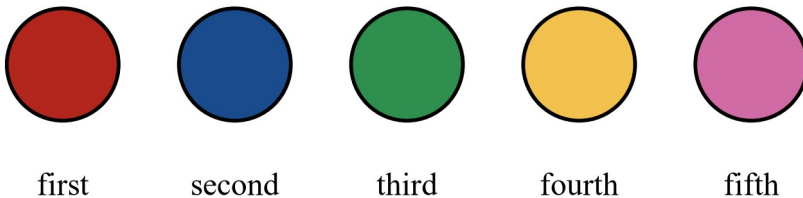
6 is between 5 and 7.

Counting songs help us with the order of the numbers. So do card games with numeral cards.

Position words

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

first, second, third, fourth, fifth



Five balls in a line: red, blue, green, yellow and pink, with the words first to fifth under them.

In this line:

- the red ball is **first**
- the blue ball is **second**
- the green ball is **third**
- the yellow ball is **fourth**
- the pink ball is **fifth**

The pink ball is **last**. The green ball is **between** the blue ball and the yellow ball. The blue ball is **after** the red ball. The green ball is **before** the yellow ball.

Counting games

Many games help children count and name numbers. Segur etug is a counting game of Aboriginal and Torres Strait Islander Peoples. It is from Mer Island in the Torres Strait (VC2MFN01.E05).

Worked examples

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

Worked example 1 — get the number I say

The teacher says *seven*. Get seven blocks.

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

∴ There are seven blocks. Seven blocks look like this:



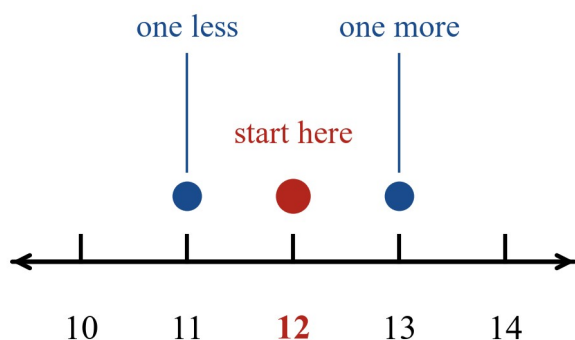
Seven blue blocks in a line.

Worked example 2 — one less and one more

What number is one less than 12? What number is one more than 12?

Working	Comment
Go to 12 on the number line.	Start at 0 and count on to 12.
Jump back one. You are on 11.	11 is one less than 12.
Jump on one. You are on 13.	13 is one more than 12.

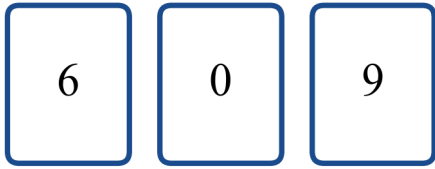
∴ One less than 12 is 11. One more than 12 is 13.



A number line from 10 to 14, with a dot on 12, one less on 11 and one more on 13.

Worked example 3 — read numerals and put the numbers in order

Three numeral cards:



Three numeral cards: 6, 0 and 9.

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

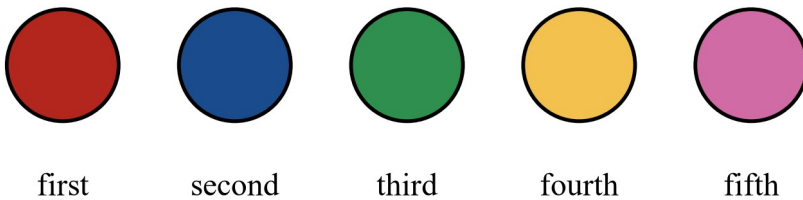
Read the cards: 6 is *six*, 0 is *zero*, 9 is *nine*. Zero is for no things.

Count on: 0 is first, after 0 is 6, after 6 is 9.

∴ In order: 0, 6, 9.

Worked example 4 — where in the line?

Five balls sit in a line.



Five balls in a line: red, blue, green, yellow and pink, with the words first to fifth under them.

Say where each ball is. Use position words.

The red ball is first. The blue ball is second. The green ball is third. The yellow ball is fourth. The pink ball is fifth.

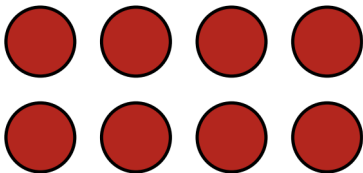
The pink ball is last. The green ball is between the blue ball and the yellow ball.

∴ First is red, second is blue, third is green, fourth is yellow, fifth is pink.

Practice questions

The teacher reads all the words. The child says or does the answer. The teacher puts the answer down.

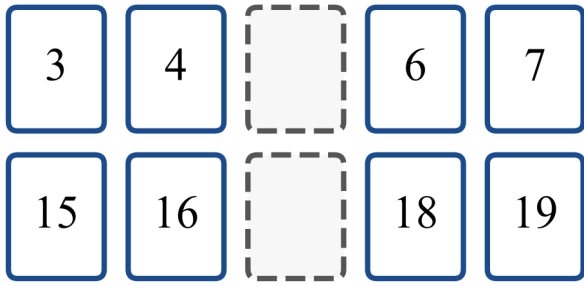
Q1. Count the dots.



Eight red dots, four and four.

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

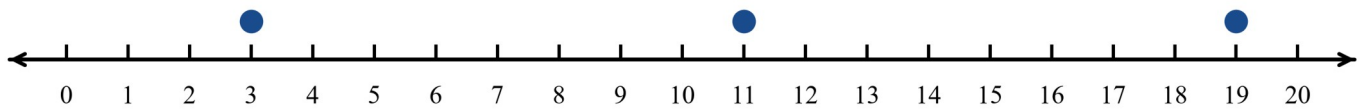
Q2. Two numeral cards are missing.



Numeral cards from 3 to 7 and from 15 to 19, with two missing cards.

- Say 3, 4, and go on. The first missing card is ____
- Say 15, 16, and go on. The second missing card is ____

Q3. Three dots sit on the number line.



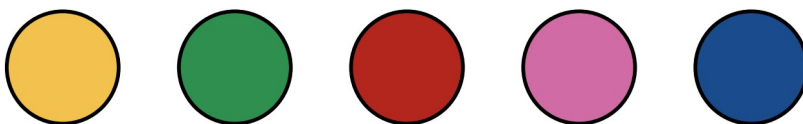
A number line from 0 to 20, with dots on 3, 11 and 19.

- The first dot is on 3. Say *three*.
- 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
9	_____	_____
15	_____	_____

Q5. Say the colours of the balls.

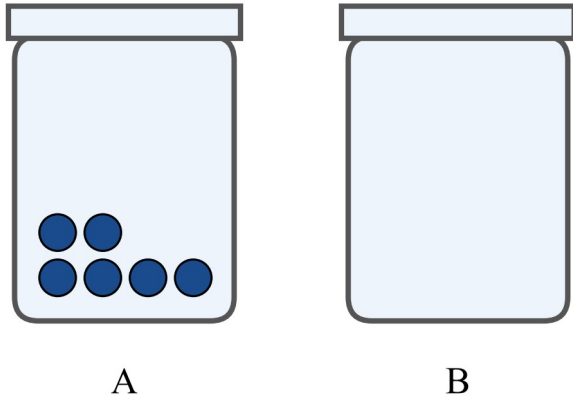


first second third fourth fifth

Five balls in a line: yellow, green, red, pink and blue, with the words first to fifth under them.

- The first ball is ____
- The third ball is ____
- The fifth ball is ____

Q6. Boxes and balls.



Two boxes. Box A has six balls. Box B has no balls in it.

- a. Count the balls in box A. There are ____
- b. Count the balls in box B. There are ____
- c. The numeral cards are 6 and 0. The card for box B is ____

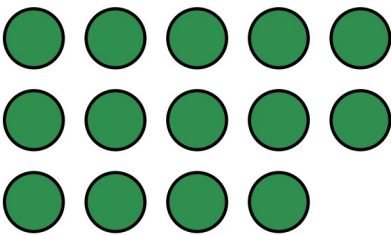
Q7. Say the numerals as words.

- a. 4 ____
- b. 12 ____
- c. 20 ____

Q8. Words to numerals.

- a. eight ____
- b. fifteen ____
- c. zero ____

Q9. Count the balls. How many are there?



Fourteen green balls, five, five and four.

Q10. The teacher says *eleven*. Get eleven balls. Count the balls one by one. Say how you can see there are eleven.

Q11. Use the number line.

- a. What number is between 7 and 9? ____
- b. What number is between 16 and 18? ____

Q12. Before, after, between.

- a. What number is before 10? ____
- b. What number is after 19? ____
- c. What number is between 13 and 15? ____

Q13. Five children are in a line.



Five children in a line: blue, red, yellow, green and pink.

- a. The second child is ____
- b. The fourth child is ____
- c. The child between the blue child and the yellow child is ____

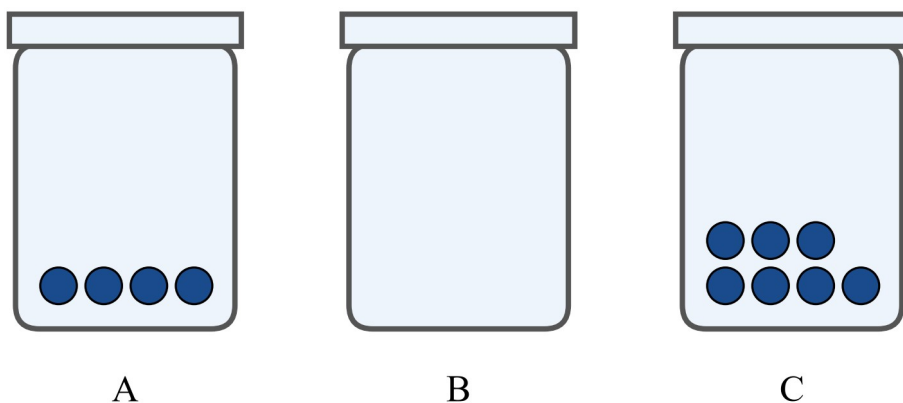
Q14. Put the numbers in order, smallest to biggest.

- a. 7, 2, 16 → ____
- b. 20, 9, 0 → ____

Q15. Fill in the missing numbers.

10, ____, 12, ____, 14, ____

Q16. Balls are in the boxes. The numeral cards are 0, 4 and 7. Say the card for each box.



Three boxes. Box A has four balls, box B has no balls in it, box C has seven balls.

Q17. Number games.

- a. I am after 18. I am before 20. What number am I? ____
- b. I am one more than 9. I am one less than 11. What number am I? ____

Q18. Sam says 12 is before 11. Is 12 before 11? Say how you can see.

Answers

Q1. b. *eight* c. 8.

Q2. a. 5 b. 17.

Q3. b. 11, *eleven*. c. 19, *nineteen*.

Q4. 9: one less is 8, one more is 10. 15: one less is 14, one more is 16.

Q5. a. yellow b. red c. blue.

Q6. a. 6 b. 0 c. 0.

Q7. a. four b. twelve c. twenty.

Q8. a. 8 b. 15 c. 0.

Q9. 14.

Q10. Eleven balls. Count the balls one by one: the last word is eleven.

Q11. a. 8 b. 17.

Q12. a. 9 b. 20 c. 14.

Q13. a. the red child b. the green child c. the red child.

Q14. a. 2, 7, 16 b. 0, 9, 20.

Q15. 11, 13, 15.

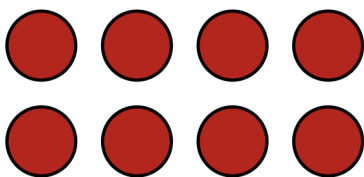
Q16. Box A is 4. Box B is 0. Box C is 7.

Q17. a. 19 b. 10.

Q18. No.

Fully-worked solutions

Q1.

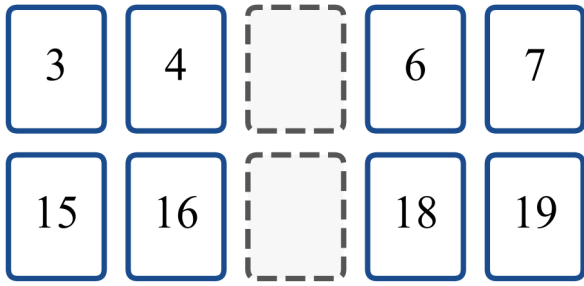


Eight red dots, four and four.

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

∴ There are 8 dots.

Q2.

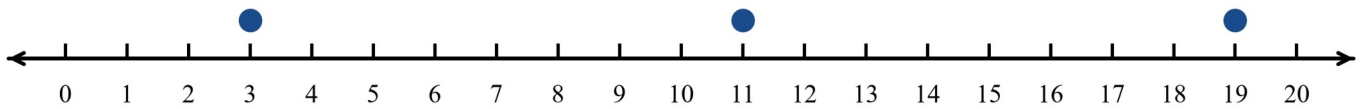


Numeral cards from 3 to 7 and from 15 to 19, with two missing cards.

- Say the cards in order: 3, 4, 5, 6, 7. The missing card is 5.
- Say the cards in order: 15, 16, 17, 18, 19. The missing card is 17.

∴ The missing cards are 5 and 17.

Q3.



A number line from 0 to 20, with dots on 3, 11 and 19.

- The first dot is on 3: *three*.
- The second dot is on 11: *eleven*.
- The third dot is on 19: *nineteen*.

∴ The dots are on 3, 11 and 19.

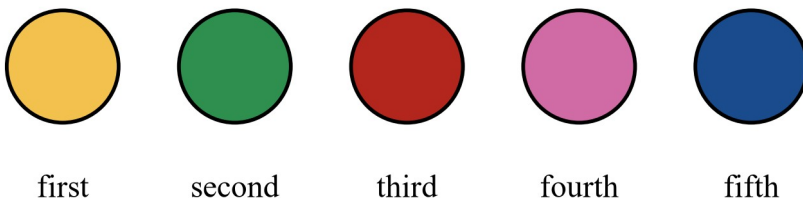
Q4.

Start at 9. Jump back one: 8. Jump on one: 10. Start at 15. Jump back one: 14. Jump on one: 16.

Number	One less	One more
9	8	10
15	14	16

∴ For 9: one less is 8, one more is 10. For 15: one less is 14, one more is 16.

Q5.

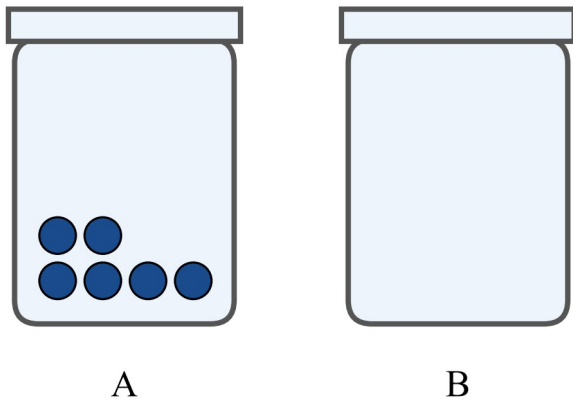


Five balls in a line: yellow, green, red, pink and blue, with the words first to fifth under them.

- The first ball is yellow.
- Count on: first is yellow, second is green, third is red.
- Count on to the end: fourth is pink, fifth is blue.

∴ First is yellow, third is red, fifth is blue.

Q6.



Two boxes. Box A has six balls. Box B has no balls in it.

- Count the balls in box A: one, two, three, four, five, six. There are 6.
- Box B has no balls in it. There are 0.
- Zero is for no things, so the card for box B is 0.

∴ Box A has 6, box B has 0, and box B goes with the card 0.

Q7.

- 4 is *four*.
- 12 is *twelve*.
- 20 is *twenty*.

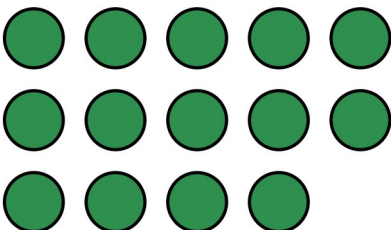
∴ The words are four, twelve, twenty.

Q8.

- Eight is 8.
- Fifteen is 15.
- Zero is 0.

∴ The numerals are 8, 15 and 0.

Q9.



Fourteen green balls, five, five and four.

Touch each ball and count: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen. The last word is fourteen.

∴ There are 14 balls.

Q10.

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

∴ There are eleven balls, and the count ends at eleven.

Q11.

- a. On the number line: 7, 8, 9. Between 7 and 9 is 8.
- b. On the number line: 16, 17, 18. Between 16 and 18 is 17.

∴ Between 7 and 9 is 8. Between 16 and 18 is 17.

Q12.

- a. Jump back one from 10: 9.
- b. Jump on one from 19: 20.
- c. 13, 14, 15. Between 13 and 15 is 14.

∴ Before 10 is 9. After 19 is 20. Between 13 and 15 is 14.

Q13.

Five children in a line: blue, red, yellow, green and pink.

- a. First is blue, second is red. The second child is the red child.
- b. Third is yellow, fourth is green. The fourth child is the green child.
- c. Between the blue child and the yellow child is the red child.

∴ Second is red, fourth is green, and between blue and yellow is red.

Q14.

- a. Count on: 2 is first, after 2 is 7, after 7 is 16.
- b. Zero is for no things, so 0 is first. After 0 is 9. After 9 is 20.

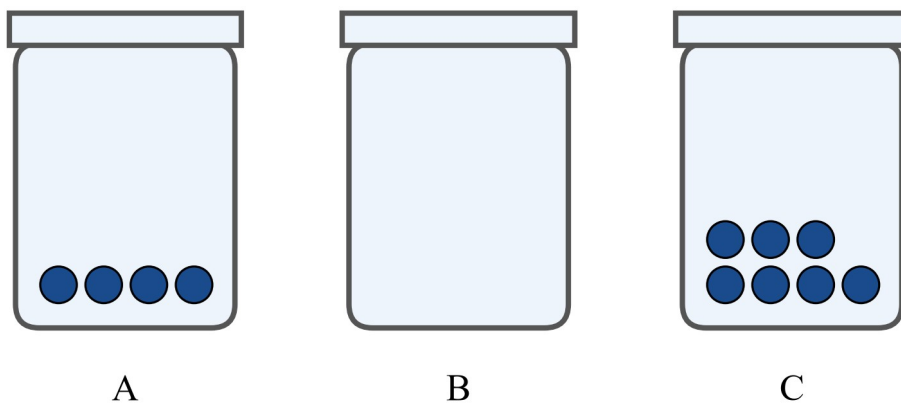
∴ a. 2, 7, 16. b. 0, 9, 20.

Q15.

Say the count from 10: 10, 11, 12, 13, 14, 15. The missing numbers are 11, 13 and 15.

∴ The track is 10, 11, 12, 13, 14, 15.

Q16.



Three boxes. Box A has four balls, box B has no balls in it, box C has seven balls.

Count box A: one, two, three, four. Box A goes with 4. Box B has no balls in it, so box B goes with 0. Count box C: one, two, three, four, five, six, seven. Box C goes with 7.

$\therefore$ A is 4, B is 0, C is 7.

Q17.

- a. After 18 is 19. Before 20 is 19. The number is 19.
- b. One more than 9 is 10. One less than 11 is 10. The number is 10.

$\therefore$ a. 19 b. 10.

Q18.

Count on: ten, eleven, twelve. We say eleven first, so 11 is before 12. On the number line, 11 is before 12.

$\therefore$ No. 11 is before 12.

Subitising: seeing how many, up to 5, without counting

This is read with the teacher. The teacher reads all the words. They look, say and play with things to tap. No reading is needed.

recognise and name the number of objects within a collection up to 5 using subitising — VC2MFN02

They use subitising and counting strategies to quantify collections. — VC2MFN02

See how many

Seeing how many without counting

We can do the counting to see how many. But we do not always need to. We look, and we see how many. This is **subitising**.

Subitising is seeing how many things there are, without counting.

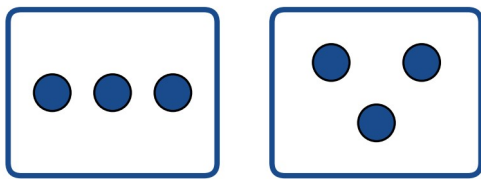
Look at a card with three dots on it. One quick look. We see three. No counting. That is subitising.

Subitising is good for one, two, three, four and five. When there are many things, we do the counting.

The teacher puts a card up for a quick look, and puts it down. We say how many dots are on the card (VC2MFN02.E01). We look one more time: the card goes up, we tap the dots and say the counting words.

The same number, two ways

Three dots can sit next to one another. Three dots can sit two up and one down. The dots do not look the same. But each card has three. How many stays three.

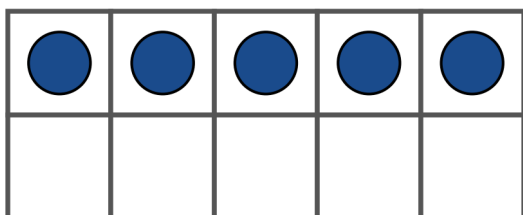


Two dot cards. Each card has three dots. On the first card the dots sit next to one another. On the next card two dots sit up and one dot sits down.

We see dots on cards, and on things at home and at school.

Five on the ten-box card

This card has ten boxes: five on top, five under. We call it the **ten-box card**.



A card with ten boxes, five on top and five under. Five dots sit in the top boxes.

Five dots sit in the top boxes. The top boxes are full. One quick look and we see five. No counting needed.

No dots is zero

A card with no dots on it is zero. Zero is for no things.

With the teacher

Say and do, in this order. Things to use: dot cards, balls and the ten-box card.

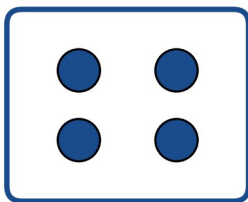
1. Say: *Look at the card.* Put a dot card up for a quick look, and put it down.
2. Say: *How many dots did you see?* They say the number.
3. Put the card up one more time. Say: *Tap the dots and say the counting words. Did you get it right?*
4. Do this with cards with 1, 2, 3, 4 and 5 dots, in many ways.
5. Who has more? Put up two dot cards. They say how many they see, and who has more (VC2MFN02.E02).
6. The matching game: dot cards go down, dots under. Put two cards up. Same number? Say yes or no. Go on. Win all the matching pairs (VC2MFN02.E02).

We do it first

Do this with the teacher. Use things to tap, or use what you can see here.

One — the quick look

The teacher puts a card up for a quick look. How many dots?



One dot card with four dots: two up and two down.

What we do

Look at the card. One quick look.

Two dots up, two dots down. I see four.

The card goes up one more time. Tap the dots and say the counting words: one, two, three, four.

∴ The card has four dots.

What we say

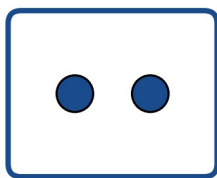
No counting.

I see it. That is subitising.

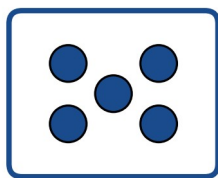
The last word is four.

Two — who has more?

Mia and Ben each have a dot card. Who has more?



Mia



Ben

Two dot cards. Mia's card has two dots. Ben's card has five dots: two up, two down, one more.

What we do

What we say

Look at Mia's card.

Two dots. I see two.

Look at Ben's card.

Two up, two down, one more. I see five.

Five is more.

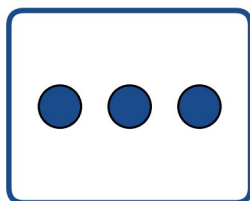
Ben has more.

∴ Ben has more. Ben has five, and Mia has two.

Have a go

The teacher reads all the words. They say it or do it. The teacher puts down what they say.

Q1. One quick look. How many?



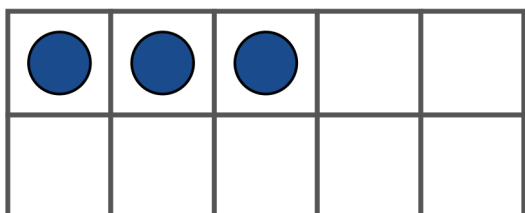
One dot card with three dots next to one another.

- The teacher puts the card up, and puts it down. Say how many dots are on the card. ____
- The card goes up one more time. Tap the dots and say the counting words. How many? ____

Q2. Toys.

- The teacher puts three toys down. How many? ____
- Put five toys down. You do it. ____

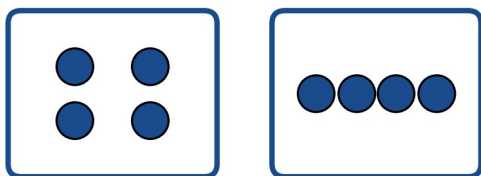
Q3. The ten-box card.



A ten-box card with three dots in the top boxes.

- a. One quick look. How many dots? ____
- b. Tap the dots and say the counting words. ____

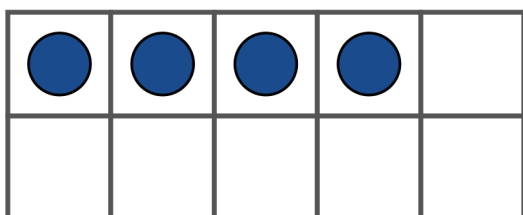
Q4. Two cards.



Two dot cards, each with four dots. On the first card the dots sit two up and two down. On the next card the dots sit next to one another.

- a. The first card has ____ dots.
- b. The next card has ____ dots.
- c. Do the two cards have the same number? ____

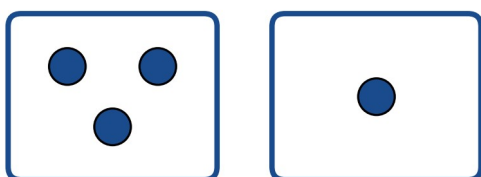
Q5. The ten-box card.



A ten-box card with four dots in the top boxes.

- a. One quick look. How many dots? ____
- b. Tap the dots and say the counting words. ____

Q6. Who has more?



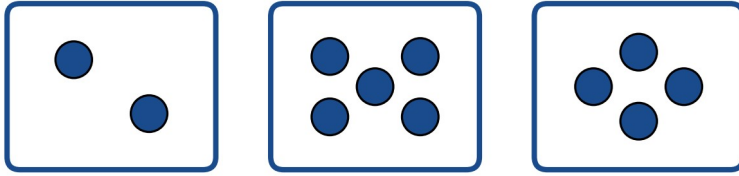
Tom

Ada

Two dot cards. Tom's card has three dots: two up and one down. Ada's card has one dot.

- a. Tom's card has ____
- b. Ada's card has ____
- c. Who has more? ____

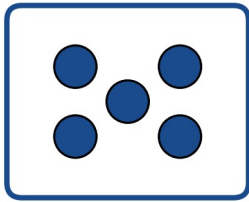
Q7. Name three cards.



Three dot cards. The first card has two dots. The next card has five dots: two up, two down, one more. The last card has four dots: one up, one down, two more.

- The first card has ____
- The next card has ____
- The last card has ____
- Say how you see it.

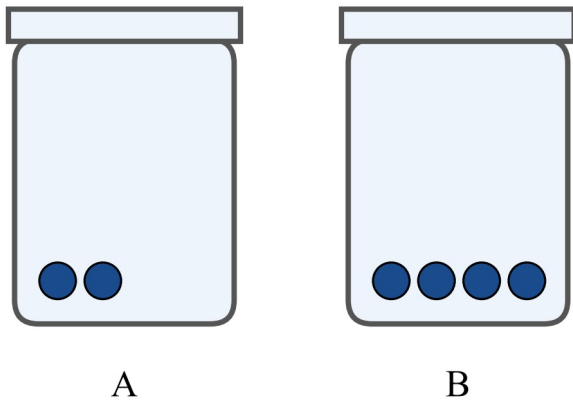
Q8. Up and down.



One dot card with five dots: two up, two down, one more.

The teacher puts this card up for a quick look, and puts it down. Get the same number of balls. How many did you get? ____

Q9. Two boxes.



Two boxes. Box A has two balls. Box B has four balls.

- Box A has ____ balls.
- Box B has ____ balls.
- Which box has more? ____

Q10. The matching game.

Dot cards go down, dots under. Put two cards up. Do they have the same number? Say yes or no. Put the cards down, or win the two cards. Go on. Win all the matching pairs.

Q11. How many dots on this card?



One dot card with no dots on it.

Q12. Make a card.

The teacher says *four*. Put that many dots on a card. The teacher looks.



One dot card with no dots on it.

Right ones

Q1. a. *three* b. 3.

Q2. a. 3 b. Five toys.

Q3. a. 3 b. One, two, three.

Q4. a. 4 b. 4 c. Yes.

Q5. a. 4 b. 4.

Q6. a. 3 b. 1 c. Tom.

Q7. a. 2 b. 5 c. 4 d. They say how they see it.

Q8. 5.

Q9. a. 2 b. 4 c. Box B.

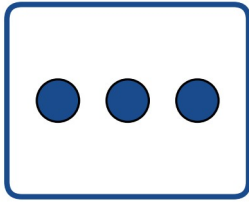
Q10. Yes or no each time. Win the matching pairs.

Q11. 0.

Q12. Four dots on the card.

How we see every one

Q1.



One dot card with three dots next to one another.

- a. One quick look: I see three.
- b. Tap and say the counting words: one, two, three. The last word is three.

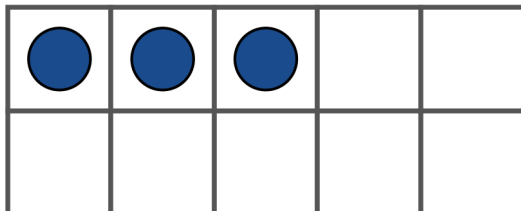
∴ The card has 3 dots.

Q2.

- a. Three toys down: one, two, three. There are 3.
- b. Put five toys down: one, two, three, four, five. There are 5.

∴ a. 3 b. 5.

Q3.

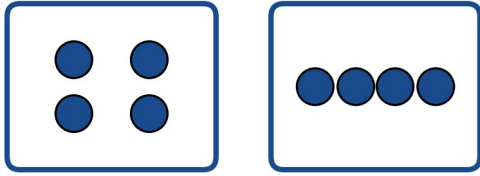


A ten-box card with three dots in the top boxes.

- a. One quick look: I see three.
- b. Tap and say the counting words: one, two, three.

∴ a. 3 b. One, two, three.

Q4.

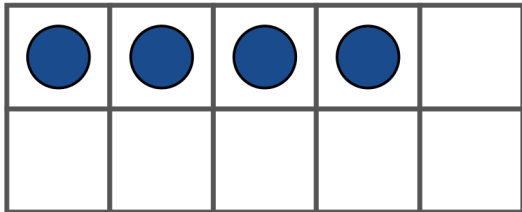


Two dot cards, each with four dots. On the first card the dots sit two up and two down. On the next card the dots sit next to one another.

- First card: two up, two down. I see four.
- Next card: tap and say the counting words: one, two, three, four.
- The two cards have four and four. The same number.

∴ a. 4 b. 4 c. Yes.

Q5.

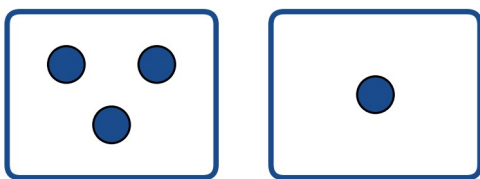


A ten-box card with four dots in the top boxes.

- One quick look: I see four.
- Tap and say the counting words: one, two, three, four.

∴ a. 4 b. 4.

Q6.



Tom

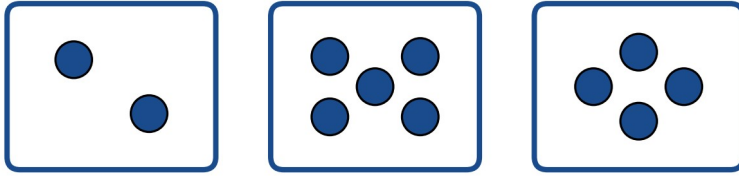
Ada

Two dot cards. Tom's card has three dots: two up and one down. Ada's card has one dot.

- Tom's card: I see three.
- Ada's card: I see one.
- Three is more. Tom has more.

∴ a. 3 b. 1 c. Tom.

Q7.

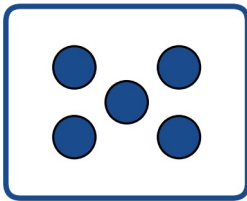


Three dot cards. The first card has two dots. The next card has five dots: two up, two down, one more. The last card has four dots: one up, one down, two more.

- First card: I see two.
- Next card: two up, two down, one more. I see five.
- Last card: I see four.
- They say: *I see it*, or *I did the counting*. All are good.

∴ a. 2 b. 5 c. 4.

Q8.

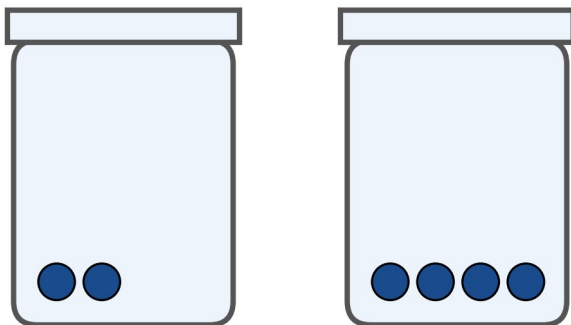


One dot card with five dots: two up, two down, one more.

One quick look: five. Get five balls. Look one more time and tap the balls: one, two, three, four, five.

∴ Five balls.

Q9.



A

B

Two boxes. Box A has two balls. Box B has four balls.

- Box A: I see two.

- b. Box B: I see four.
- c. Four is more. Box B has more.

∴ a. 2 b. 4 c. Box B.

Q10.

Put two cards up. Same number? Yes: win the two cards. No: put the cards down. Go on. Win all the matching pairs.

Q11.



One dot card with no dots on it.

No dots on the card. Zero is for no things.

∴ 0.

Q12.

Put four dots on the card. Tap and say the counting words: one, two, three, four.

∴ The card has four dots.

Counting and comparing collections to 20

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

quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning —
VC2MFN03

For the teacher

You need: 20 counters or balls · 7 cups · 6 toy people · 6 pairs of scissors · number cards 0 to 20 · 2 mats.

Say and do:

1. **Count a group.** Put 13 counters on the table. Say: *How many? Count them with me.* Tap each one, one at a time: one, two, three, and go on to thirteen. Say: *The last word is how many. There are thirteen.* Now count a group of 17 and a group of 20 the same way.
2. **Which has more?** Put out two groups: 12 counters and 9 counters. Say: *Count each group. Which group has more? How do you know?* Look for them to count each group and to say that 12 is after 9.
3. **One for each.** Line up 6 toy people. Say: *Each person needs a cup. Are there enough cups?* They say how many people there are (6), get 6 cups, and give one cup to each person. Then try 5 people and 3 cups. Say: *Are there enough?*
4. **Say how you know.** All the time, ask: *How do you know?* They can count, or can match one to one, or can show it with the things.

Every answer is said, or they show it with the things. There is no writing. VC2MFN03 says *explain or demonstrate reasoning*, so look at the way they do it, not the answer only. Put down what they say and do. The words of the achievement standard are: “Students compare the size of collections to at least 20.”

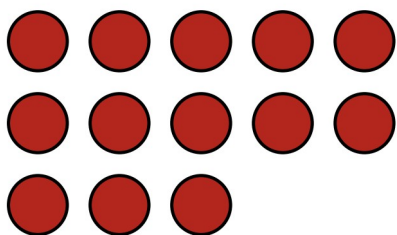
Elaboration E05. VC2MFN03.E05 (counting systems of Aboriginal and Torres Strait Islander Peoples) is not in this book. See the start of the book.

Theory

How many? Count them

We count to see how many things there are.

Look at the balls. Tap each ball, one at a time. Say one number word for each ball: one, two, three, and go on.



Thirteen red balls, five, five and three.

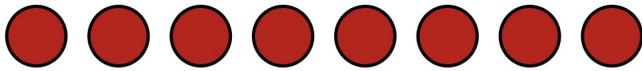
Count the balls: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen.

The last word is how many. There are 13 balls.

We can count big groups too, up to 20.

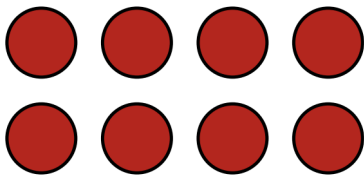
A new look, the same number

Here are 8 dots in a line.



Eight red dots in a line.

Here are the same 8 dots, not in a line.



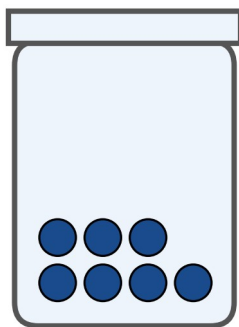
Eight red dots, four and four.

Count each one. Eight. Still eight!

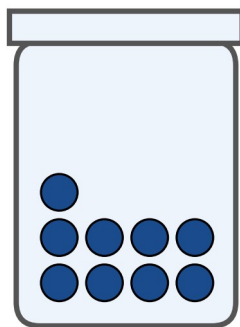
The dots sit in a new way. The way they sit does not affect how many there are.

Which has more?

Two boxes of balls.



A



B

Two boxes. Box A has 7 balls. Box B has 9 balls.

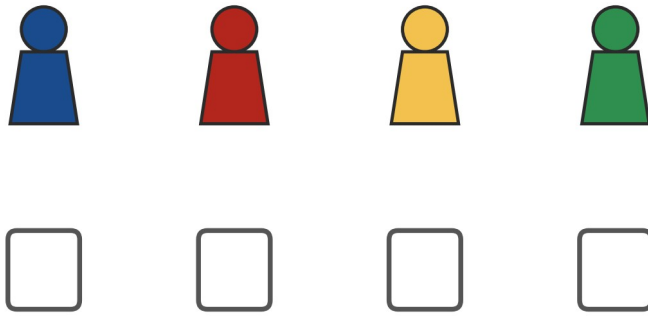
Count each box. Box A has 7 balls. Box B has 9 balls.

9 is after 7. Box B has more balls. Box A has fewer balls.

To see which group has more, count the two groups and look at the numbers. Two groups can have the same number too. Then we say: the same.

One for each

One cup for each person.



Four people in a line. Four cups, one under each person.

There are 4 people. There are 4 cups. Each person gets a cup. There are enough cups.

When a person has no cup, there are not enough cups.

We can count too: count the people, count the cups, and look at the two numbers.

How do you know?

In this book, we say how we know.

Box B has more. I know because I counted them. 9 is after 7.

You can show it with the things too.

Ways to count

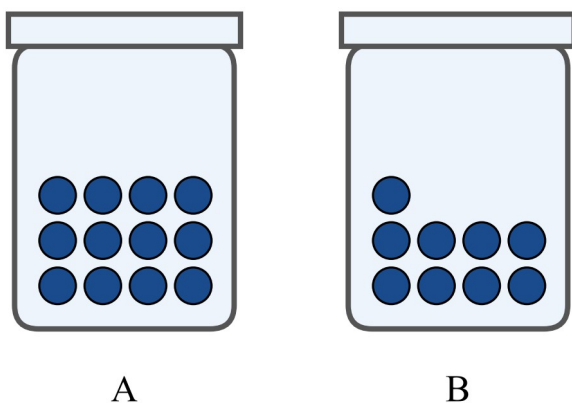
People count in different ways. Some people of the Asia region use an abacus to count. Some people use hand gestures (VC2MFN03.E04).

Worked examples

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

Worked example 1 — which box has more balls?

Two boxes of balls.



Two boxes. Box A has 12 balls. Box B has 9 balls.

Count each box. Which box has more balls?

Working

Comment

Tap the balls in box A and count: one, two, three, four,

One number word for each ball.

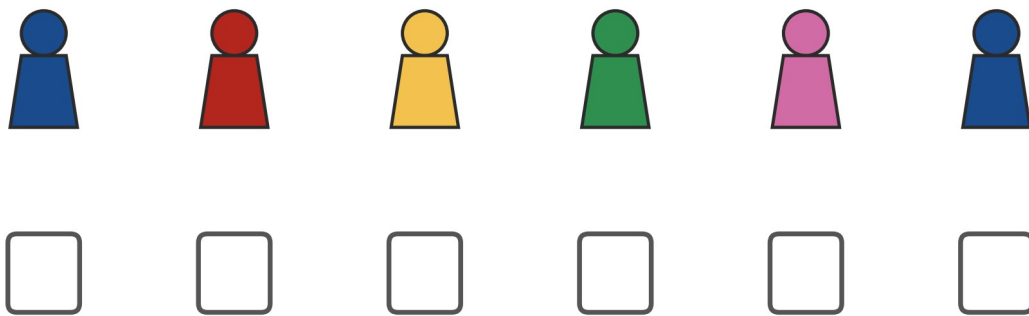
Working	Comment
five, six, seven, eight, nine, ten, eleven, twelve.	
Box A has 12 balls.	The last word is how many.
Tap the balls in box B and count: one, two, three, four, five, six, seven, eight, nine.	Tap each ball one time.
Box B has 9 balls.	The last word is how many.
12 is after 9.	Count on from 9: ten, eleven, twelve.

∴ Box A has more balls. Box B has fewer balls.

How do you know? We counted each box. 12 is after 9, so 12 is more.

Worked example 2 — are there enough cups?

Six people need a cup. One cup for each person.



Six people in a line. Six cups, one under each person.

Are there enough cups?

Working	Comment
Count the people: one, two, three, four, five, six.	There are 6 people.
Count the cups: one, two, three, four, five, six.	There are 6 cups.
Give one cup to each person.	Each person gets a cup.
All the people have a cup.	6 cups for 6 people.

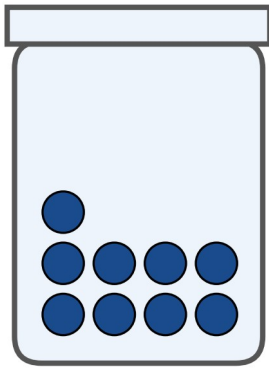
∴ Yes. There are enough cups. One cup for each person.

How do you know? There are 6 people and 6 cups. 6 and 6 is the same number.

Practice questions

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

Q1. Count the balls in box A.

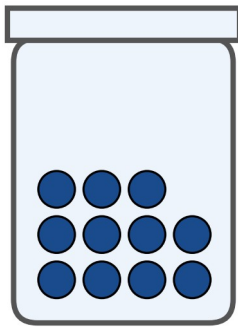


A

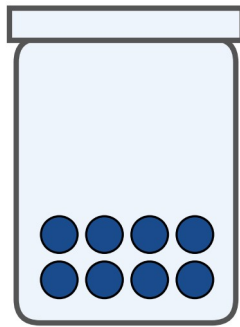
One box. Box A has 9 balls.

- Tap each ball and count.
- The last word you say is ____
- There are ____ balls.

Q2. Two boxes of balls.



A

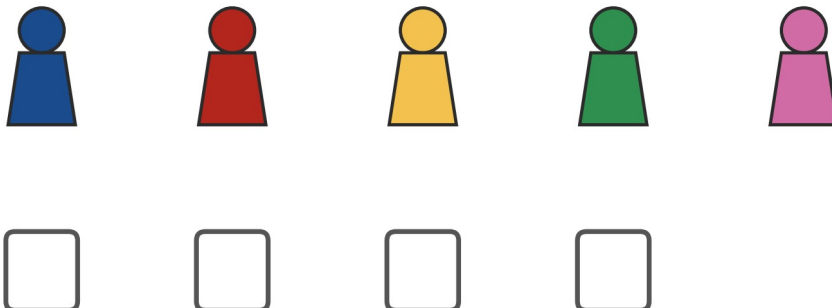


B

Two boxes. Box A has 11 balls. Box B has 8 balls.

- Count box A. There are ____
- Count box B. There are ____
- Which box has more balls? ____

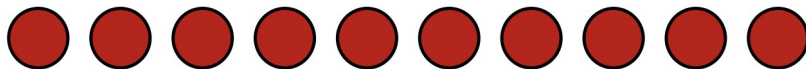
Q3. Cups for the people.



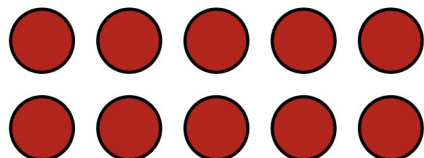
Five people in a line. Four cups under them.

- Give one cup to each person.
- Is there a cup for each person? ____
- Are there enough cups? ____

Q4. Are the two the same?



Ten red dots in a line.



Ten red dots, five and five.

- Count the first group of dots: ____
- Count the next group of dots: ____
- Are they the same? ____

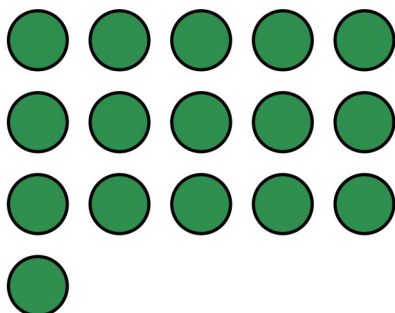
Q5. The card says 14.



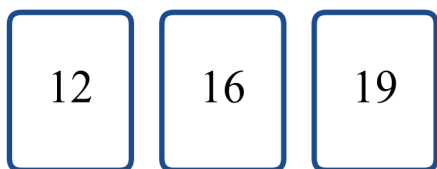
A number card: 14.

Get 14 balls. Count them one by one. Say the last word.

Q6. Count and match the card.



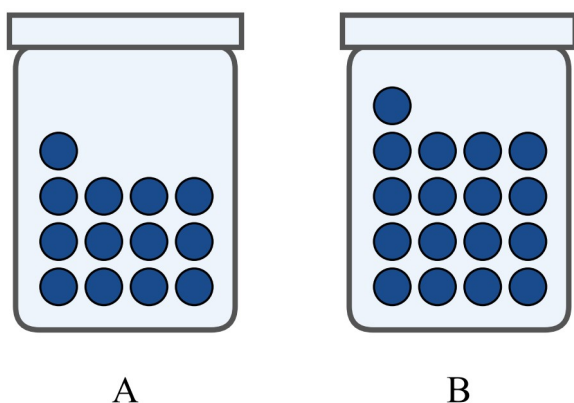
Sixteen green dots, five, five, five and one.



Three number cards: 12, 16 and 19.

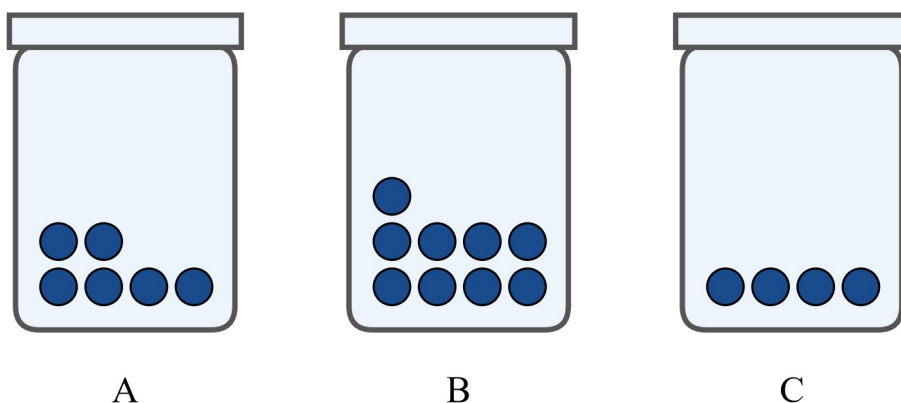
- Count the dots: ____
- Which card goes with the dots? ____

Q7. Which box has more balls? Say how you know.



Two boxes. Box A has 13 balls. Box B has 17 balls.

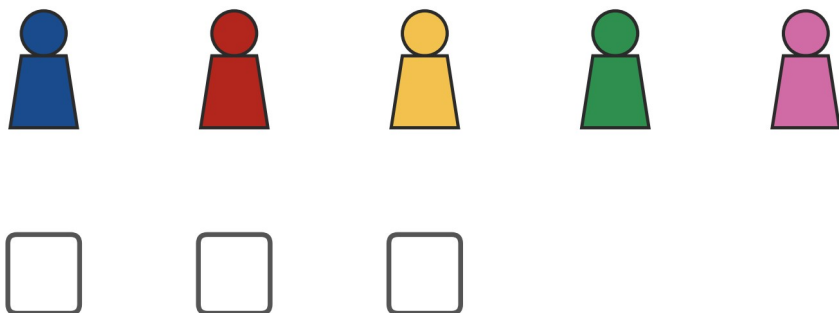
Q8. Three boxes of balls.



Three boxes. Box A has 6 balls, box B has 9 balls, box C has 4 balls.

- Which box has the biggest number of balls? ____
- Which box has the smallest number of balls? ____

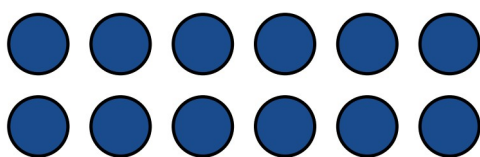
Q9. There are 5 people and 3 cups.



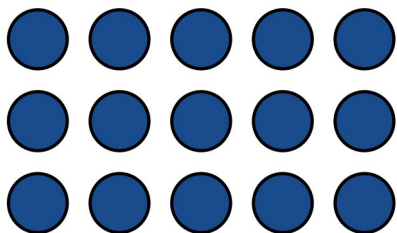
Five people in a line. Three cups under them.

Is there a cup for each person? Say how you know.

Q10. Look at the two groups of dots. Which group has more? Look first, then count to see. Say how you know.



Twelve blue dots, six and six.



Fifteen blue dots, five, five and five.

Q11. Four people sit at the table.

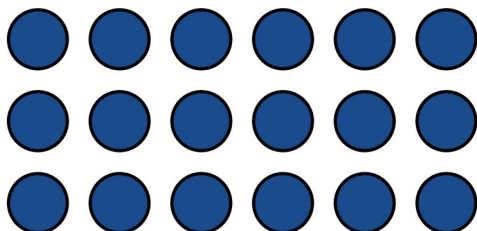


Four people in a line: blue, red, yellow and green.

Each person needs scissors. You get 6 scissors. Is there one for each person? Say how you know.

Q12. You and a friend each make a line of balls. Who has more? How do you know?

Q13. Count the balls.



Eighteen blue balls, six, six and six.

Then get more balls. Count them all. How many do you have now?

Q14. *How do you know?*

For the teacher — you see this one and put the answer down. Put 2 mats and 20 balls on the table. They make 2 groups of balls, one group on each mat. Ask: Which group has more? How do you know? Put down what they say and do. Look at the way they do it, not the answer only. This is the VC2MFN03 achievement standard: “Students compare the size of collections to at least 20.”

Answers

Q1. b. *nine* c. 9.

Q2. a. 11 b. 8 c. box A.

Q3. b. No — one person has no cup. c. No.

Q4. a. 10 b. 10 c. Yes, the same.

Q5. Fourteen. Count one by one; the last word is *fourteen*.

Q6. a. 16 b. the card 16.

Q7. Box B. 17 is after 13.

Q8. a. box B b. box C.

Q9. No. 3 cups for 5 people — 2 people have no cup.

Q10. The second group. 12 and 15. 15 is after 12.

Q11. Yes. 4 people get 4 scissors, and 2 are over.

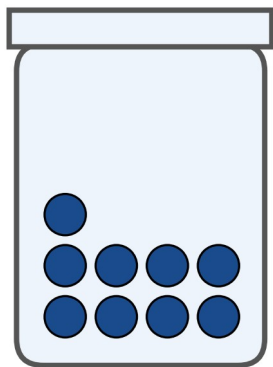
Q12. One way: I have 8 balls and my friend has 11. My friend has more. 11 is after 8.

Q13. One way: 18 balls, then 2 more. Now there are 20 balls.

Q14. One way: the first mat has 12 balls and the next mat has 7 balls. The first group has more. I counted them. 12 is after 7.

Fully-worked solutions

Q1.



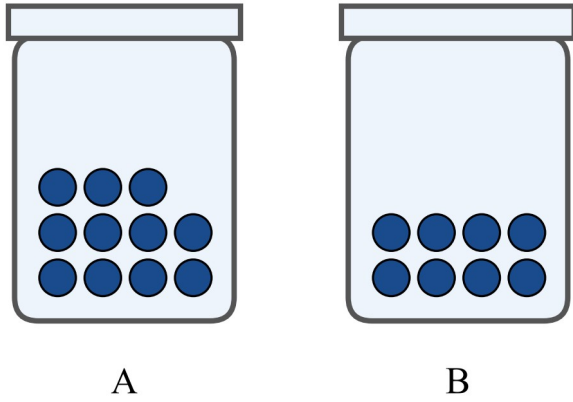
A

One box. Box A has 9 balls.

Tap the balls and count: one, two, three, four, five, six, seven, eight, nine. The last word is nine.

∴ There are 9 balls.

Q2.



Two boxes. Box A has 11 balls. Box B has 8 balls.

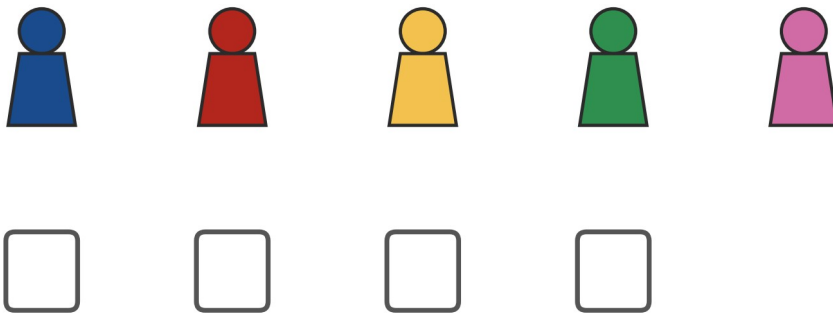
Count box A: one, two, three, four, five, six, seven, eight, nine, ten, eleven. There are 11.

Count box B: one, two, three, four, five, six, seven, eight. There are 8.

11 is after 8, so box A has more balls.

$\therefore$ Box A has 11, box B has 8, and box A has more.

Q3.

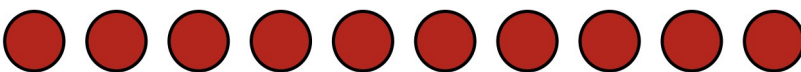


Five people in a line. Four cups under them.

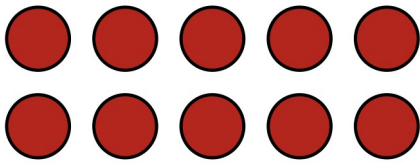
Give one cup to each person. Four people get a cup. One person has no cup.

$\therefore$ No, there is not a cup for each person. There are not enough cups.

Q4.



Ten red dots in a line.



Ten red dots, five and five.

Count the first group: ten. Count the next group: ten. 10 and 10 is the same number.

$\therefore$ Yes, the two groups are the same.

Q5.

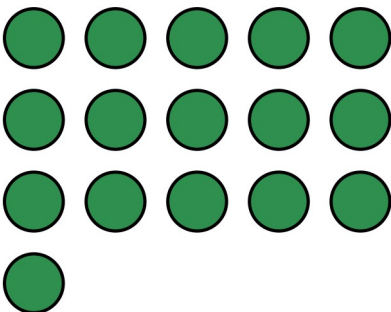


A number card: 14.

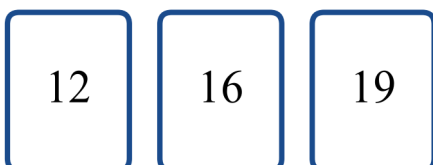
Get the balls one by one and say: one, two, three, and go on to fourteen. Stop at fourteen. Count them one by one. The last word is fourteen.

$\therefore$ There are 14 balls.

Q6.



Sixteen green dots, five, five, five and one.

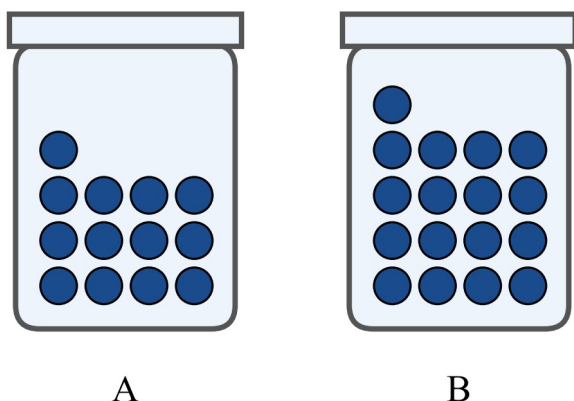


Three number cards: 12, 16 and 19.

Count the dots: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen.

$\therefore$ There are 16 dots. The card is 16.

Q7.



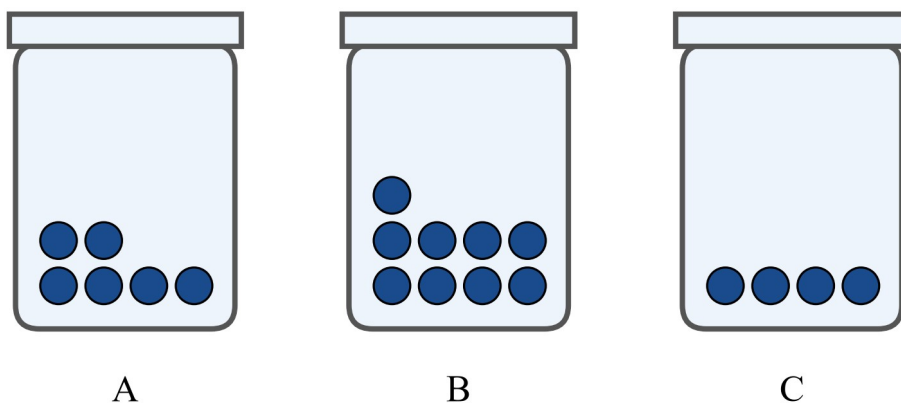
Two boxes. Box A has 13 balls. Box B has 17 balls.

Count box A: thirteen. Count box B: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen.

17 is after 13, so box B has more balls.

$\therefore$ Box B has more. We counted each box: 13 and 17.

Q8.

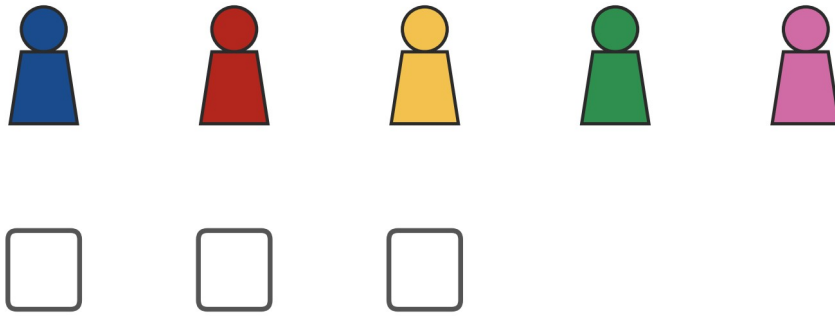


Three boxes. Box A has 6 balls, box B has 9 balls, box C has 4 balls.

Count each box: A has 6, B has 9, C has 4. 9 is after 6, and 6 is after 4.

$\therefore$ Box B has the biggest number of balls. Box C has the smallest number of balls.

Q9.

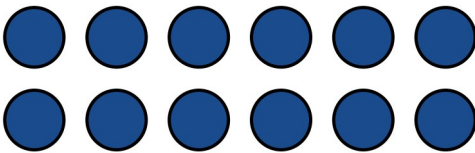


Five people in a line. Three cups under them.

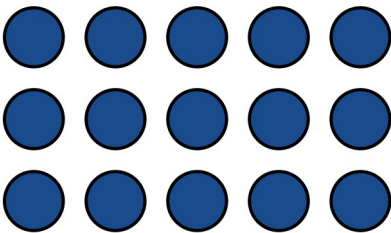
Give one cup to each person: 3 people get a cup and 2 people have no cup. Or count: 5 people, 3 cups. 5 is after 3.

$\therefore$ No. There are not enough cups for the people.

Q10.



Twelve blue dots, six and six.



Fifteen blue dots, five, five and five.

The first group looks wide, but counting tells us. Count the first group: 12. Count the next group: 15. 15 is after 12.

$\therefore$ The next group has more dots. Counting tells us: 15 is after 12.

Q11.



Four people in a line: blue, red, yellow and green.

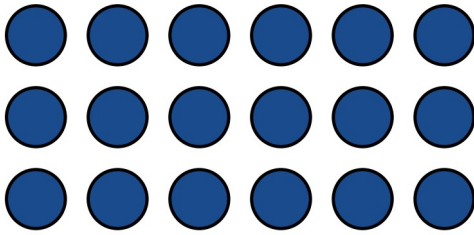
4 people sit at the table. Get 6 scissors. Give one to each person: 4 people get one, and 2 are over.

$\therefore$ Yes, there is one for each person, and 2 are over.

Q12.

One way: I make a line of 8 balls. My friend makes a line of 11 balls. Count them: 8 and 11. 11 is after 8.

∴ My friend has more balls. I know because I counted them.

Q13.

Eighteen blue balls, six, six and six.

Count the balls: eighteen. Get 2 more balls. Count on: nineteen, twenty. Count them all: twenty.

∴ There are 20 balls now.

Q14.

One way: they put 12 balls on the first mat and 7 balls on the next mat. Count them: 12 and 7. 12 is after 7.

∴ The first group has more balls. They counted each group and said: 12 is after 7.

Part-part-whole: partitioning and combining collections to 10

The teacher reads all the words. Look, say and play. You do not need to read.

partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts — VC2MFN04

Teaching sequence — teacher script

Teacher-facing — not read to the class as printed. This script is the teaching-sequence deliverable required by TOC §6 for this subtopic. Run it over one or two 20–25 minute sessions with materials on the desk; every child-facing line on the page is read aloud by the teacher, and no task depends on a child reading anything (TOC §6 reading load).

Owens: VC2MFN04 (Number) — one CD, per TOC D3. **Achievement standard extract (verbatim, from the authority file):** “They partition and combine collections up to 10 in different ways, representing these with numbers.”

Range: all collections are up to 10; the cap is set by the CD text (TOC D12). Do not extend the range to 20 — that range belongs to 1C (VC2MFN03). **Position in the chapter:** follows 1B. VC2MFN04 names subitising as the tool (“using part-part-whole relationships and subitising”), so 1B’s subitising to 5 is reused here — now to see the *parts* of numbers to 10 (TOC §3, Chapter 1 note).

Materials (per child or pair): 10 two-colour counters, one ten-frame, numeral cards 0–10, dominoes, dice, 2 small cups.

Key vocabulary. *part, parts, whole* are the curriculum’s own words (used from the first session); *partition* and *combine* are the CD verbs and are defined on the page at first use; *subitising* is defined on the page and comes from 1B. Children’s oral responses may use their own words (“split”, “put back”) — accept them and recast with the CD words.

Sequence.

1. **Parts and the whole.** Give each child 6 counters. Model: “Put some counters here and some there. How many are here? How many are there? 6 is 4 and 2.” Stress that the parts make the whole, and that putting the parts back leaves the whole unchanged. Elicit both orders — the elaboration’s own child language (VC2MFN04 . E02): “6 is 4 and 2 more, it’s 2 and 4”.
2. **Many ways.** “Make 6 a new way.” Collect 5 and 1, 4 and 2, and 3 and 3 on the board as numeral-card pairs. The achievement standard’s “in different ways” is evidenced here; a child who gives only one part-pair for every whole has not yet met it.
3. **Ten-frame.** Show a ten-frame with 5 red and 2 blue counters. “How many? How can you see it without counting?” Target response (VC2MFN04 . E01): “It’s 7 because there is 5 there and 2 more.” Then: “How many spots have no counters?” (3).
4. **Dominoes and dice.** Show a domino with 4 dots and 3 dots; the children say the parts and the whole. Repeat with dice faces; the 6 face reads as 3 and 3 in the standard dot configuration (VC2MFN04 . E03).
5. **Recording with numbers.** Numeral cards only: a card for the whole and a card for each part. **No number sentences** — +, – and = are not required of Foundation students; written number sentences are Level 2 (VC2M2N04, TOC D12). Where an adult annotates for an adult audience, use a proper minus: $8 - 3 = 5$.

Watch-fors. A child who counts every counter from one is counting, not yet seeing parts — prompt “Can you see the 5?” (subitising). A child who names the two parts but not the whole has the parts without the whole — ask “So how many, all in all?” If a child offers an empty part (“6 is 6 and 0”), affirm it and link to zero from 1A (VC2MFN01); the printed tasks on this page use two non-empty parts.

Traceability (join keys for MCQ and coverage linkage; per D13 this is linkage, not a teaching order).

VC2MFN04 . E01 → ten-frame items (With the teacher 2; Q1, Q5, Q12). VC2MFN04 . E02 → partition-and-say items (With the teacher 1; Q2, Q4, Q7, Q8, Q11, Q14). VC2MFN04 . E03 → dot items (Q3, Q9, Q13). Numeral-card recording (Q6) evidences the achievement-standard sentence “representing these with numbers”. Hands (Q10) are a body material, in the spirit of E02’s and E03’s physical materials.

Assessment. VC2MFN04 is observed at CP1 (counters, ten-frames, dot cards and number cards; 4 marks — TOC §7). The tasks on this page are practice, not the scored observation; the CP1 rubric is written in the achievement-standard extract quoted above.

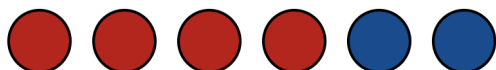
E04 exclusion. VC2MFN04 .E04 (number groupings in Aboriginal and/or Torres Strait Islander Peoples' counting systems, on Country/Place) is not taught in this section: Aboriginal and Torres Strait Islander content is excluded from ClassBasics books (CONTENT_POLICY.md Rule 1, DJB 2026-08-15; front-of-book note per CONTENT_POLICY Rule 1 wording). Per CONTENT_POLICY the coverage audit reports this omission as ACCEPTED under a §2A recorded decision, never as a gap. Suggested §2A entry for this build's TOC.md: "*VC2MFN04 .E04 excluded — Aboriginal and Torres Strait Islander content is not covered (CONTENT_POLICY.md Rule 1). Delivery of VC2MFN04 is judged on the CD text and its achievement-standard extract (TOC D13), which the remaining elaborations E01–E03 fully illustrate.*" (This file may not edit TOC.md; the entry is flagged here for the human or the next TOC job.)

Parts make the whole

We look at numbers up to 10.

Parts and the whole

Look at the 6 counters.



6 counters: 4 red and 2 blue.

4 are red. 2 are blue.

The red counters are one part. The blue counters are one part. All 6 counters are the whole.

Say it: *6 is 4 and 2.*

4 and 2 make 6. The parts make the whole.

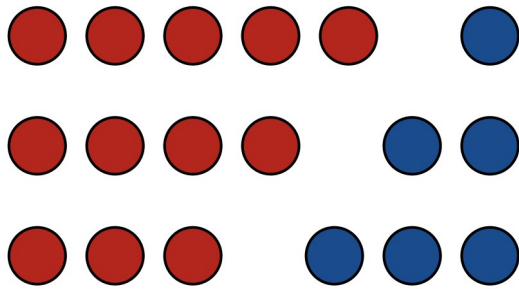
Put the parts back. Now all 6 counters are back.

To **combine** is to put the parts back as one.

To **partition** is to make 2 parts from the whole.

Many ways to make 6

There are many ways to make 6.



3 ways to make 6: 5 and 1, 4 and 2, 3 and 3.

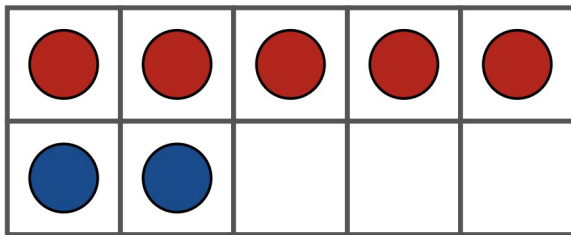
6 is 5 and 1. 6 is 4 and 2. 6 is 3 and 3.

Say it 2 ways: 6 is 4 and 2, and 6 is 2 and 4.

See the parts on a ten-frame

A ten-frame has 10 spots. Counters go on the spots.

Look at this ten-frame.



A ten-frame with 7 counters: 5 red and 2 blue.

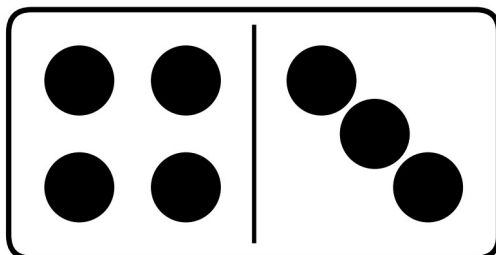
You can see how many. You do not say the numbers one by one. This is called subitising.

It is 7. You see 5 there and 2 more. 7 is 5 and 2.

3 spots have no counters.

Dots on dominoes and dice

Dominoes have dots. Dice have dots too.



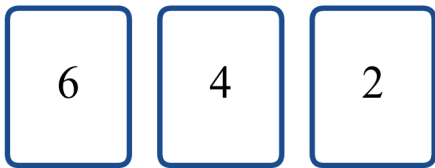
A domino with 4 dots and 3 dots.

Look: 4 dots and 3 dots. 4 and 3 make 7.

You can see the parts. You do not need to say all the numbers one by one.

Say it with number cards

We can say the parts with numbers.



The parts 4 and 2 with the number cards 4 and 2, and the whole 6 with the number card 6.

We partition 6 as 4 and 2. The number cards are 6, 4 and 2.

The card 6 goes with the whole. The cards 4 and 2 go with the parts.

With the teacher

Do this with the teacher. Look, say and do.

1 — Make 2 parts from 6 counters

Get 6 counters. Make 2 parts. Say the parts.

Do

Get 6 counters.

Put some counters here and some there.

How many are here? How many are there?

Say it: *6 is 4 and 2.*

Make 6 a new way.

Say

Say the number words one by one: one, two, three, four, five, six.

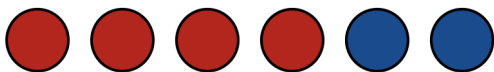
Now there are 2 parts.

Here are 4, and there are 2.

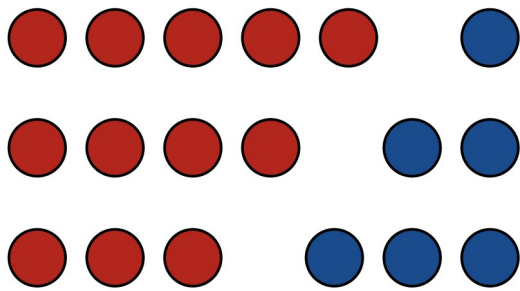
The parts make the whole.

6 is 5 and 1, or 6 is 3 and 3.

So: 6 is 4 and 2. 6 is also 5 and 1, and 6 is also 3 and 3.



6 counters: 4 red and 2 blue.



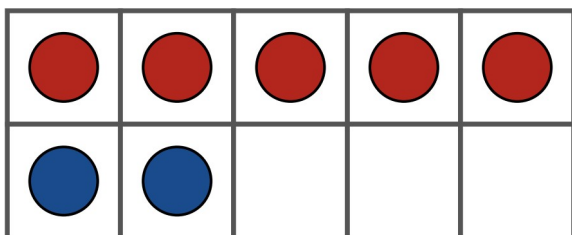
3 ways to make 6: 5 and 1, 4 and 2, 3 and 3.

2 — See 7 on the ten-frame

Look at the ten-frame. How many counters? Say the parts.

Do	Say
Look at the ten-frame.	You can see how many. No counting one by one.
You see 5 red counters.	You see the 5 — no counting.
You see 2 more: the blue counters.	5 there and 2 more.
Say it: <i>It is 7. 7 is 5 and 2.</i>	You see the parts and say the whole.

So: there are 7 counters. 7 is 5 and 2.



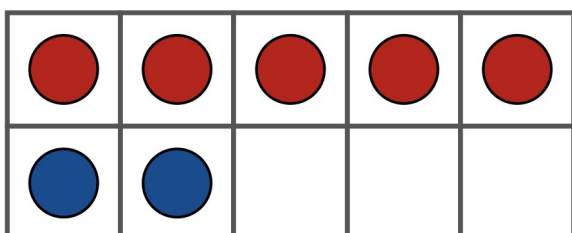
A ten-frame with 7 counters: 5 red and 2 blue.

Now you try

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

Do Q1 to Q6 with the teacher.

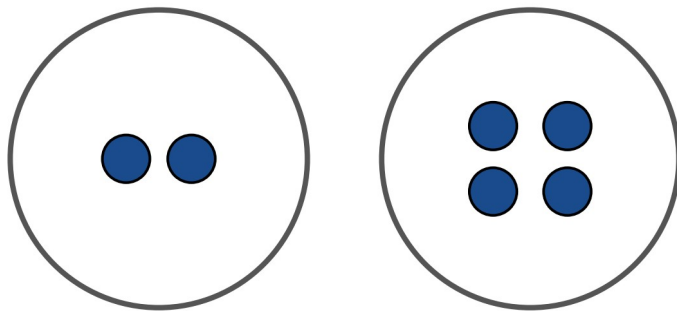
Q1. Look at the ten-frame.



A ten-frame with 7 counters: 5 red and 2 blue.

- How many red counters? ____
- How many blue counters? ____
- How many counters do you see? ____

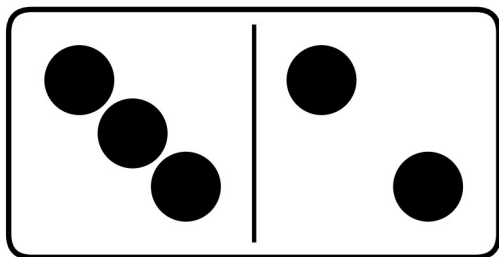
Q2. 6 counters are in 2 circles.



6 counters in 2 circles: 2 in one circle and 4 in one circle.

- How many counters are in the first circle? ____
- How many counters are in the next circle? ____
- 6 is 2 and ____

Q3. Dominoes have dots. Look at this domino.



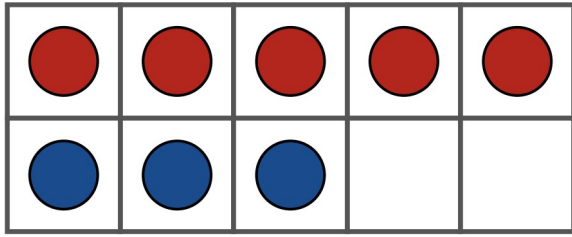
A domino with 3 dots and 2 dots.

- How many dots are in the first part? ____
- How many dots are in the next part? ____
- How many dots in all? ____

Q4. Get 5 counters. Make 2 parts.

- Put some counters here and some there.
- How many are here? ____ How many are there? ____
- 5 is ____ and ____

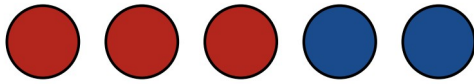
Q5. Look at the ten-frame.



A ten-frame with 8 counters: 5 red and 3 blue.

- How many counters are on the ten-frame? ____
- It is 5 and ____
- How many spots have no counters? ____

Q6. Look: 3 red counters and 2 blue counters.



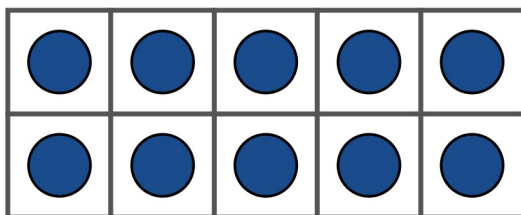
3 red counters and 2 blue counters.

- How many red counters? ____
- How many blue counters? ____
- The number cards are 3, 2 and 5. Put the card 3 with the red part, the card 2 with the blue part and the card 5 with the whole.

Q7 to Q14: you go first.

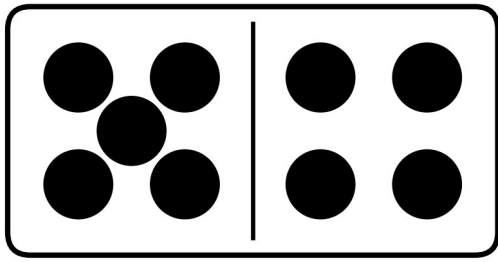
Q7. Get 8 counters. Make 2 parts. Say: *8 is ____ and ____*. Now make 8 a new way and say it.

Q8. A full ten-frame has 10 counters. Make 10 as 2 parts. Say: *10 is ____ and ____*.



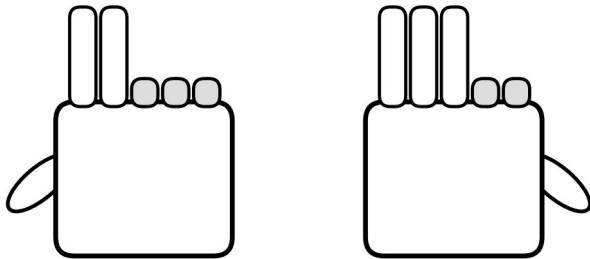
A full ten-frame with 10 counters.

Q9. Look at this domino. How many dots in all? Say the parts.



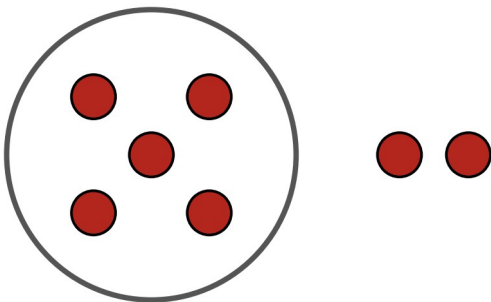
A domino with 5 dots and 4 dots.

Q10. Put up 2 on this hand. Put up 3 on that hand. How many do you see?



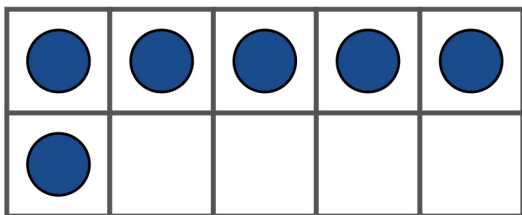
One hand with 2 up and one hand with 3 up.

Q11. The whole is 7. One part is 5. Say: 7 is 5 and ____.



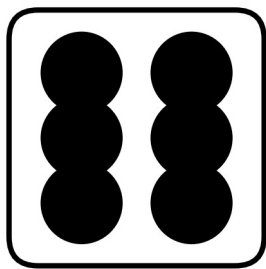
7 counters: 5 in a circle and 2 out of the circle.

Q12. The ten-frame has 6 counters. How many more counters fill all 10 spots?



A ten-frame with 6 counters.

Q13. Look at the dice. It has 6 dots. You can see parts in the dots. Say how you see 6.



A dice with 6 dots.

Q14. Zoe says there is one way to make 5: 2 and 3. Is Zoe right? Make 5 a new way. Say how you can see it.

Answers

For the teacher.

Q1. a. 5 b. 2 c. 7.

Q2. a. 2 b. 4 c. 4.

Q3. a. 3 b. 2 c. 5.

Q4. Sample: here 2, there 3; 5 is 2 and 3. Also accept 1 and 4 (in either order).

Q5. a. 8 b. 3 c. 2.

Q6. a. 3 b. 2 c. card 3 with the red part, card 2 with the blue part, card 5 with the whole.

Q7. Sample: 8 is 4 and 4; new way 8 is 3 and 5. Accept any two non-empty parts of 8, said both as part-pairs.

Q8. Sample: 10 is 5 and 5. Accept any two non-empty parts of 10.

Q9. 9; 5 and 4.

Q10. 5.

Q11. 2.

Q12. 4.

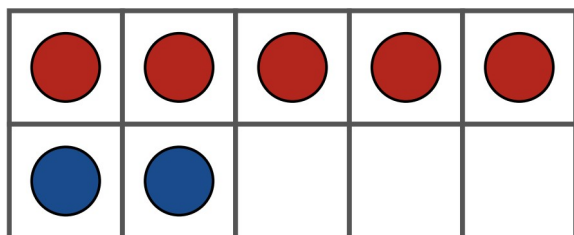
Q13. Sample: 3 and 3 (the standard 6 face is two rows of 3). Also accept 4 and 2, or 2 and 4, read off the face.

Q14. No. 5 is also 1 and 4 (accept the child's own new way and an oral reason, e.g. "I see 1 here and 4 there").

Fully-worked solutions

For the teacher.

Q1.

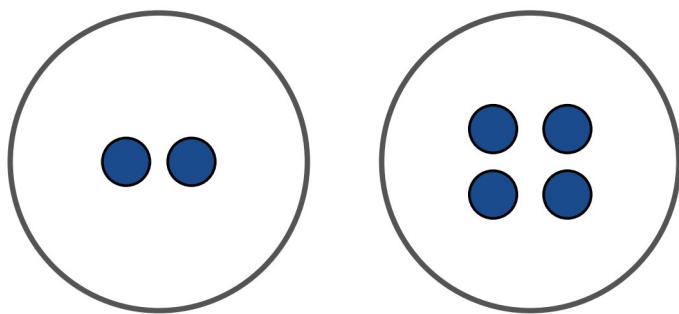


A ten-frame with 7 counters: 5 red and 2 blue.

- a. The red counters: you see 5.
- b. The blue counters: you see 2.
- c. 5 and 2 make 7.

So: a. 5, b. 2, c. 7 counters.

Q2.

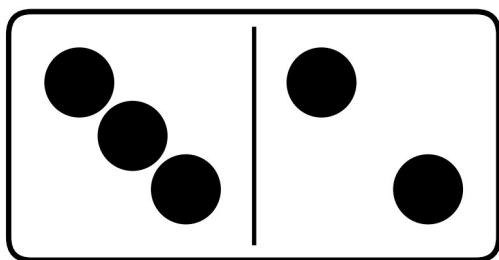


6 counters in 2 circles: 2 in one circle and 4 in one circle.

- The first circle has 2 counters.
- The next circle has 4 counters.
- 2 and 4 make 6.

So: a. 2, b. 4, c. 6 is 2 and 4.

Q3.



A domino with 3 dots and 2 dots.

- The first part has 3 dots.
- The next part has 2 dots.
- 3 and 2 make 5.

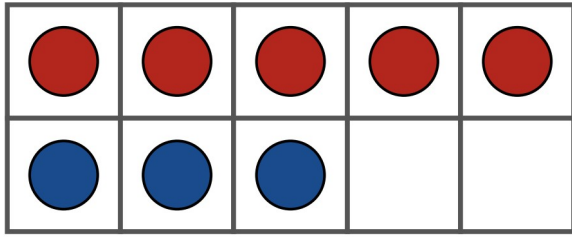
So: a. 3, b. 2, c. 5 dots in all.

Q4.

Get 5 counters. Put some here and some there: sample — 2 here and 3 there. Say the numbers one by one for the parts: here one, two; there one, two, three.

So: 5 is 2 and 3. (1 and 4 is also right.)

Q5.

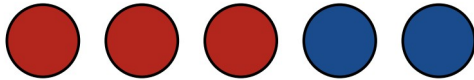


A ten-frame with 8 counters: 5 red and 3 blue.

- On the ten-frame: 5 red and 3 blue make 8.
- It is 5 and 3.
- The ten-frame has 10 spots; 8 spots have counters, so 2 spots have no counters.

So: a. 8, b. 3, c. 2.

Q6.



3 red counters and 2 blue counters.

- The red part: 3.
- The blue part: 2.
- 3 and 2 make 5, so the cards go: 3 with the red part, 2 with the blue part, 5 with the whole.

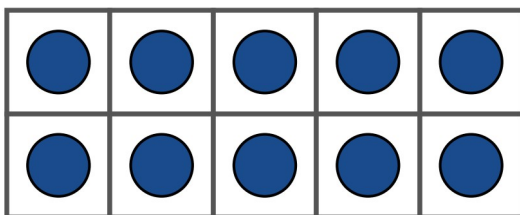
So: a. 3, b. 2, c. cards 3, 2 and 5 on the part, the part and the whole.

Q7.

Get 8 counters and make 2 parts: sample — 4 here and 4 there. Say it: 8 is 4 and 4. A new way: 3 here and 5 there; 8 is 3 and 5.

So: Sample: 8 is 4 and 4, and 8 is 3 and 5. All part-pairs of 8 are right: 1 and 7, 2 and 6, 3 and 5, 4 and 4 (and the same 2 ways).

Q8.

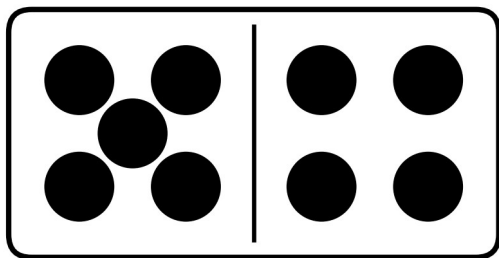


A full ten-frame with 10 counters.

A full ten-frame: 10 counters. Make 2 parts: sample — 5 and 5.

So: Sample: 10 is 5 and 5. All part-pairs of 10 are right: 1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5 (and the same 2 ways).

Q9.

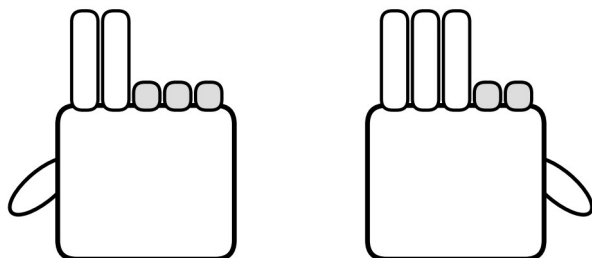


A domino with 5 dots and 4 dots.

You see the parts: 5 dots and 4 dots. 5 and 4 make 9.

So: 9 dots in all; the parts are 5 and 4.

Q10.

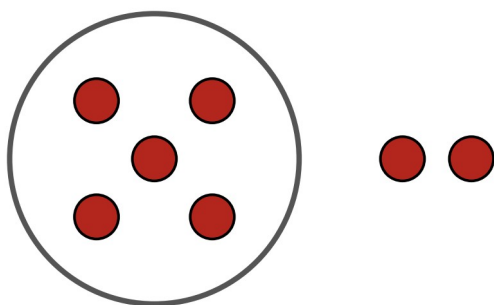


One hand with 2 up and one hand with 3 up.

2 on this hand and 3 on that hand. 2 and 3 make 5.

So: 5.

Q11.

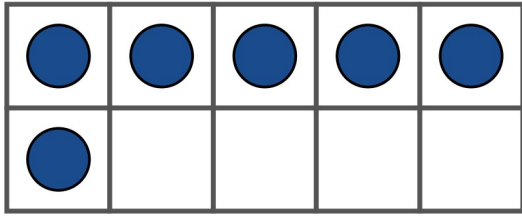


7 counters: 5 in a circle and 2 out of the circle.

The whole is 7 and one part is 5. Count on from 5: six, seven — 2 more.

So: 7 is 5 and 2.

Q12.

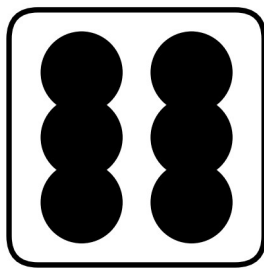


A ten-frame with 6 counters.

The ten-frame has 10 spots and 6 have counters. Count the spots with no counters: 4.

So: 4 more counters fill all 10 spots: 6 and 4 make 10.

Q13.



A dice with 6 dots.

The 6 face: you can see 3 and 3 (two rows of 3 dots). 3 and 3 make 6.

So: Sample: 6 is 3 and 3. (4 and 2 also reads off the face.)

Q14.

Zoe has one way to make 5: 2 and 3. But there is more than one way. A new way: 1 and 4. Say how you can see it: “I see 1 here and 4 there; 1 and 4 make 5.”

So: No — 5 is also 1 and 4.

Checkpoint CP1

Chapter 1 — Number: how many? · Observed checkpoint · 16 marks

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

Checkpoint CP1 is the observed checkpoint for Chapter 1. It is not an exam and not a paper test. The teacher sits with one child at a time, puts the materials on the desk, and records what the child says and does. It assesses the four CDs of Chapter 1. Each CD is scored on its own, with 4 marks for each CD — 16 marks in all.

Task	CD	What it observes	Marks
Task 1	VC2MFN01	Naming, representing and ordering numbers, zero to 20	4
Task 2	VC2MFN02	Subitising: seeing how many, up to 5	4
Task 3	VC2MFN03	Counting and comparing collections to 20, with reasoning	4
Task 4	VC2MFN04	Partitioning and combining collections to 10	4
Total			16

How to run CP1

- **Format** — observed, one-to-one, with counters, ten-frames, dot cards and number cards. A corner of the room while the rest of the class works is fine.
- **Nothing is timed.** There is no time limit on the child. The guidance below is for the teacher planning the week.
- **Guidance for planning** — about 10 minutes per child for all four tasks, across a normal week. A task can stop and come back later.
- **No writing.** The child says and does. The teacher records the marks and the strategies.
- **No calculator.** There is no calculator anywhere in this checkpoint.
- **Read every word.** No part of CP1 depends on the child reading anything.

Things to get:

- counters — at least 20, all the same (things to touch and count)
- ten-frames — the card with ten boxes the children know from 1B as the ten-box card
- dot cards — cards with 1 to 5 dots in different ways, from 1B
- number cards — the numeral cards from 0 to 20, from 1A
- a cup, to hide counters under

Counters are small objects. Watch the children with them. We do not put counters in our mouths or our noses.

Task 1 — Names, amounts and order, zero to 20 — VC2MFN01 — 4 marks

name, represent and order numbers, including zero to at least 20, using physical and virtual materials and numerals — VC2MFN01

Things: number cards 0–20 and counters.

1. **Name the numerals.** Say: *What number is this?* Show four cards in a mixed order: **7, 0, 15, 20**. Zero is in. Zero is a number, and zero is for no things (VC2MFN01.E04).

2. **Make an amount.** Say: *Get me nine counters.* Watch the child count them out, one by one (VC2MFN01.E01). Then say: *Show me zero counters.* The child shows an empty place — no counters.
3. **Put numbers in order.** Put the number cards **3, 0, 5, 1** down in a mixed order. Say: *Put them in order, like the counting.* Then say: *What number comes after 7?* and *What number is one less than 8?* (VC2MFN01.E02)
4. **Say the place in the line.** Put five counters in a line. Say: *Which counter is third?* Then say: *Which one is first? Which one is last?* (VC2MFN01.E03)

Record: the names the child says; the amounts the child gets; the order the child makes; the number after 7 and one less than 8; the place words the child uses.

Task 2 — Seeing how many: subitising, up to 5 — VC2MFN02 — 4 marks

recognise and name the number of objects within a collection up to 5 using subitising — VC2MFN02

Subitising is seeing how many there are, without counting. The children met it in 1B.

Things: dot cards 1–5 in different ways, and the ten-box card with five dots in the top boxes.

Hold each card up for a quick look — about one second — and put it down.

1. **A quick look at three.** Show the card with three dots. Say: *How many dots did you see?* (VC2MFN02.E01)
2. **A quick look at five.** Show the card with five dots: two up, two down, one more. Say: *How many?*
3. **Five on the ten-box card.** Show the ten-box card with five dots in the top boxes. Say: *How many dots?*
4. **Who has more?** Put two dot cards down: one with **two** dots and one with **five** dots. Say: *Which card has more? How do you know?* (VC2MFN02.E02)

Record the number the child says, and the way they did it: did they see it in the quick look, or count one by one? Both ways are strategies for saying how many. The quick look is the chance to see subitising.

Task 3 — Counting and comparing to 20, with reasoning — VC2MFN03 — 4 marks

quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning — VC2MFN03

Quantify means say how many. Compare means say which one is more.

Things: counters. Before the child comes, make two piles: one pile of 12 counters, spread out in a long line, and one pile of 15 counters, close together. The long pile looks bigger. Only the counting tells.

1. **Count the first pile.** Point to the pile of 12. Say: *How many counters are here?* Watch the counting: one number word for each counter, and the last word says how many (VC2MFN03.E01).
2. **Count the next pile.** Point to the pile of 15. Say: *And how many are here?*
3. **Compare.** Say: *Which pile has more?* (VC2MFN03.E02)
4. **The reasoning.** Say: *How do you know?* This CD asks the child to explain or demonstrate reasoning, so this mark is for the way the child knows, not the answer again. All of these are good:
 - *I counted them. Fifteen is more than twelve.*
 - the child matches the counters one to one, in pairs, to show it
 - *Fifteen comes after twelve in the counting.*

Task 4 — Parts and wholes, up to 10 — VC2MFN04 — 4 marks

partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts — VC2MFN04

To partition is to split into parts. To combine is to put the parts back together.

Things: ten counters, the ten-box card, number cards 0–10 and the cup.

1. **Split into parts.** Give the child six counters. Say: *Split them into two parts. Tell me about the parts.* Good: 6 is 4 and 2 (VC2MFN04.E02).
2. **A different way.** Say: *Can you split 6 a different way?* Good: 6 is 5 and 1, or 6 is 3 and 3.

3. **Put the parts together.** Say: *Put the parts back together. How many altogether?* Then hide four of seven counters under the cup and leave three out. Say: *Seven counters are mine. Three are out here. How many are under the cup?* The child lifts the cup to check (VC2MFN04.E01).
4. **Show the numbers.** Say: *Show me the number cards for the two parts and the whole.* For the split 4 and 2 make 6, the child shows the cards **4**, **2** and **6**. Numerals only — at Foundation we do not write number sentences (VC2MFN04.E03).

Record: the two ways the child split 6; the whole the child put back; the hidden part the child found; the numerals the child showed.

Marking guide

The rubrics below are written in the words of each CD's own achievement standard extract, carried in the authority file (S:\Files\projects\mcq-system\data\vc2_books\maths_F.json). The extracts are quoted verbatim, so a teacher's judgement maps to the VCAA wording with no translation. Marks follow the §7 rule: 4 marks for each CD the chapter owns. Chapter 1 owns four CDs, so CP1 carries 16 marks. Every one of the four CDs contributes its own, separately scored observation.

Task 1 — VC2MFN01 — 4 marks

students make connections between number names, numerals and position in the sequence of numbers from zero to at least 20. — VC2MFN01, achievement standard extract

Mark	Look for
1	Number names connect with numerals: the child names the numerals shown, and names 0 as zero.
1	Numerals connect with amounts: the child gets nine counters, and shows zero counters as an empty place.
1	Position in the sequence of numbers: the child puts 3, 0, 5, 1 in order, and says the number after 7 and one less than 8.
1	Position in a line: the child uses first, second, third and last for the counters in the row.

Task 2 — VC2MFN02 — 4 marks

They use subitising and counting strategies to quantify collections. — VC2MFN02, achievement standard extract

Mark	Look for
1	The child says how many on the card with three dots, after the quick look.
1	The child says how many on the card with five dots, after the quick look.
1	The child says how many on the ten-box card with five dots, after the quick look.
1	The child says which card has more, two dots or five dots.

Record the strategy each time — saw it in the quick look, or counted one by one. The extract names both strategies. The quick look is the chance to see subitising, and the record shows where to teach next.

Task 3 — VC2MFN03 — 4 marks

Students compare the size of collections to at least 20. — VC2MFN03, achievement standard extract

Mark	Look for
1	The child counts the pile of 12: one number word for each counter, and the last word says how many.
1	The child counts the pile of 15 the same way.
1	The child compares the size of the collections: says the pile of 15 has more.
1	The child explains or demonstrates reasoning — says or shows how they know.

The fourth mark is required by the CD: VC2MFN03 says “explain or demonstrate reasoning”, and CP1 scores the strategy, not only the answer. Give the mark when the child counts to justify which is more, matches the counters one to one, or uses the number order — for example, fifteen comes after twelve. A child who says which pile has more but gives no way of knowing keeps the third mark and does not get the fourth.

Task 4 — VC2MFN04 — 4 marks

They partition and combine collections up to 10 in different ways, representing these with numbers. — VC2MFN04, achievement standard extract

Mark	Look for
1	The child partitions six counters into two parts and names the parts — 6 is 4 and 2.
1	The child partitions the same six a different way — 6 is 5 and 1, or 6 is 3 and 3.
1	The child combines: says the whole when the parts go back together, and finds the hidden part of 7.
1	The child represents the parts and the whole with numerals — shows the cards 4, 2 and 6.

Numerals only. A number sentence is not required of a Foundation child.

Recording sheet

Task	CD	Marks	Strategy notes
1 — names, amounts, order	VC2MFN01	/4	
2 — subitising to 5	VC2MFN02	/4	saw it / counted
3 — counting, comparing, reasoning	VC2MFN03	/4	
4 — parts and wholes to 10	VC2MFN04	/4	
		/16	

What the marks say

A child who scores across all four tasks is showing the four parts of the Chapter 1 achievement standard, in the words of the authority file:

- “students make connections between number names, numerals and position in the sequence of numbers from zero to at least 20.” — VC2MFN01
- “They use subitising and counting strategies to quantify collections.” — VC2MFN02
- “Students compare the size of collections to at least 20.” — VC2MFN03
- “They partition and combine collections up to 10 in different ways, representing these with numbers.” — VC2MFN04

A mark not scored here is a gap to teach next, and it carries forward to the end-of-year review, which assesses all 12 CDs again.