Mathematics Level 2

Chapter 1 — Number

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Contents

Numbers to 1000: recognising, representing and ordering

> *recognise, represent and order numbers to at least 1000 using physical and virtual materials, numerals and number lines* — VC2M2N01

Big numbers are all around you. Let us learn to read them, make them and put them in order.

Things you need: counters, cubes, bundling sticks, a hundreds chart, a number line, pencils and paper.

Before we start — what you know from Level 1

This is a quick look back at work you have already done. It is not new work, and it is not for marks.

- You can count to 120 (VC2M1N01).
- You can make numbers with tens and ones. 14 is 1 ten and 4 ones (VC2M1N02).
- You can count by 2s, 5s and 10s to count big groups (VC2M1N03).
- You can add and take away numbers up to 20 (VC2M1N04).
- You can use adding and taking away to solve problems (VC2M1N05).
- You can share things into equal groups (VC2M1N06).
- You can make and finish repeating patterns (VC2M1A01, VC2M1A02).
- You can say which thing is longer, heavier, holds more, or takes more time (VC2M1M01).
- You can find how long things are with same-size things, end to end (VC2M1M02).
- You can use days, weeks, months and years (VC2M1M03).
- You can sort shapes and things, and say how they are the same and how they are different (VC2M1SP01).
- You can give and follow directions (VC2M1SP02).
- You can collect things, sort them, and make one picture for each one (VC2M1ST01, VC2M1ST02).

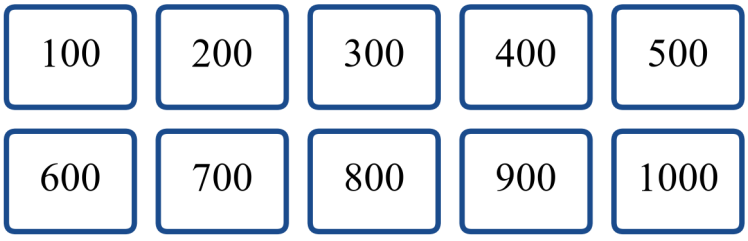
What we learn

Counting to 1000

You can count to 100 by 1s and by 10s. Now we go on, up to 1000.

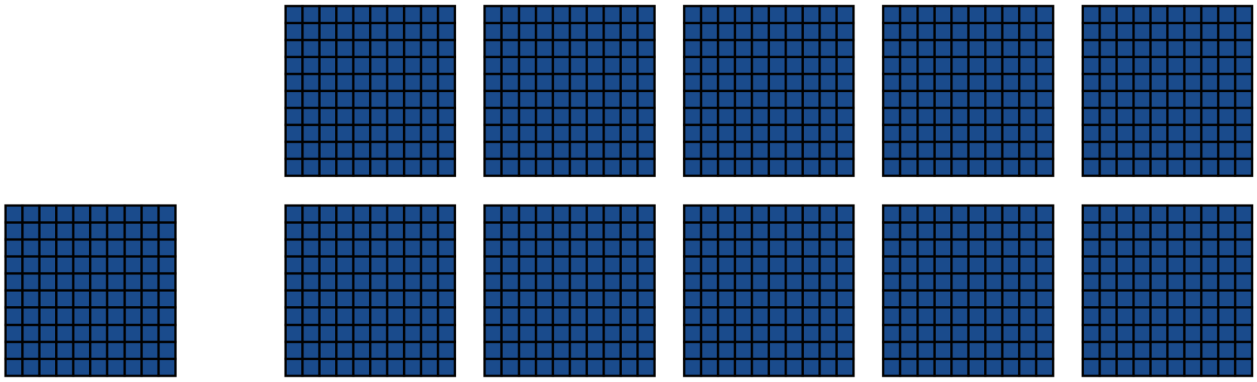
Count by 100s:

100, 200, 300, 400, 500, 600, 700, 800, 900, 1000



Number cards counting by 100s, from 100 to 1000.

10 tens make 100. 10 hundreds make 1000.



10 tens
= 100

10 hundreds
= 1000

10 tens make 100, and 10 hundreds make 1000.

Read and write big numbers

352 is said like this: **three hundred and fifty-two**.

We write it with numerals: **352**.

The number words tell you what to write. Six hundred and forty-one is 641.

Numbers with a zero

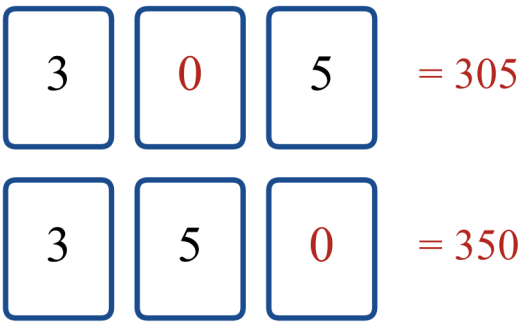
Some numbers have a zero in them. Say each one slowly.

305 is **three hundred and five**.

350 is **three hundred and fifty**.

506 is **five hundred and six**.

The zero changes the number. 305 and 350 use the same numerals, but they are not the same number.

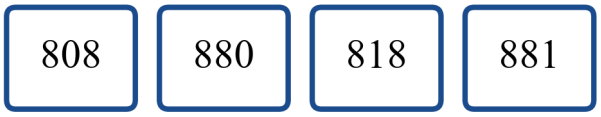


Number cards 3, 0, 5 make 305. Number cards 3, 5, 0 make 350. The zero is red.

Numbers that look similar and sound similar

Look at these numbers:

808, 880, 818, 881



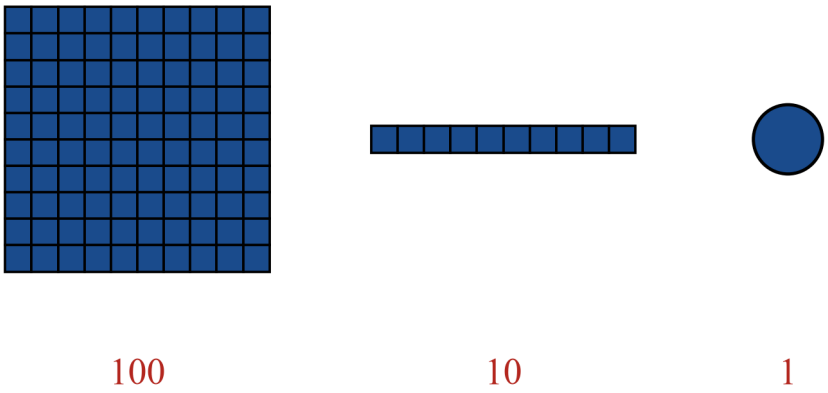
The number cards 808, 880, 818 and 881.

They look similar. They sound similar too. But they are all different numbers. Say each one slowly, and write each one with care.

Make numbers with materials

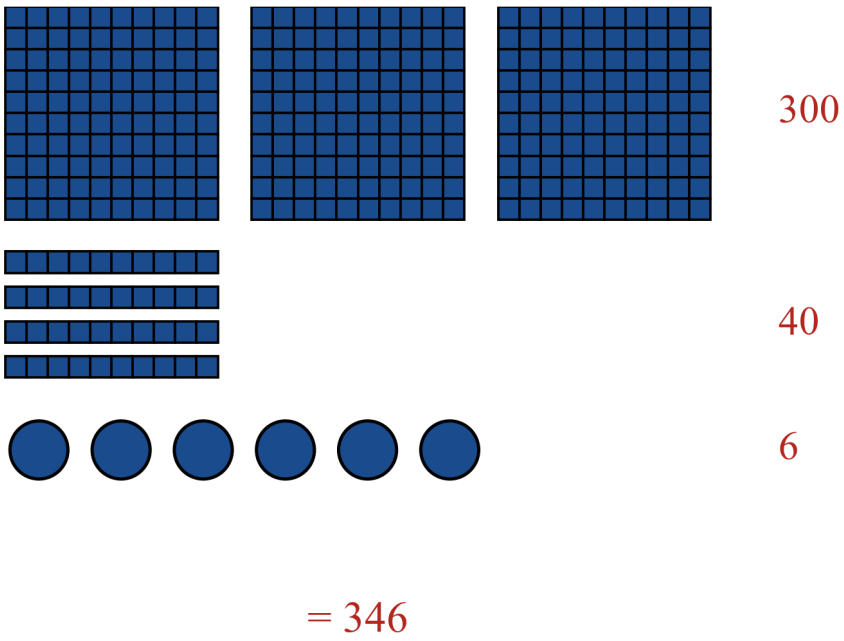
You can make big numbers with things you can touch.

- A hundred is a big block of 100 cubes.
- A ten is a stick of 10 cubes, or a bundle of 10 sticks.
- A one is 1 counter.



A hundred-block, a ten-stick and one counter.

To make 346, take 3 hundreds, 4 tens and 6 ones.



3 hundred-blocks, 4 ten-sticks and 6 ones make 346.

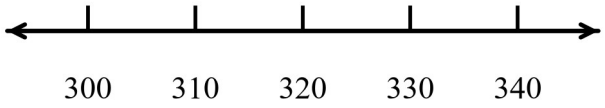
You can use any big collection — bottle tops, bread tags or ring pulls. Group them into hundreds, tens and ones, and they are easy to count.

Number lines

A number line shows numbers in order. The numbers go up as you go to the right.

```
|---------|---------|---------|---------|---------|
300       310       320       330       340
```

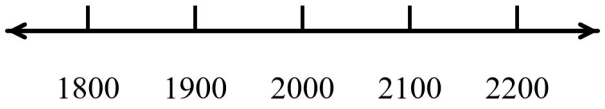
This number line counts by 10s.



A number line from 300 to 340, counting by 10s.

Number lines can count by 1s, by 10s or by 100s. Sometimes a number is missing. Use the order to find it.

Number lines can go past 1000 too. A number line can start at 1800 and end at 2200.



A number line from 1800 to 2200, counting by 100s.

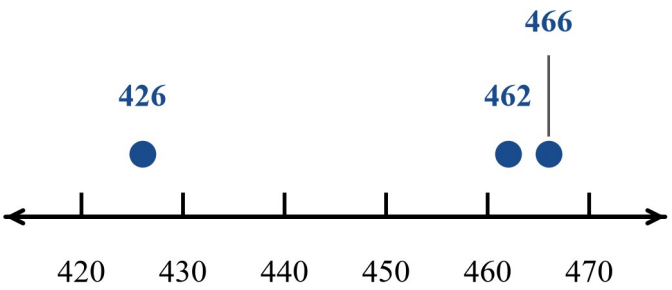
Order numbers

Which number comes before? Which comes after?

The number before 500 is 499. The number after 899 is 900.

You can put numbers in order, from smallest to largest.

To order 462, 426 and 466, read each one. 426 is the smallest. 466 is the largest. In order: 426, 462, 466.



A number line from 420 to 470, with dots on 426, 462 and 466, from smallest to largest.

Hundreds charts

A hundreds chart puts numbers in order. Going across, the numbers count by 1. Going down, they count by 10.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

A hundreds chart with the numbers 1 to 100.

Charts can show 1 to 100, or any hundred — like 131 to 200. You can use a chart to find missing numbers.

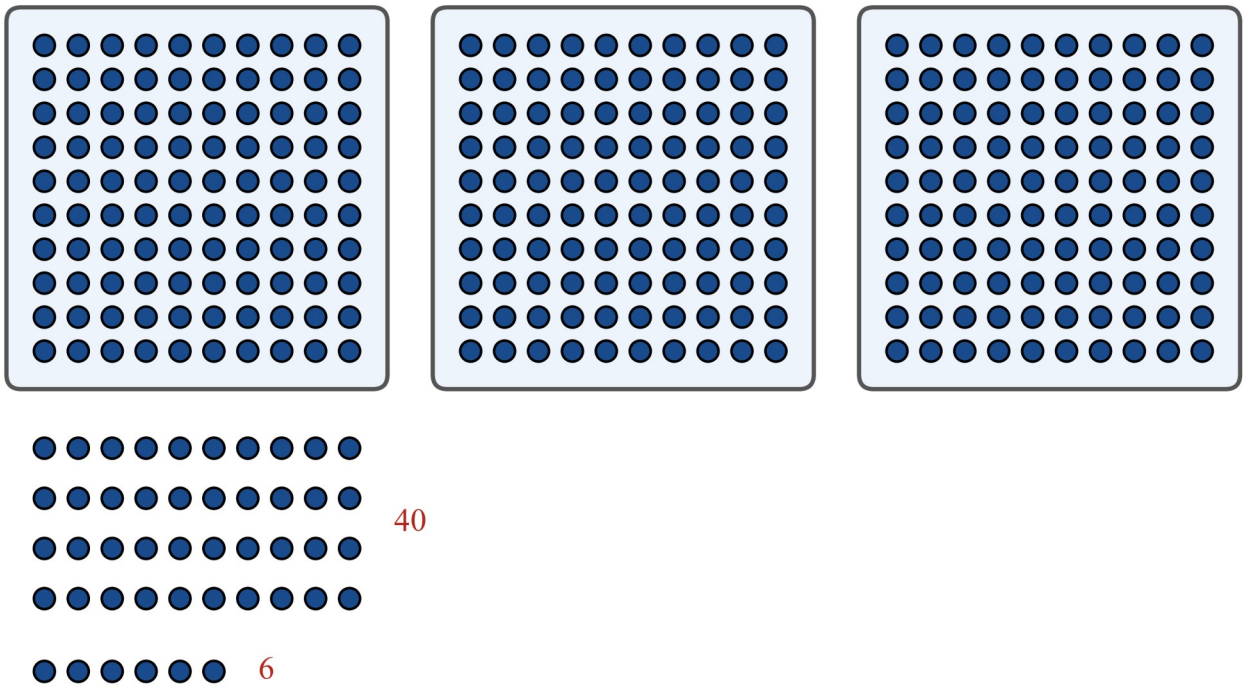
We try together

Do these with your teacher. Use things to touch, or look at the pictures here.

We try 1 — group a big collection

We collect bottle tops for recycling. We have a big pile. We group them so we can count them.

Working	Note
We make groups of 100 bottle tops. We make 3 groups of 100.	That is 3 hundreds: 300.
46 bottle tops are left. We make groups of 10. We make 4 groups of 10.	That is 4 tens: 40.
6 bottle tops are left. They are the ones.	That is 6 ones: 6.
3 hundreds, 4 tens and 6 ones is 346.	Say it: three hundred and forty-six.



Three groups of 100, four groups of 10 and 6 ones make 346.

3 hundreds: [100] [100] [100]

4 tens: [10] [10] [10] [10]

6 ones: ● ● ● ● ● ●

∴ The pile has 346 bottle tops. 346 is 3 hundreds, 4 tens and 6 ones.

We try 2 — find the missing numbers on a number line

This number line counts by 10s. Find the numbers in the boxes.

```
|---------|---------|---------|---------|---------|---------|
470       480       □         500       □         520
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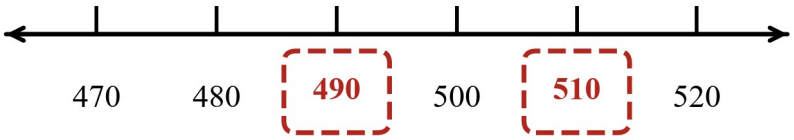


A number line from 470 to 520, counting by 10s, with 490 and 510 in red.

Working	Note
The line counts by 10s: 470, 480, …	Each jump is 10 more.
10 more than 480 is 490.	The first box is 490.
10 more than 500 is 510.	The second box is 510.
Check: 470, 480, 490, 500, 510, 520 counts by 10s. ✓	Read the line out loud.

∴ The missing numbers are 490 and 510.

Questions to practise

With help

Q1. Count by 100s. Fill in the missing numbers.

100, 200, ▢, ▢, 500, ▢, 700, ▢, 900, ▢

Q2. Make each number with hundred-blocks, ten-sticks and ones. Write the number.

a. 2 hundreds, 5 tens and 3 ones = ▢

b. 4 hundreds, 1 ten and 8 ones = ▢

c. 6 hundreds, 0 tens and 9 ones = ▢

Q3. Write each number in words.

a. 245

b. 670

c. 308

Q4. Hundreds chart puzzle. This piece of a chart counts by 1 across and by 10 down. Find the 4 missing numbers.

131	132	▢	134	135
141	▢	143	144	▢
151	152	153	▢	155

Q5. This number line counts by 10s. Fill in the missing numbers.

230, 240, ▢, 260, ▢, 280

Q6. Put each set in order, from smallest to largest.

a. 462, 426, 466

b. 710, 170, 701

On your own

Q7. Write the number for each one.

a. four hundred and seventy-two

b. six hundred and fifteen

c. nine hundred and sixty

d. three hundred and five

e. one thousand

Q8. Write each number in words.

a. 483

b. 720

c. 609

d. 814

Q9. These numbers look similar and sound similar. Circle the right one.

a. Which one is eight hundred and eight? 880 · 808 · 818 · 881

b. Which one is eight hundred and eighty? 818 · 881 · 880 · 808

c. Which one is eight hundred and eighteen? 881 · 808 · 818 · 880

d. Which one is eight hundred and eighty-one? 808 · 880 · 881 · 818

Q10. This number line counts by 10s. It goes past 1000. Fill in the missing numbers.

960, 970, 980, ▢, ▢, 1010

Q11. This number line goes from 1800 to 2200. It counts by 100s.

1800, ▢, 2000, ▢, 2200

a. Fill in the missing numbers.

b. Where is 2050? It is between ▢ and ▢.

c. Part of the line counts by 10s: 1990, 2000, ▢, 2020. Fill in the box.

Q12. Put these numbers in order, from smallest to largest.

805, 580, 850, 508

Q13. Fill in each box.

a. The number just before 600 is ▢.

b. The number just after 899 is ▢.

c. The number between 449 and 451 is ▢.

d. The number between 999 and 1001 is ▢.

Q14. a. Draw 263 with hundred-blocks, ten-sticks and ones.

b. What number is 5 hundreds, 0 tens and 2 ones? ▢

Maths in real life

Q15. The Penguin Parade

The Penguin Parade is a real place on Phillip Island in Victoria. Every night, little penguins come out of the sea and walk up the beach to their homes. Mia goes to watch.

Source: Phillip Island Nature Parks, Penguin Parade, penguins.org.au, retrieved 2026-08-19. (The counts in this task are simplified.)

a. Mia sees a chart. It shows the penguin counts for three nights: 240, 180 and 320. Put the counts in order, from smallest to largest.

b. On Friday night, Mia counts by 10s: 950, 960, 970, ▢, ▢. Fill in the missing numbers.

c. On Saturday night, the count is 7 hundreds, 2 tens and 5 ones. Write the number. Then write it in words.

d. Mia draws a number line from 800 to 1200. It counts by 100s: 800, ▢, 1000, ▢, 1200. Fill in the missing numbers.

Answers

Q1. 300, 400, 600, 800, 1000.

Q2. a. 253 b. 418 c. 609.

Q3. a. two hundred and forty-five b. six hundred and seventy c. three hundred and eight.

Q4. 133, 142, 145, 154.

Q5. 250, 270.

Q6. a. 426, 462, 466 b. 170, 701, 710.

Q7. a. 472 b. 615 c. 960 d. 305 e. 1000.

Q8. a. four hundred and eighty-three b. seven hundred and twenty c. six hundred and nine d. eight hundred and fourteen.

Q9. a. 808 b. 880 c. 818 d. 881.

Q10. 990, 1000.

Q11. a. 1900, 2100 b. between 2000 and 2100 c. 2010.

Q12. 508, 580, 805, 850.

Q13. a. 599 b. 900 c. 450 d. 1000.

Q14. a. 2 hundred-blocks, 6 ten-sticks and 3 ones b. 502.

Q15. a. 180, 240, 320 b. 980, 990 c. 725, seven hundred and twenty-five d. 900, 1100.

All the working

Q1. Count by 100s: 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000. The missing numbers are 300, 400, 600, 800 and 1000.

∴ 300, 400, 600, 800, 1000.

Q2. Read the hundreds, then the tens, then the ones. a. 2 hundreds, 5 tens and 3 ones is 253. b. 4 hundreds, 1 ten and 8 ones is 418. c. 6 hundreds, 0 tens and 9 ones is 609. The zero means there are no tens.

∴ a. 253 b. 418 c. 609.

Q3. Say the hundreds, then the tens and ones. a. 245: two hundred and forty-five. b. 670: six hundred and seventy. c. 308: three hundred and eight. There are no tens in 308.

∴ a. two hundred and forty-five b. six hundred and seventy c. three hundred and eight.

Q4. Across, the chart counts by 1. Down, it counts by 10. Row 1: 131, 132, 133, 134, 135, so the first box is 133. Row 2: 141, 142, 143, 144, 145, so the boxes are 142 and 145. Row 3: 151, 152, 153, 154, 155, so the last box is 154.

∴ 133, 142, 145, 154.

Q5. The line counts by 10s: 230, 240, 250, 260, 270, 280. 10 more than 240 is 250, and 10 more than 260 is 270.

∴ 250, 270.

Q6. Read each number. a. 426 is the smallest and 466 is the largest: 426, 462, 466. b. 170 is the smallest: 170, 701, 710.

∴ a. 426, 462, 466 b. 170, 701, 710.

Q7. Write the hundreds first, then the tens and ones. a. four hundred and seventy-two is 472. b. six hundred and fifteen is 615. c. nine hundred and sixty is 960. d. three hundred and five is 305 — there are no tens. e. one thousand is 1000.

∴ a. 472 b. 615 c. 960 d. 305 e. 1000.

Q8. Say the hundreds, then the tens and ones. a. 483: four hundred and eighty-three. b. 720: seven hundred and twenty. c. 609: six hundred and nine. d. 814: eight hundred and fourteen.

∴ a. four hundred and eighty-three b. seven hundred and twenty c. six hundred and nine d. eight hundred and fourteen.

Q9. Say each number slowly. a. Eight hundred and eight has no tens: 808. b. Eight hundred and eighty has 8 tens and 0 ones: 880. c. Eight hundred and eighteen has 1 ten and 8 ones: 818. d. Eight hundred and eighty-one has 8 tens and 1 one: 881.

∴ a. 808 b. 880 c. 818 d. 881.

Q10. The line counts by 10s: 960, 970, 980, 990, 1000, 1010. After 990 comes 1000 — 10 hundreds make 1000.

∴ 990, 1000.

Q11. The line counts by 100s: 1800, 1900, 2000, 2100, 2200. a. The missing numbers are 1900 and 2100. b. 2050 is after 2000 and before 2100, so it is between 2000 and 2100. c. Counting by 10s: 1990, 2000, 2010, 2020, so the box is 2010.

∴ a. 1900, 2100 b. between 2000 and 2100 c. 2010.

Q12. Read each number. 508 is the smallest and 850 is the largest. In order: 508, 580, 805, 850.

∴ 508, 580, 805, 850.

Q13. a. Count back: the number before 600 is 599. b. The number after 899 is 900. c. 450 sits between 449 and 451. d. 1000 sits between 999 and 1001.

∴ a. 599 b. 900 c. 450 d. 1000.

Q14. a. 263 is 2 hundreds, 6 tens and 3 ones, so draw 2 hundred-blocks, 6 ten-sticks and 3 ones. b. 5 hundreds, 0 tens and 2 ones is 502. The zero means there are no tens.

∴ a. 2 hundred-blocks, 6 ten-sticks and 3 ones b. 502.

Q15. a. Read the counts: 240, 180 and 320. 180 is the smallest and 320 is the largest: 180, 240, 320. b. Counting by 10s: 950, 960, 970, 980, 990, so the boxes are 980 and 990. c. 7 hundreds, 2 tens and 5 ones is 725: seven hundred and twenty-five. d. The line counts by 100s: 800, 900, 1000, 1100, 1200, so the boxes are 900 and 1100.

∴ a. 180, 240, 320 b. 980, 990 c. 725, seven hundred and twenty-five d. 900, 1100.

Place value to 1000: partitioning, regrouping, renaming, and the role of a zero digit

partition, rearrange, regroup and rename two- and three-digit numbers using standard and non-standard groupings; recognise the role of a zero digit in place value notation — VC2M2N02

Take your time. Build the number first. Say the name. Then write it.

Things you need: cubes, bundling sticks, counters, paper, pencils.

What we learn

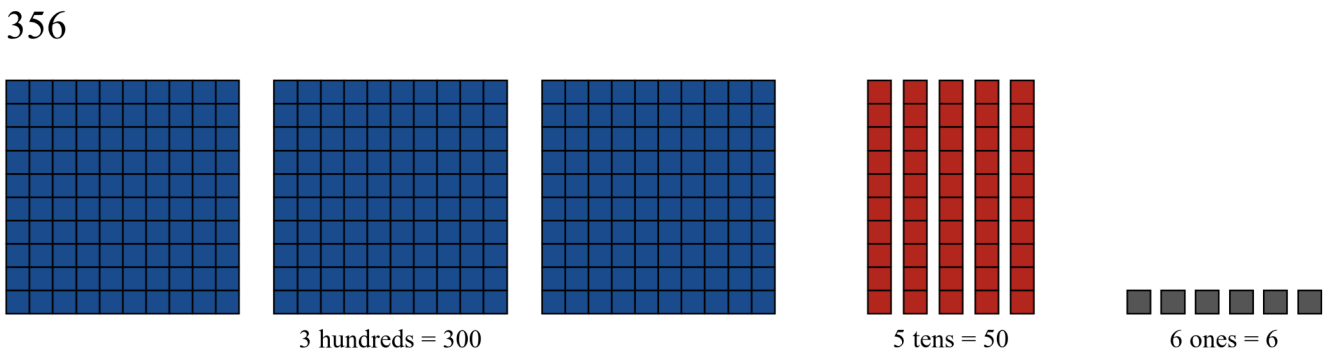
Digits tell you how many

A **digit** is one of 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. We use digits to write numbers.

356 has 3 digits. Each digit has a job to do.

Digit	Place	It means
3	hundreds	3 hundreds = 300
5	tens	5 tens = 50
6	ones	6 ones = 6

The place of a digit tells you what it counts. This is **place value**.



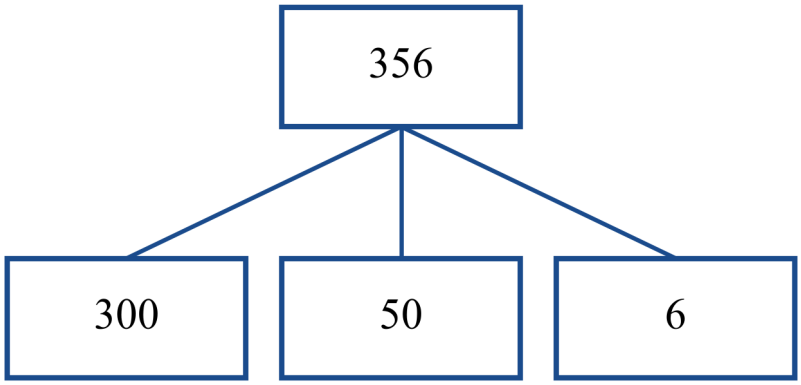
Place value blocks for 356: 3 hundreds flats, 5 tens rods and 6 ones. The 3 means 300, the 5 means 50 and the 6 means 6.

Partition means split

To **partition** a number means to split it into parts.

356 = 300 + 50 + 6

300, 50 and 6 are the parts. Together they make the whole: 356.



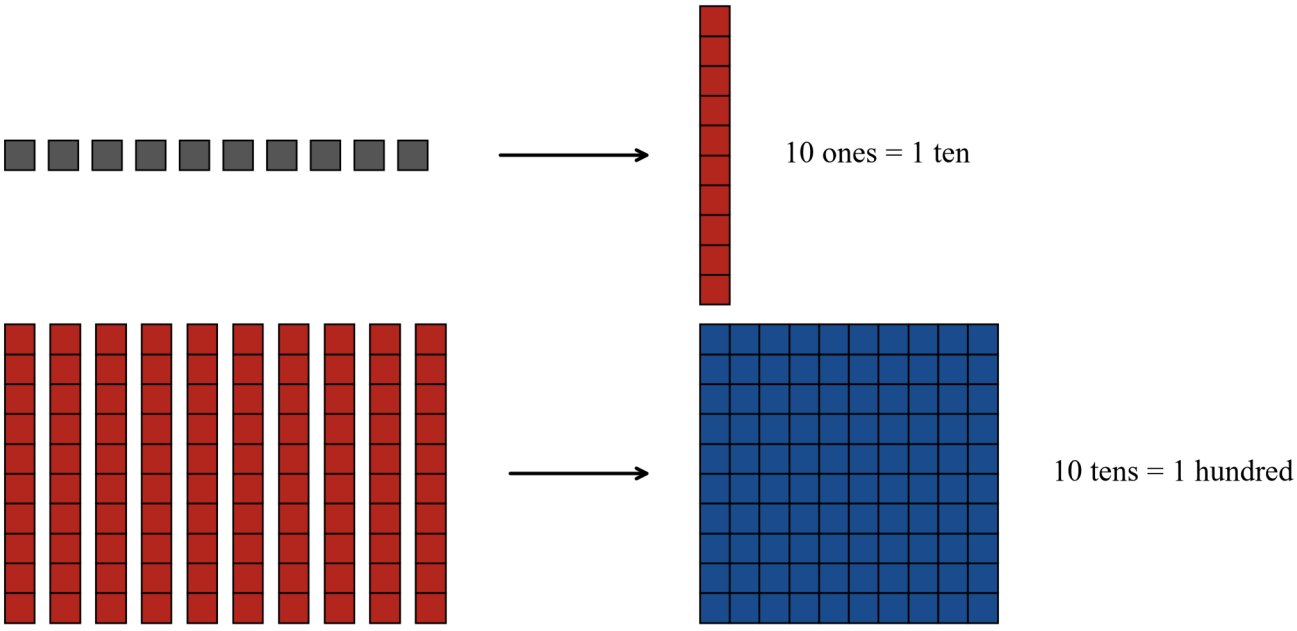
356 = 300 + 50 + 6

Three boxes. The top box is 356. The three boxes under it are 300, 50 and 6.

Regroup means swap

10 ones make 1 ten. 10 tens make 1 hundred.

You can swap 10 ones for 1 ten. You can swap 1 ten for 10 ones. You can swap 10 tens for 1 hundred. The amount stays the same. Only the groups change. This is **regrouping**.



Ten single cubes swap for one tens rod. Ten tens rods swap for one hundreds flat. The amount stays the same.

Rename means a new name

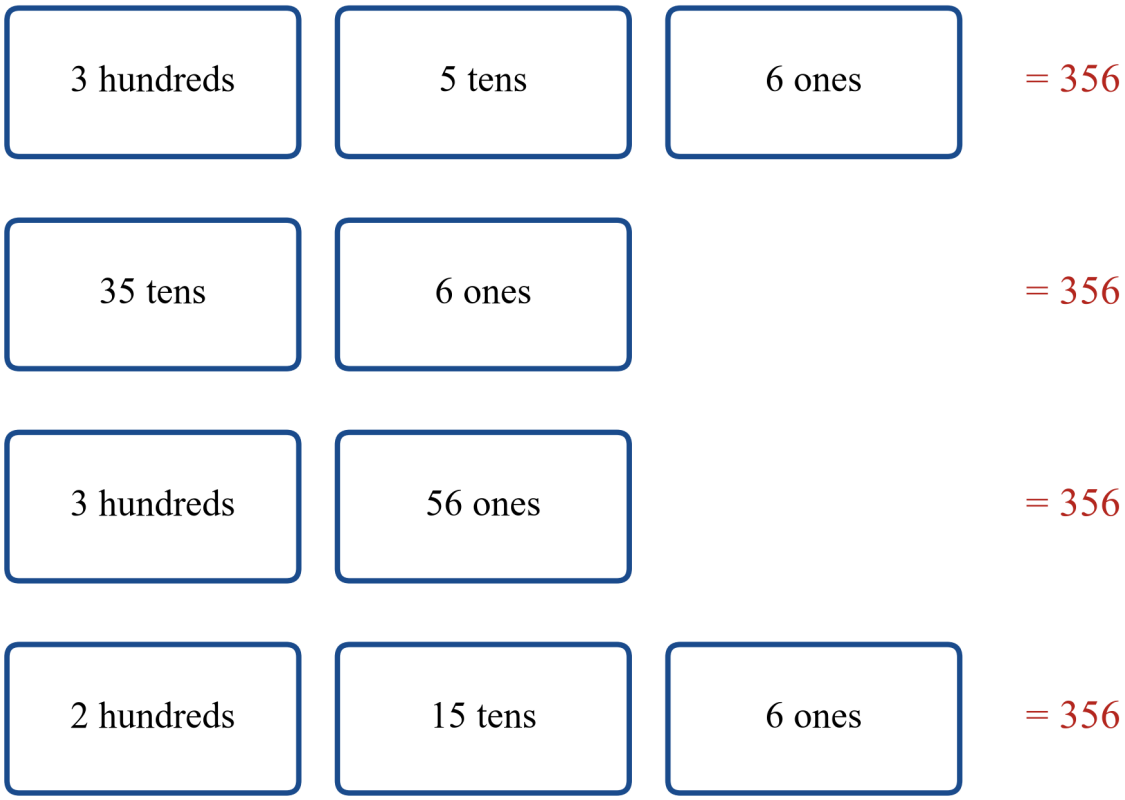
One number can have many names. To **rename** a number means to write it in a new way.

One name for 356 is 3 hundreds, 5 tens and 6 ones.

Here are other names for 356:

- 35 tens and 6 ones
- 3 hundreds and 56 ones
- 2 hundreds, 15 tens and 6 ones

All of these names mean 356.

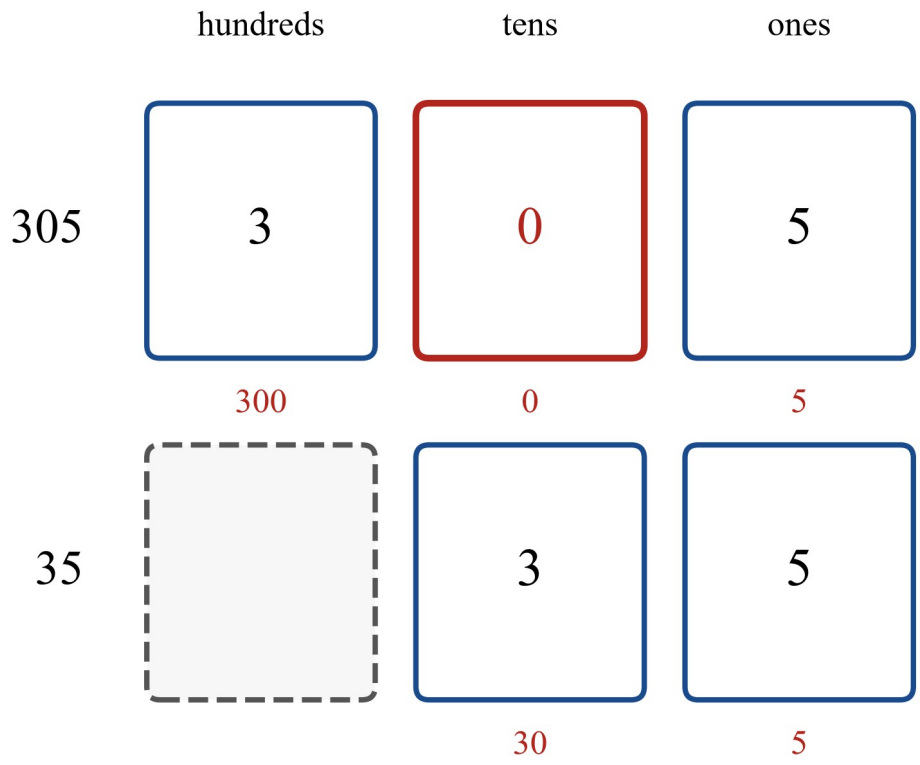


Four names for 356 on number cards: 3 hundreds 5 tens 6 ones, 35 tens 6 ones, 3 hundreds 56 ones, and 2 hundreds 15 tens 6 ones.

Zero holds the place

Look at 305. The 0 says: no tens. 305 = 300 + 5.

With no 0, the number is 35. 35 is 3 tens and 5 ones. 305 is 3 hundreds and 5 ones. They are not the same number.



Digit cards for 305 and 35. In 305, the 0 sits in the tens place. In 35, the 3 sits in the tens place.

In 460, the 0 says: no ones. In 70, the 0 says: no ones.

Zero holds the place. It keeps the other digits where they should be.

We try together

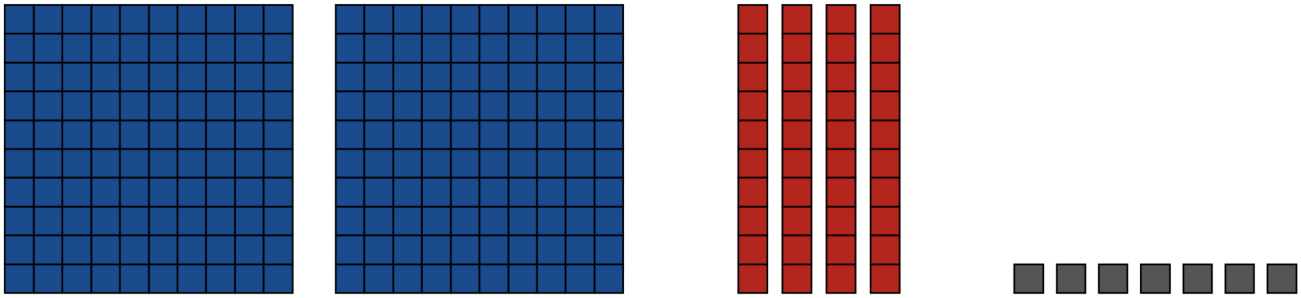
Do these with your teacher. Build with your cubes as you read.

We try 1 — Split 247 into parts

Make 247 with cubes. Then partition it.

Working	Note
Make 247: 2 hundreds flats, 4 tens rods and 7 single cubes.	2 hundreds, 4 tens, 7 ones.
The digit 2 means 2 hundreds. That is 200.	Hundreds place.
The digit 4 means 4 tens. That is 40.	Tens place.
The digit 7 means 7 ones. That is 7.	Ones place.
Partition 247: 247 = 200 + 40 + 7.	The parts make the whole.

Hundreds: [100] [100] Tens: [10] [10] [10] [10] Ones: ● ● ● ● ● ● ●



247 = 200 + 40 + 7

Place value blocks for 247: 2 hundreds flats, 4 tens rods and 7 ones, split into 200, 40 and 7.

∴ 247 = 2 hundreds + 4 tens + 7 ones = 200 + 40 + 7.

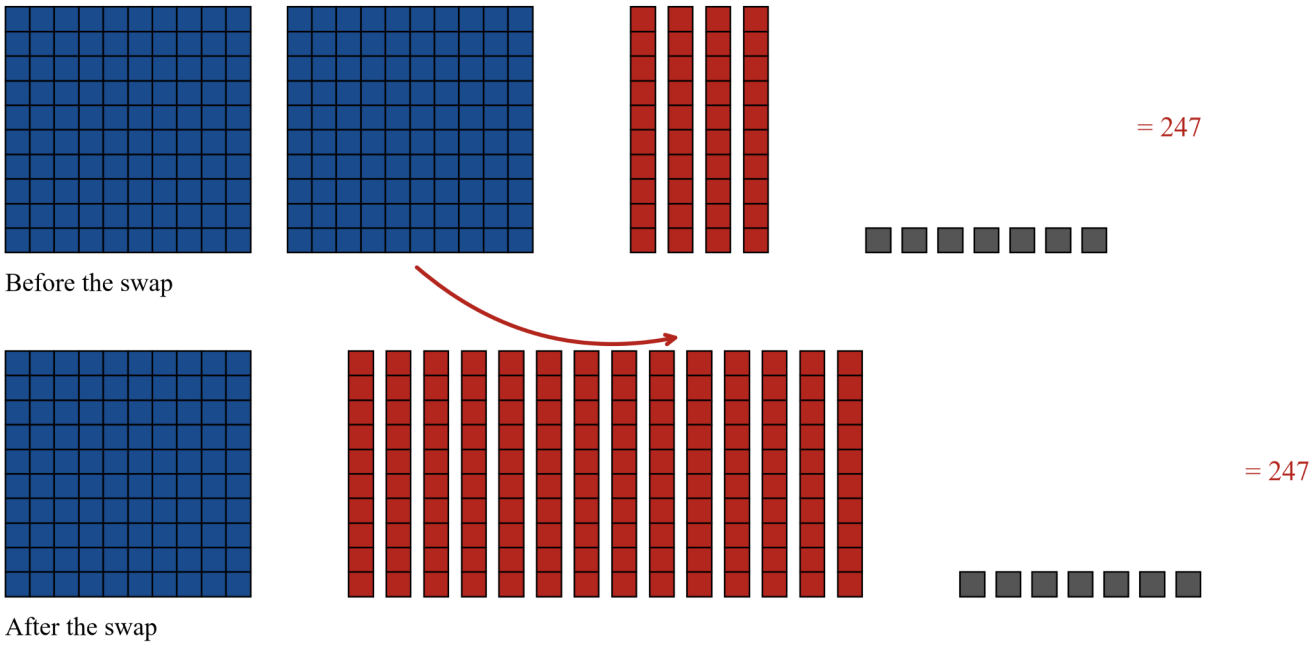
We try 2 — Give 247 new names

Start with your 247. Swap cubes to rename it.

Working	Note
Start: 2 hundreds, 4 tens, 7 ones.	That is 247.
Swap 1 hundred flat for 10 tens rods.	10 tens = 1 hundred.
Now you have 1 hundred, 14 tens, 7 ones.	Same amount, new groups.
Count all the tens: 2 hundreds and 4 tens make 24 tens.	247 = 24 tens 7 ones.
Check: 24 tens is 240, and 240 + 7 = 247. ✓	Both names mean 247.

Before the swap: [100] [100] and [10] [10] [10] [10] and ●●●●●●●

After the swap: [100] and [10] [10] [10] [10] [10] [10] [10] [10] [10] [10] [10] [10] [10] [10] and ●●●●●●●



Before the swap: 2 hundreds flats, 4 tens rods and 7 ones. After the swap: 1 hundred flat, 14 tens rods and 7 ones. Both are 247.

∴ 247 = 1 hundred 14 tens 7 ones, and 247 = 24 tens 7 ones.

Questions to practise

With help

Q1. Partition these numbers.

a. 386 = ▢ hundreds + ▢ tens + ▢ ones

b. 472 = ▢ hundreds + ▢ tens + ▢ ones

c. 605 = ▢ hundreds + ▢ tens + ▢ ones

Q2. What does each digit mean? In 283:

a. The digit 2 means ▢.

b. The digit 8 means ▢.

c. The digit 3 means ▢.

Q3. Rename with tens. Use cubes or sticks to help you.

a. 154 = ▢ tens ▢ ones

b. 68 = ▢ tens ▢ ones

c. 230 = ▢ tens ▢ ones

Q4. Swap the groups. Fill in the blanks.

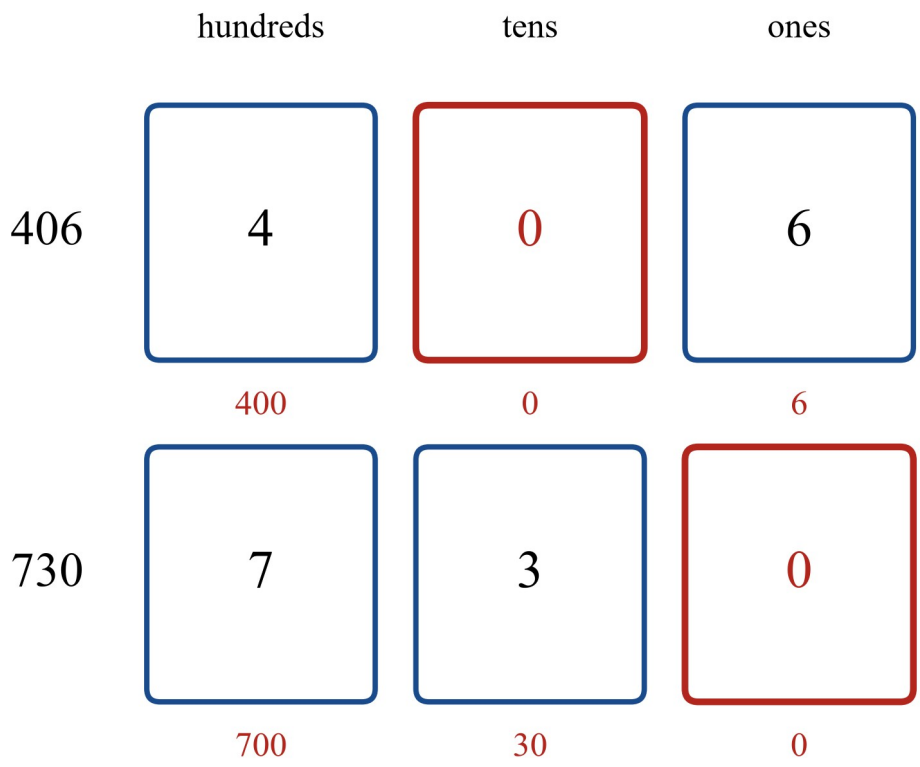
a. 10 ones = ▢ ten

b. 10 tens = ▢ hundred

c. 13 tens = ▢ hundred ▢ tens

d. 2 hundreds 15 tens = ▢ hundreds ▢ tens

Q5. Zero. What does the 0 tell us?



Digit cards for 406 and 730. The 0 in 406 sits in the tens place. The 0 in 730 sits in the ones place.

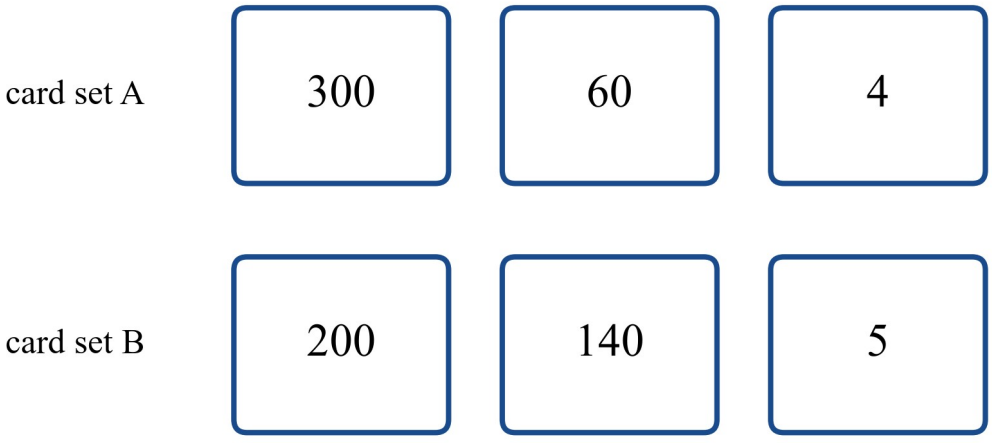
a. In 406, the 0 means there are ▢ tens.

b. In 730, the 0 means there are ▢ ones.

c. Which number is more, 53 or 503? ▢. How do you know?

Q6. Number cards.

Card set A: **300, 60, 4** — Card set B: **200, 140, 5**



Two sets of number cards. Set A is 300, 60 and 4. Set B is 200, 140 and 5.

a. Put card set A together to make one number: ▢

b. Put card set B together to make one number: ▢

c. Write your number from b as hundreds, tens and ones: ▢ hundreds ▢ tens ▢ ones.

On your own

Q7. Partition into hundreds, tens and ones.

a. 476

b. 819

c. 550

d. 703

Q8. Rename as tens and ones.

a. 234 = ▢ tens ▢ ones

b. 78 = ▢ tens ▢ ones

c. 506 = ▢ tens ▢ ones

d. 900 = ▢ tens ▢ ones

Q9. Rename as hundreds and ones.

a. 254 = 2 hundreds ▢ ones

b. 371 = 3 hundreds ▢ ones

c. 618 = ▢ hundreds ▢ ones

d. 83 = ▢ hundreds ▢ ones

Q10. True or false? Fix the false ones.

a. 462 is 46 tens and 2 ones.

b. 308 is 3 hundreds and 8 ones.

c. 740 is 7 hundreds and 4 ones.

d. 529 is 52 tens and 9 ones.

Q11. Write the number.

a. 5 hundreds, 0 tens, 3 ones: ▢

b. 9 tens, 0 ones: ▢

c. 2 hundreds, 0 tens, 0 ones: ▢

d. 8 hundreds, 1 ten, 6 ones: ▢

Q12. Regroup.

a. 16 tens = ▢ hundred ▢ tens

b. 25 ones = ▢ tens ▢ ones

c. 1 hundred 12 tens = ▢ hundreds ▢ tens

d. 3 hundreds 20 tens = ▢ hundreds ▢ tens

Q13. Tick the names that mean 437.

a. 4 hundreds, 3 tens, 7 ones

b. 43 tens and 7 ones

c. 4 hundreds and 27 ones

d. 3 hundreds, 13 tens, 7 ones

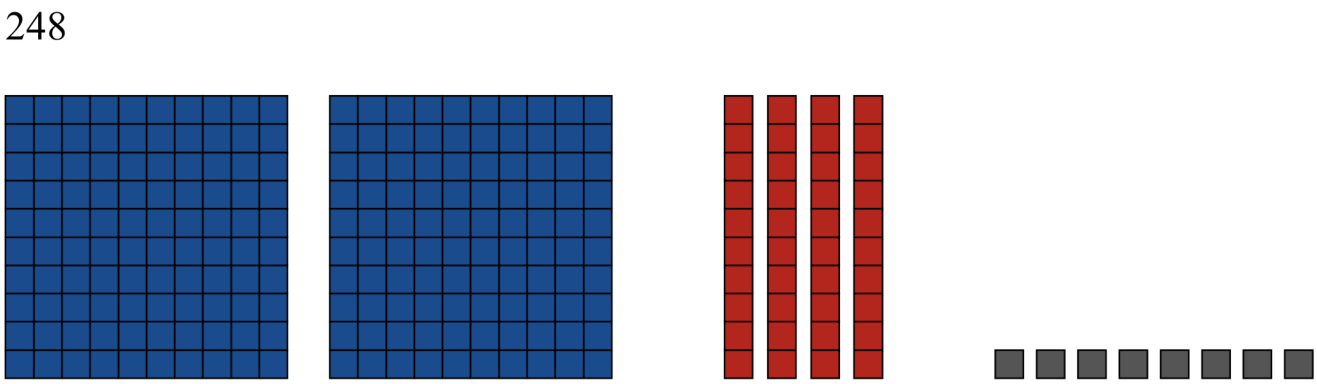
Q14. Ben says, “352 is 35 tens and 2 ones.” Is Ben right? How do you know?

Maths in real life

Q15. The penguin count

Some nights, hundreds of little penguins walk up the beach at Phillip Island. People count them as they come in from the sea.

Source: Phillip Island Nature Park, Penguin Parade, penguins.org.au, retrieved 2026-08-19.



Place value blocks for 248: 2 hundreds flats, 4 tens rods and 8 ones.

a. One night, the count is 248 penguins. Partition 248 into hundreds, tens and ones.

b. The count can also be read in tens. Rename: 248 = ▢ tens ▢ ones.

c. Another night, 305 penguins come in. What does the 0 in 305 tell us?

d. Rename 305 as hundreds and ones: 305 = ▢ hundreds ▢ ones.

Answers

Q1. a. 3, 8, 6 b. 4, 7, 2 c. 6, 0, 5.

Q2. a. 200 b. 80 c. 3.

Q3. a. 15 tens 4 ones b. 6 tens 8 ones c. 23 tens 0 ones.

Q4. a. 1 b. 1 c. 1, 3 d. 3, 5.

Q5. a. 0 b. 0 c. 503. 503 has 5 hundreds. 53 has no hundreds.

Q6. a. 364 b. 345 c. 3, 4, 5.

Q7. a. 4, 7, 6 b. 8, 1, 9 c. 5, 5, 0 d. 7, 0, 3.

Q8. a. 23, 4 b. 7, 8 c. 50, 6 d. 90, 0.

Q9. a. 54 b. 71 c. 6, 18 d. 0, 83.

Q10. a. True b. True c. False. 740 is 7 hundreds and 4 tens, or 74 tens. d. True.

Q11. a. 503 b. 90 c. 200 d. 816.

Q12. a. 1, 6 b. 2, 5 c. 2, 2 d. 5, 0.

Q13. a, b and d.

Q14. Yes. 35 tens is 350, and 350 + 2 = 352.

Q15. a. 248 = 2 hundreds + 4 tens + 8 ones. b. 24 tens 8 ones. c. The 0 means there are no tens. d. 3 hundreds 5 ones.

All the working

Q1. Read each digit by its place. a. 386: 3 hundreds, 8 tens, 6 ones. b. 472: 4 hundreds, 7 tens, 2 ones. c. 605: 6 hundreds, 0 tens, 5 ones.

∴ a. 3, 8, 6 b. 4, 7, 2 c. 6, 0, 5.

Q2. In 283, the 2 is in the hundreds place: 200. The 8 is in the tens place: 80. The 3 is in the ones place: 3.

∴ a. 200 b. 80 c. 3.

Q3. Count the tens in the whole number. a. 154 has 15 tens and 4 ones left over. b. 68 has 6 tens and 8 ones. c. 230 has 23 tens and 0 ones.

∴ a. 15 tens 4 ones b. 6 tens 8 ones c. 23 tens 0 ones.

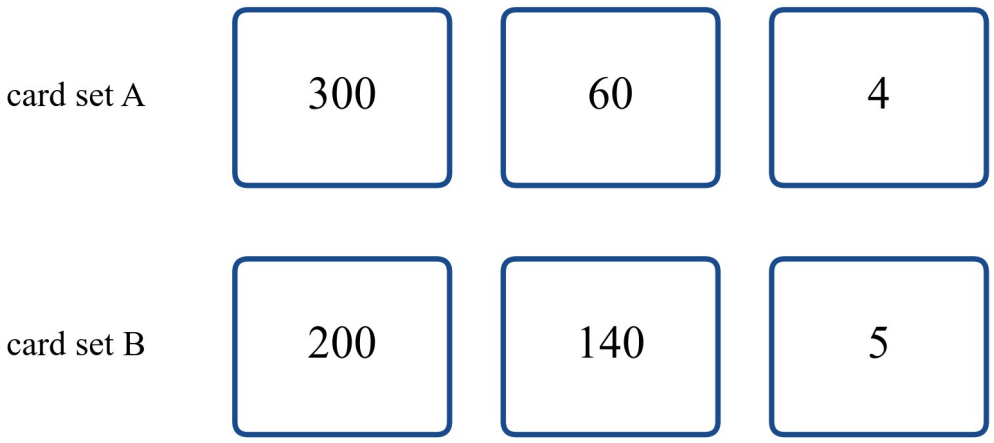
Q4. a. 10 ones make 1 ten. b. 10 tens make 1 hundred. c. 13 tens: 10 of the tens make 1 hundred, so 13 tens is 1 hundred 3 tens. d. 15 tens: 10 of the tens make 1 more hundred. 2 hundreds + 1 hundred = 3 hundreds, with 5 tens left. So 2 hundreds 15 tens = 3 hundreds 5 tens.

∴ a. 1 b. 1 c. 1, 3 d. 3, 5.

Q5. a. In 406, the 0 sits in the tens place: 0 tens. b. In 730, the 0 sits in the ones place: 0 ones. c. 503 has 5 hundreds. 53 has 5 tens and 3 ones and no hundreds. 5 hundreds is more than 5 tens, so 503 is more.

∴ a. 0 b. 0 c. 503.

Q6. a. 300 + 60 + 4 = 364. b. 200 + 140 + 5: 140 is 1 hundred and 4 tens, so 200 + 140 = 340, and 340 + 5 = 345. c. 345 is 3 hundreds, 4 tens and 5 ones.



Two sets of number cards. Set A is 300, 60 and 4. Set B is 200, 140 and 5.

∴ a. 364 b. 345 c. 3, 4, 5.

Q7. Read each digit by its place. a. 476 = 4 hundreds + 7 tens + 6 ones. b. 819 = 8 hundreds + 1 ten + 9 ones. c. 550 = 5 hundreds + 5 tens + 0 ones. d. 703 = 7 hundreds + 0 tens + 3 ones.

∴ a. 4, 7, 6 b. 8, 1, 9 c. 5, 5, 0 d. 7, 0, 3.

Q8. Count all the tens in the number. a. 234: 2 hundreds and 3 tens make 23 tens, so 234 = 23 tens 4 ones. b. 78 = 7 tens 8 ones. c. 506: 5 hundreds make 50 tens, so 506 = 50 tens 6 ones. d. 900: 9 hundreds make 90 tens, so 900 = 90 tens 0 ones.

∴ a. 23, 4 b. 7, 8 c. 50, 6 d. 90, 0.

Q9. Keep the hundreds. The rest are ones. a. 254 = 2 hundreds 54 ones. b. 371 = 3 hundreds 71 ones. c. 618 = 6 hundreds 18 ones. d. 83 has no hundreds: 83 = 0 hundreds 83 ones.

∴ a. 54 b. 71 c. 6, 18 d. 0, 83.

Q10. Check each name by making the number. a. 46 tens is 460, and 460 + 2 = 462. True. b. 3 hundreds and 8 ones: 300 + 8 = 308. True. c. 7 hundreds and 4 ones: 700 + 4 = 704, not 740. False. 740 is 7 hundreds and 4 tens, or 74 tens. d. 52 tens is 520, and 520 + 9 = 529. True.

∴ a. True b. True c. False d. True.

Q11. Write each part in its place. a. 5 hundreds, 0 tens, 3 ones: 503. b. 9 tens, 0 ones: 90. c. 2 hundreds, 0 tens, 0 ones: 200. d. 8 hundreds, 1 ten, 6 ones: 816.

∴ a. 503 b. 90 c. 200 d. 816.

Q12. a. 16 tens: 10 tens make 1 hundred, so 16 tens = 1 hundred 6 tens. b. 25 ones: 20 of the ones make 2 tens, so 25 ones = 2 tens 5 ones. c. 1 hundred 12 tens: 10 of the tens make 1 more hundred, so 1 hundred + 1 hundred = 2 hundreds, with 2 tens left: 2 hundreds 2 tens. d. 3 hundreds 20 tens: 20 tens make 2 hundreds, so 3 + 2 = 5 hundreds, with 0 tens left: 5 hundreds 0 tens.

∴ a. 1, 6 b. 2, 5 c. 2, 2 d. 5, 0.

Q13. Make each name into a number. a. 400 + 30 + 7 = 437. Tick. b. 43 tens is 430, and 430 + 7 = 437. Tick. c. 4 hundreds and 27 ones: 400 + 27 = 427, not 437. No tick. d. 3 hundreds, 13 tens, 7 ones: 300 + 130 + 7 = 437. Tick.

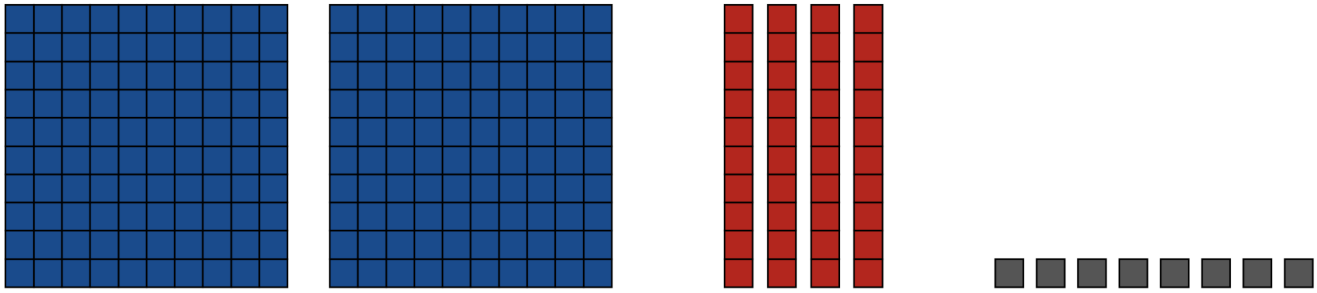
∴ a, b and d.

Q14. 35 tens is 350. 350 + 2 = 352. So 352 is 35 tens and 2 ones.

∴ Yes, Ben is right.

Q15. a. In 248, the 2 is in the hundreds place, the 4 is in the tens place and the 8 is in the ones place: 248 = 200 + 40 + 8. b. 2 hundreds and 4 tens make 24 tens, so 248 = 24 tens 8 ones. c. In 305, the 0 sits in the tens place. It means there are no tens. d. Keep the 3 hundreds. The rest are ones: 305 = 3 hundreds 5 ones.

248



Place value blocks for 248: 2 hundreds flats, 4 tens rods and 8 ones.

∴ a. 2 hundreds + 4 tens + 8 ones b. 24 tens 8 ones c. 0 tens d. 3 hundreds 5 ones.

Adding and subtracting one- and two-digit numbers, with number sentences

> *add and subtract one- and two-digit numbers, represent problems using number sentences and solve using part-part-whole reasoning and a variety of calculation strategies* — VC2M2N04

Take your time. Try a way that works for you. Then write the number sentence.

Things you need: counters, cubes, a 10-frame, a number line, a hundreds chart, pencils and paper.

What we learn

Number sentences tell a story

We write addition with + and =.

7 + 8 = 15

This is a **number sentence**. It tells a story: 7 and 8 go together to make 15.

Seven blue counters and eight red counters go together to make fifteen counters.

We write subtraction with − and =.

15 − 8 = 7

This is a number sentence too. It tells a story: start with 15, take away 8, and 7 is left.

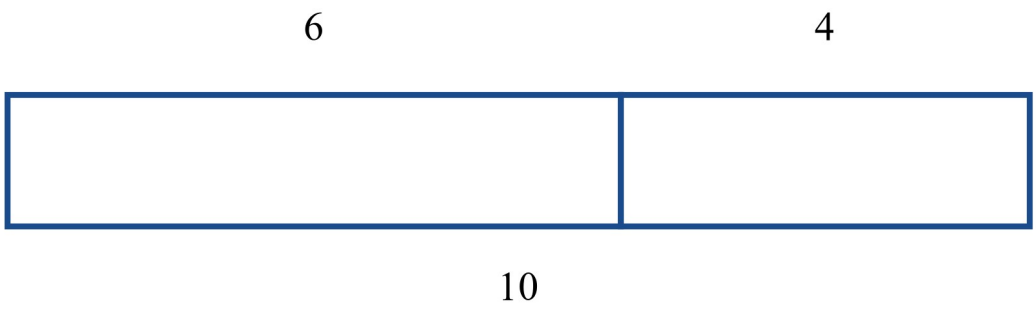
Fifteen counters. Eight are taken away, and seven are left.

We write number sentences across the page.

Parts make a whole

Two parts can make a whole. Look at the bar model:

```
  6         4
|-------|-------|
|------ 10 -----|
```



A bar model. The parts are 6 and 4, and the whole is 10.

6 and 4 are the parts. 10 is the whole.

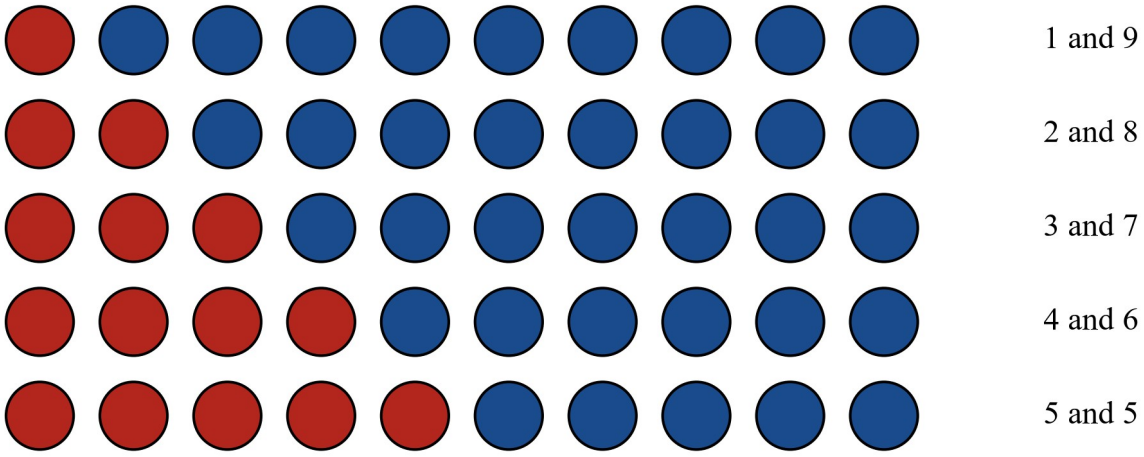
6 + 4 = 10

If we know the whole and one part, we can find the other part:

10 − 4 = 6

We call this **part-part-whole**.

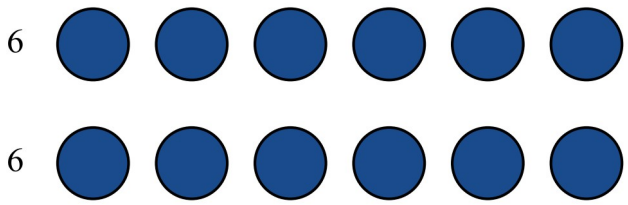
These pairs make 10: 1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5.



Rows of counters that make ten: 1 and 9, 2 and 8, 3 and 7, 4 and 6, and 5 and 5.

Doubles and near doubles help

Double 6 is 6 + 6. Double 6 = 12.



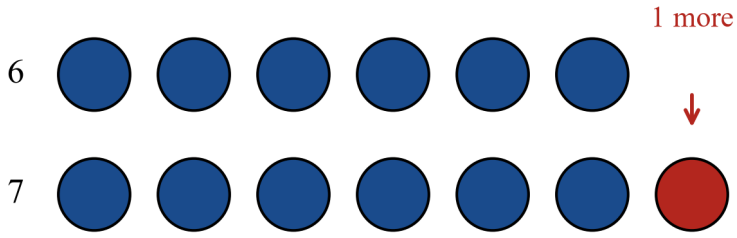
6 + 6 = 12

Two rows of six counters. Double 6 is 12.

If we know a double, near doubles help:

6 + 7 is near double 6. It is double 6 and 1 more.

6 + 7 = 12 + 1 = 13



6 + 7 = 12 + 1 = 13

Two rows of six counters, with one more counter. 6 + 7 is 13.

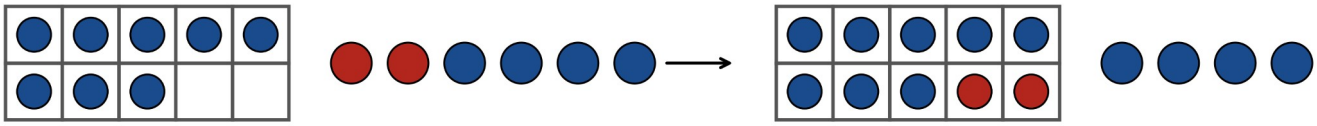
Make 10

8 needs 2 to make 10.

To work out 8 + 6, split 6 into 2 and 4.

8 + 2 = 10, then 10 + 4 = 14.

So 8 + 6 = 14.



8 + 6 10 + 4 = 14

Eight counters in a 10-frame and six more counters. Two counters move in to fill it. Ten and four make 14.

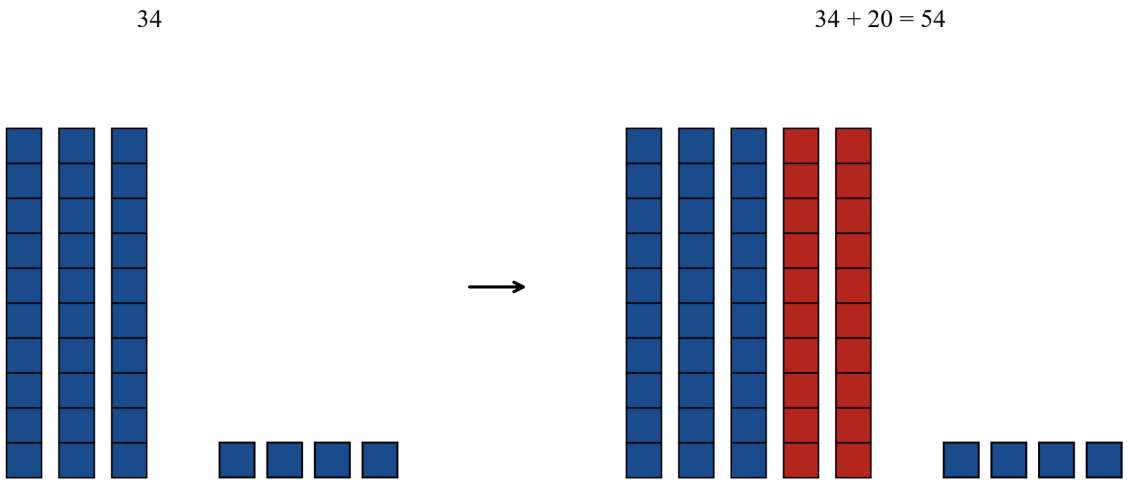
Add tens and ones

A 2-digit number is tens and ones. 34 is 3 tens and 4 ones.

To add tens, add the tens. The ones stay the same.

34 + 20 = 54

3 tens and 2 more tens is 5 tens. The 4 ones stay. 5 tens and 4 ones is 54.



Three tens and four ones make 34. Two more tens make 54.

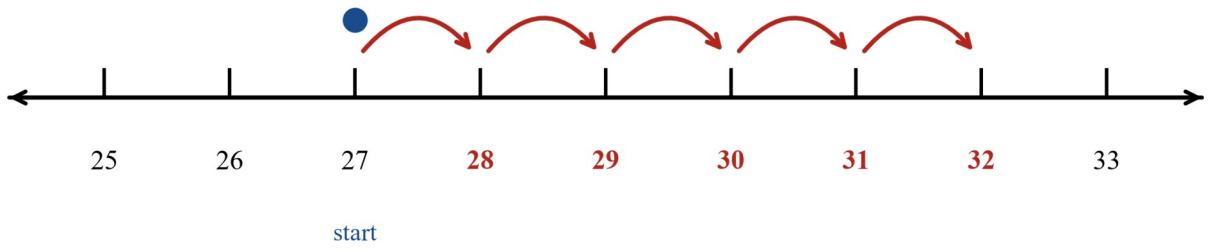
Add 0 to a number, and the number stays the same:

34 + 0 = 34

Count on and count back

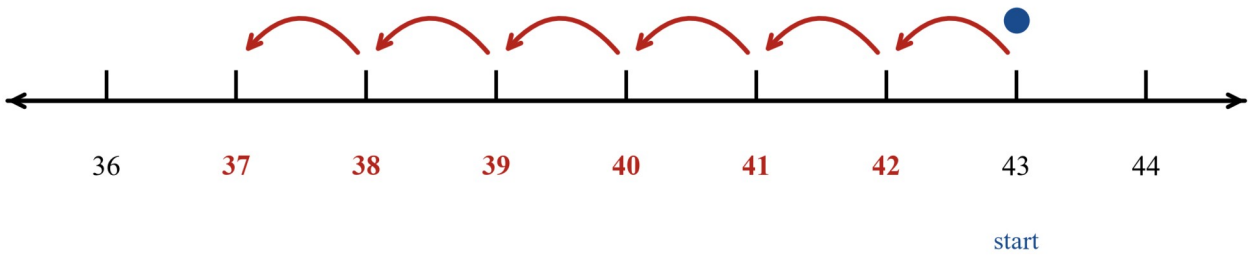
A number line helps. A hundreds chart helps too.

To add, we count on. 27 + 5: start at 27, count on 5: 28, 29, 30, 31, 32.



A number line. Start at 27 and count on five jumps to 32.

To subtract, we count back. 43 − 6: start at 43, count back 6: 42, 41, 40, 39, 38, 37.



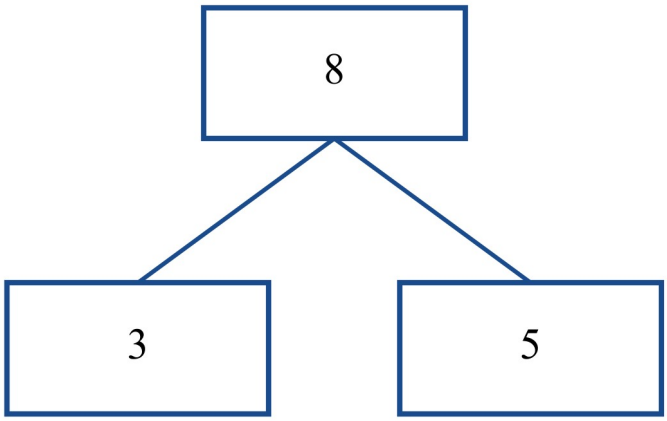
A number line. Start at 43 and count back six jumps to 37.

On a hundreds chart, 1 down is 10 more. 1 up is 10 less.

Addition and subtraction go together

The same numbers go together in addition and in subtraction:

3 + 5 = 8 5 + 3 = 8 8 − 3 = 5 8 − 5 = 3



A part-part-whole model. The whole is 8, and the parts are 3 and 5.

If we know one fact, we know the others.

We can use addition to check subtraction. If 8 − 3 = 5, then 5 + 3 = 8. ✓

We try together

Do these with your teacher. Build with your cubes and use your number line as you read.

We try 1 — add two 2-digit numbers

Work out 46 + 27. Build it with cubes.

Working	Note
Make 46: 4 tens and 6 ones.	46 is 40 + 6.
Make 27: 2 tens and 7 ones.	27 is 20 + 7.
Add the tens: 4 tens + 2 tens = 6 tens.	40 + 20 = 60

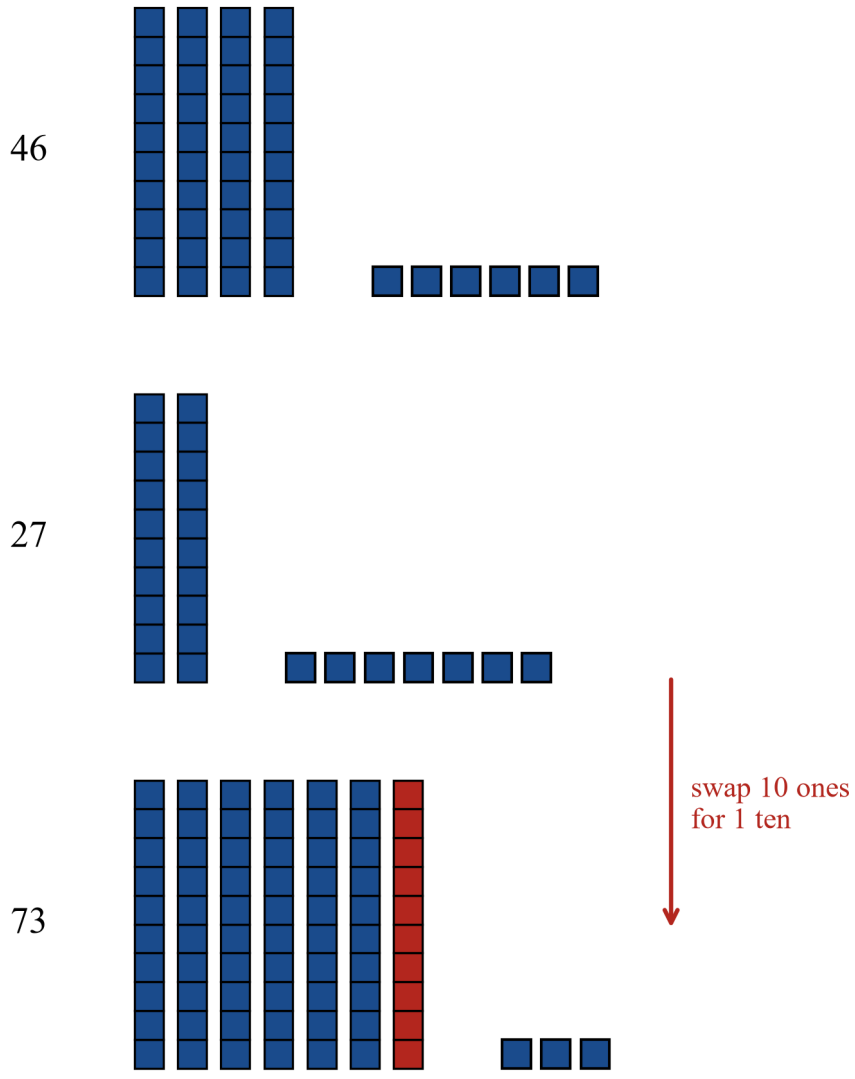
Working	Note
Add the ones: 6 + 7 = 13.	6 needs 4 to make 10, so 6 + 7 = 10 + 3.
13 ones is 1 ten and 3 ones. Swap 10 ones for 1 ten.	Now there are 7 tens and 3 ones.
7 tens and 3 ones is 73.	70 + 3 = 73

46: [10] [10] [10] [10] and ● ● ● ● ● ● 27: [10] [10] and ● ● ● ● ● ● ●

Tens: [10] [10] [10] [10] [10] [10] → 6 tens Ones: ● ● ● ● ● ● ● ● ● ● ● ● ● → 13 ones

Swap 10 ones for 1 ten:

Tens: [10] [10] [10] [10] [10] [10] [10] → 7 tens Ones: ● ● ● → 3 ones



Tens and ones blocks for 46 and 27. Ten ones swap for one ten, making 73.

∴ 46 + 27 = 73.

We try 2 — subtract a 2-digit number, then check

Work out 54 − 27. Use a bar model and a number line.

Working	Note
Draw the bar model. The whole is 54. One part is 27.	27 + ▢ = 54

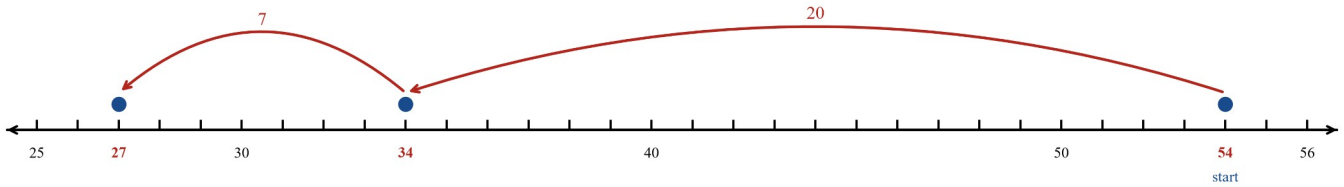
Working	Note
The other part is ▢.	
Write the number sentence: 54 − 27 = ▢.	Take 27 away from 54.
Start at 54. Count back 2 tens: 54, 44, 34.	54 − 20 = 34
Count back 7 ones: 33, 32, 31, 30, 29, 28, 27.	34 − 7 = 27
Check with addition: 27 + 27 = 54. ✓	The parts 27 and 27 make the whole 54.

Bar model:

```
  27        ▢
|-------|-------|
|------ 54 -----|
```

Number line:

```
27              34                              54
|←---- 7 -----|←---------- 20 ----------|
```



A number line. Start at 54, go back 20 to 34, then go back 7 to 27.

Start at 54. Go back 20, then go back 7. You land on 27.

∴ 54 − 27 = 27.

Questions to practise

With help

Q1. These go together to make 10. Fill in the missing numbers.

a. 6 and ▢ make 10
b. 3 and ▢ make 10
c. ▢ and 5 make 10
d. 8 and ▢ make 10
e. Write the number sentence for part a: 6 + ▢ = 10

Q2. Look at the bar models. Fill in the missing number. Write the number sentence.

a. The parts are 23 and 15. The whole is ▢.

```
  23        15
|-------|-------|
|------ ▢ ------|
```

Number sentence: 23 + 15 = ▢

b. The whole is 49. One part is 22. The other part is ▢.

```
  22        ▢
|-------|-------|
|------ 49 -----|
```

Number sentence: 49 − 22 = ▢

Q3. Use doubles you know.

a. double 5 = ▢
b. double 6 = ▢
c. 6 + 7 = double 6 + ▢ = ▢
d. 5 + 4 = double 4 + ▢ = ▢

Q4. Make 10 first.

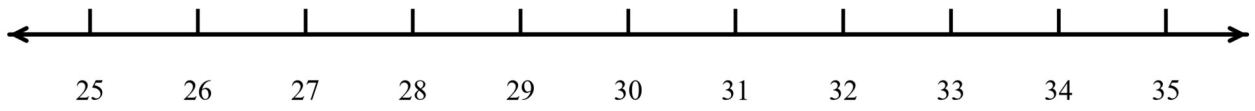
a. 8 + 5: 8 + ▢ = 10, then 10 + ▢ = ▢
b. 7 + 6: 7 + ▢ = 10, then 10 + ▢ = ▢
c. 9 + 5: 9 + ▢ = 10, then 10 + ▢ = ▢

Q5. Add the tens. The ones stay the same.

a. 34 + 20: 3 tens + 2 tens = ▢ tens. The 4 ones stay. 34 + 20 = ▢
b. 45 + 30: 4 tens + 3 tens = ▢ tens. The ▢ ones stay. 45 + 30 = ▢
c. 27 + 10: 2 tens + 1 ten = ▢ tens. The 7 ones stay. 27 + 10 = ▢
d. 48 + 0 = ▢

Q6. Count on and count back. Use the number line.

```
|--|--|--|--|--|--|--|--|--|--|--|
25 26 27 28 29 30 31 32 33 34 35
```



A number line from 25 to 35.

a. Start at 27. Count on 5. 27 + 5 = ▢
b. Start at 33. Count back 6. 33 − 6 = ▢

On a hundreds chart, 1 down is 10 more and 1 up is 10 less.

c. 56 + 10 = ▢
d. 89 − 10 = ▢

On your own

Q7. Add. You can make 10 or use a double.

a. 6 + 7 = ▢
b. 8 + 6 = ▢
c. 9 + 6 = ▢
d. 7 + 4 = ▢
e. 8 + 9 = ▢
f. 6 + 6 = ▢

Q8. Subtract.

a. 13 − 6 = ▢
b. 15 − 9 = ▢
c. 12 − 4 = ▢
d. 14 − 7 = ▢
e. 17 − 9 = ▢

f. $18 - 9 = \square$

Q9. Add. Count on or make 10.

a. $27 + 5 = \square$
b. $46 + 8 = \square$
c. $63 + 9 = \square$
d. $55 + 7 = \square$

Q10. Add two 2-digit numbers. Split into tens and ones to help you.

a. $34 + 25 = \square$
b. $46 + 38 = \square$
c. $52 + 19 = \square$
d. $27 + 45 = \square$

Q11. Subtract. Count back or use a number line.

a. $38 - 5 = \square$
b. $47 - 20 = \square$
c. $63 - 8 = \square$
d. $94 - 27 = \square$

Q12. Write the number sentence. Then work it out.

a. Ben has 24 shells. He finds 17 more shells. How many shells does Ben have now?
b. Ava has 50 stickers. She gives 23 to her friend. How many stickers does Ava have left?

Q13. Find the missing number.

a. $8 + \square = 15$
b. $\square - 6 = 7$
c. $27 + \square = 35$
d. $62 - \square = 28$

Q14. Think, then show how you know.

a. Tom says, "6 + 7 is double 6 and 1 more." Is Tom right? Show how you know.
b. Make 10 to work out 9 + 6. Show each step.

Maths in real life

Q15. Rocks by the sea

The Twelve Apostles are big rocks in the sea. They stand along the Great Ocean Road in Victoria. Long ago, 9 rocks stood tall. In 2005, 1 rock came down. In 2009, 1 more rock came down.

Source: Wikipedia, The Twelve Apostles (Victoria), en.wikipedia.org, retrieved 2026-08-19.

a. After 2005, how many rocks still stood? Write the number sentence.
b. After 2009, how many rocks still stood? Write the number sentence.
c. The name says 12. Now 7 rocks stand. How many more than 7 is 12? Write the number sentence.

Answers

Q1. a. 4 b. 7 c. 5 d. 2 e. 6 + 4 = 10.

Q2. a. 38; 23 + 15 = 38. b. 27; 49 − 22 = 27.

Q3. a. 10 b. 12 c. 1, 13 d. 1, 9.

Q4. a. 2, 3, 13 b. 3, 3, 13 c. 1, 4, 14.

Q5. a. 5 tens, 54 b. 7 tens, 5 ones, 75 c. 3 tens, 37 d. 48.

Q6. a. 32 b. 27 c. 66 d. 79.

Q7. a. 13 b. 14 c. 15 d. 11 e. 17 f. 12.

Q8. a. 7 b. 6 c. 8 d. 7 e. 8 f. 9.

Q9. a. 32 b. 54 c. 72 d. 62.

Q10. a. 59 b. 84 c. 71 d. 72.

Q11. a. 33 b. 27 c. 55 d. 67.

Q12. a. 41 shells; 24 + 17 = 41. b. 27 stickers; 50 − 23 = 27.

Q13. a. 7 b. 13 c. 8 d. 34.

Q14. a. Yes. b. 15; 9 + 1 = 10, then 10 + 5 = 15.

Q15. a. 8 rocks; 9 − 1 = 8. b. 7 rocks; 8 − 1 = 7. c. 5; 12 − 7 = 5.

All the working

Q1. 6 and 4 make 10. 3 and 7 make 10. 5 and 5 make 10. 8 and 2 make 10.

∴ a. 4 b. 7 c. 5 d. 2, and 6 + 4 = 10.

Q2. a. The parts 23 and 15 make the whole: 23 + 15 = 38. b. The whole is 49 and one part is 22. The other part is 49 − 22 = 27.

∴ a. 23 + 15 = 38 b. 49 − 22 = 27.

Q3. Double 5 is 5 + 5 = 10. Double 6 is 6 + 6 = 12. 6 + 7 is near double 6: 12 + 1 = 13. 5 + 4 is near double 4: 8 + 1 = 9.

∴ a. 10 b. 12 c. 1, 13 d. 1, 9.

Q4. a. 8 needs 2 to make 10. Split 5 into 2 and 3: 8 + 2 = 10, then 10 + 3 = 13. b. 7 needs 3 to make 10. Split 6 into 3 and 3: 7 + 3 = 10, then 10 + 3 = 13. c. 9 needs 1 to make 10. Split 5 into 1 and 4: 9 + 1 = 10, then 10 + 4 = 14.

∴ a. 2, 3, 13 b. 3, 3, 13 c. 1, 4, 14.

Q5. a. 3 tens + 2 tens = 5 tens. The 4 ones stay: 54. b. 4 tens + 3 tens = 7 tens. The 5 ones stay: 75. c. 2 tens + 1 ten = 3 tens. The 7 ones stay: 37. d. Add 0 and the number stays the same: 48.

∴ a. 5 tens, 54 b. 7 tens, 5 ones, 75 c. 3 tens, 37 d. 48.

Q6. a. Start at 27, count on 5: 28, 29, 30, 31, 32. b. Start at 33, count back 6: 32, 31, 30, 29, 28, 27. c. 1 down on a hundreds chart is 10 more: 56 + 10 = 66. d. 1 up is 10 less: 89 − 10 = 79.

∴ a. 32 b. 27 c. 66 d. 79.

Q7. Make 10 or use a double: 6 + 7 = 13, 8 + 6 = 14, 9 + 6 = 15, 7 + 4 = 11, 8 + 9 = 17, 6 + 6 = 12.

∴ a. 13 b. 14 c. 15 d. 11 e. 17 f. 12.

Q8. Use the facts that go together: 13 − 6 = 7, 15 − 9 = 6, 12 − 4 = 8, 14 − 7 = 7, 17 − 9 = 8, 18 − 9 = 9.

∴ a. 7 b. 6 c. 8 d. 7 e. 8 f. 9.

Q9. Count on or make 10: 27 + 5 = 32, 46 + 8 = 54, 63 + 9 = 72, 55 + 7 = 62.

∴ a. 32 b. 54 c. 72 d. 62.

Q10. Split into tens and ones: 34 + 25: 30 + 20 = 50, 4 + 5 = 9, 50 + 9 = 59. 46 + 38: 40 + 30 = 70, 6 + 8 = 14, 70 + 14 = 84. 52 + 19: 50 + 10 = 60, 2 + 9 = 11, 60 + 11 = 71. 27 + 45: 20 + 40 = 60, 7 + 5 = 12, 60 + 12 = 72.

∴ a. 59 b. 84 c. 71 d. 72.

Q11. Count back: 38 − 5 = 33. Take away tens: 47 − 20 = 27. Count back or make 10: 63 − 8 = 55. Split 27 into 20 and 7: 94 − 20 = 74, then 74 − 7 = 67.

∴ a. 33 b. 27 c. 55 d. 67.

Q12. a. Ben starts with 24 and finds 17 more. That is addition: 24 + 17. Split into tens and ones: 20 + 10 = 30, 4 + 7 = 11, 30 + 11 = 41. b. Ava starts with 50 and gives 23 away. That is subtraction: 50 − 23. Split 23 into 20 and 3: 50 − 20 = 30, then 30 − 3 = 27.

∴ a. 24 + 17 = 41 shells b. 50 − 23 = 27 stickers.

Q13. a. 8 + 7 = 15, so ▢ = 7. b. 7 + 6 = 13, so ▢ = 13. c. 27 + 8 = 35, so ▢ = 8. d. 28 + 34 = 62, so ▢ = 34.

∴ a. 7 b. 13 c. 8 d. 34.

Q14. a. Double 6 is 12, and 12 + 1 = 13. Also 6 + 7 = 13. So Tom is right. b. 9 needs 1 to make 10. Split 6 into 1 and 5. 9 + 1 = 10 and 10 + 5 = 15. So 9 + 6 = 15.

∴ a. Yes, Tom is right. b. 9 + 1 = 10, then 10 + 5 = 15.

Q15. a. 9 rocks stood and 1 came down: 9 − 1 = 8. b. 8 rocks stood and 1 more came down: 8 − 1 = 7. c. The name says 12 and 7 rocks stand now: 12 − 7 = 5.

∴ a. 9 − 1 = 8 b. 8 − 1 = 7 c. 12 − 7 = 5.

Multiplying and dividing by one-digit numbers: arrays, equal groups and partitioning

multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays and partitioning to support a variety of calculation strategies — VC2M2N05

Have a go. There is more than one way to work it out. Use counters and cubes to help you.

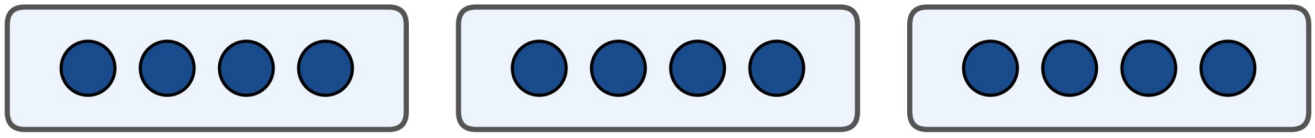
Things you need: counters, cubes, toy-money $1 coins, a dice, paper, pencils.

What we learn

Equal groups and ×

Equal groups have the same number in each group.

3 groups of 4 is 4 + 4 + 4. That is 12.



Three groups of four counters. There are twelve counters.

We can write this with ×:

3 × 4 = 12

We read 3 × 4 as “3 groups of 4”.

You can count by 4s to check: 4, 8, 12.

Arrays

An array is things in rows. Each row has the same number.

Here is an array with 3 rows of 4:

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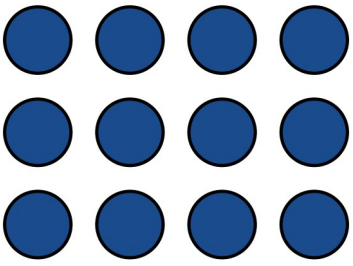


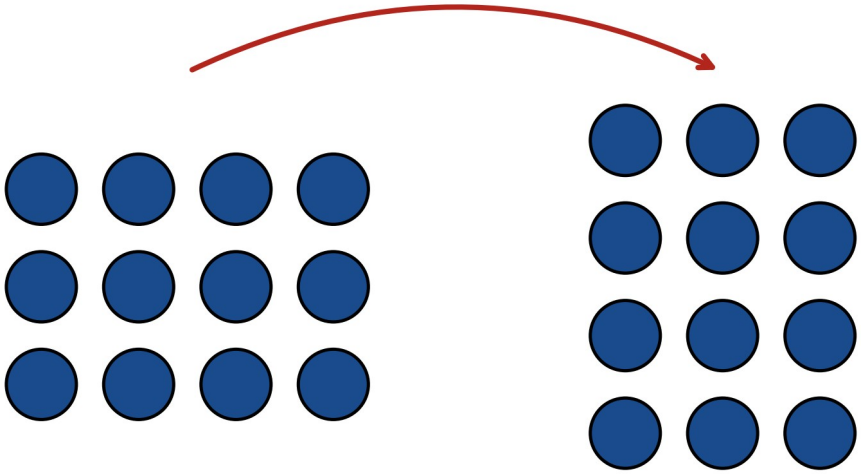
An array of dots with three rows of four. There are twelve dots.

3 rows of 4 is 3 fours. We write 3 × 4 = 12.

Turn the array around. Now it is 4 rows of 3.

4 × 3 = 12

The array turns around, but the number stays the same.



3 × 4 4 × 3

An array of three rows of four, turned around to make four rows of three. Both arrays have twelve dots.

Different arrays for the same number

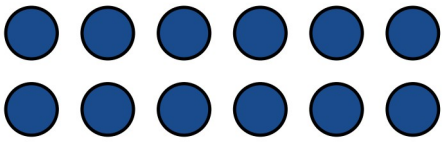
12 can be made with different arrays:

2 rows of 6 — “2 sixes” — 2 × 6 = 12

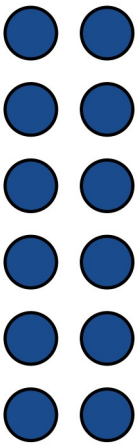
6 rows of 2 — “6 twos” — 6 × 2 = 12

3 rows of 4 — “3 fours” — 3 × 4 = 12

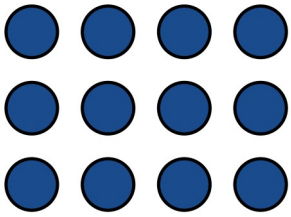
4 rows of 3 — “4 threes” — 4 × 3 = 12



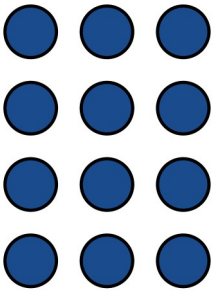
$2 \times 6 = 12$



$6 \times 2 = 12$



$3 \times 4 = 12$



$4 \times 3 = 12$

Four arrays that all show twelve dots: two rows of six, six rows of two, three rows of four and four rows of three.

Break an array to count it

To **partition** means to break into parts. You can partition an array to count it fast.

Look at 3 rows of 5:

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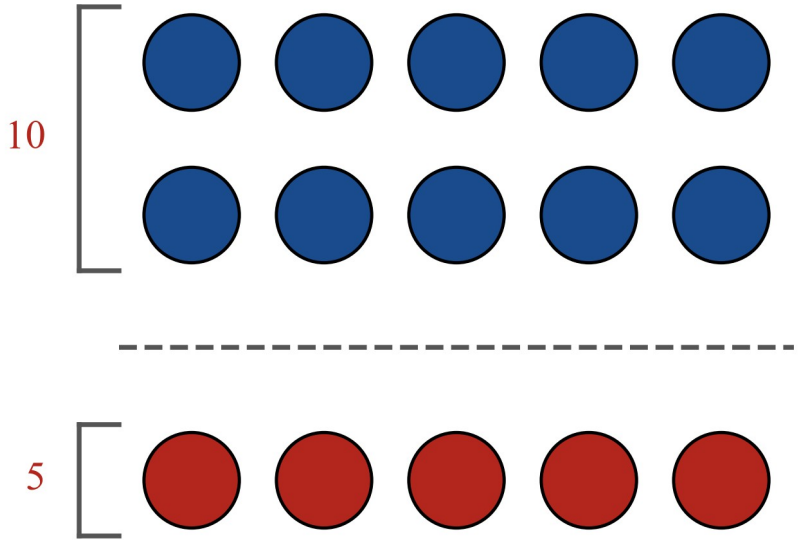


Three rows of five dots. The first two rows make ten, and one more row makes five more.

I can see 2 fives without counting. 2 fives is 10. Then there is 1 five more.

10 + 5 = 15

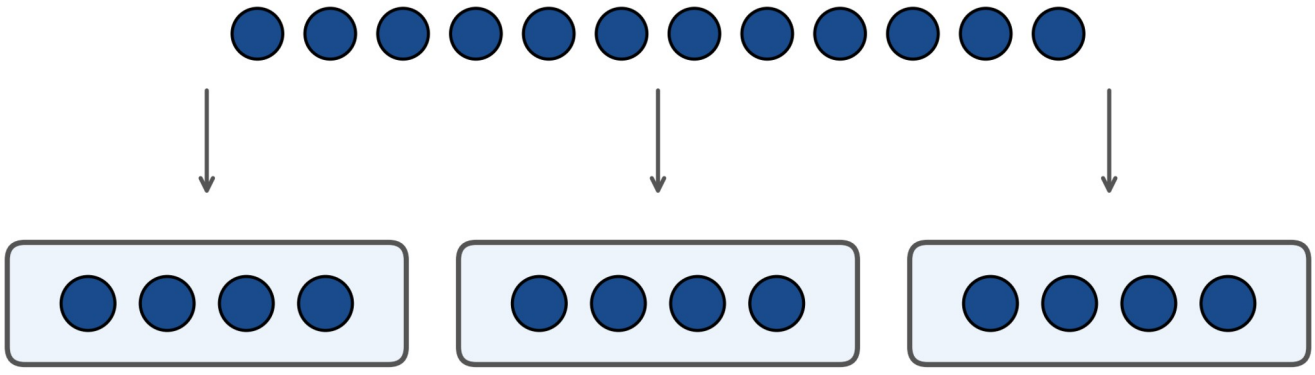
So 3 × 5 = 15. Use parts you know to count an array.

Two ways to divide

Share. Put 12 counters into 3 equal groups. How many in each group?

●●●● ●●●● ●●●●

There are 4 in each group. 12 ÷ 3 = 4.



Twelve counters shared into three equal groups. Each group has four counters.

Make groups. Put 12 counters into groups of 3. How many groups?

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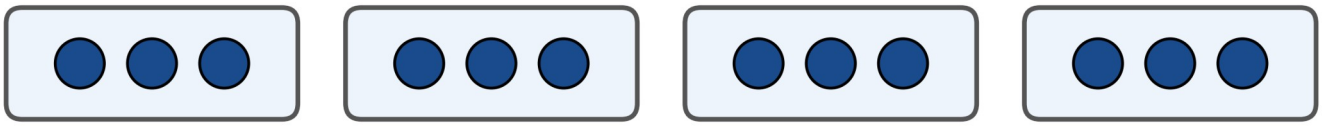
There are 4 groups. 12 ÷ 3 = 4.



Twelve counters in groups of three. There are four groups.

Both use 12 ÷ 3 = 4, but the 4 means different things. In the first one, the 4 is the counters in each group. In the second one, the 4 is the number of groups.

What does the answer mean?

4 friends share $24.

24 ÷ 4 = 6

The 6 is dollars. Each friend gets $6.

Now put $24 into groups of $6.

24 ÷ 6 = 4

The 4 is friends. There are 4 friends, and each one gets $6.

Look at the question to see what the answer means.

Bar models can show sharing too. $20 shared between 4 friends:

$5 | $5 | $5 | $5 |

One bar, cut into 4 equal parts. Each part is $5.

A bar for twenty dollars cut into four equal parts. Each part is five dollars.

Pick your way

There is more than one way to work out a × or ÷ problem. You can:

- add the same number again and again — repeated addition
- count by a number — skip counting
- make an array
- break a number into parts you know — partitioning

These ways to work it out are called **strategies**. Pick the one that helps you.

We try together

Do these with your teacher. Use counters or cubes, or look at the dots here.

We try 1 — make an array, then count it

Mia makes an array with 4 rows of 3 cubes. How many cubes is that altogether?

Working	Note
Make 4 rows. Put 3 cubes in each row.	4 rows of 3.
Add the rows: 3 + 3 + 3 + 3 = 12.	Repeated addition.
Skip count by 3s: 3, 6, 9, 12.	4 threes is 12.
Partition the array: 2 threes is 6, and 2 threes is 6. 6 + 6 = 12.	Use parts you know.

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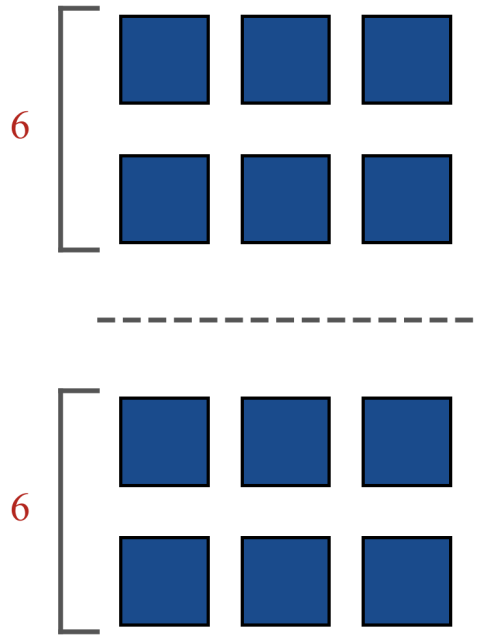


6 + 6 = 12

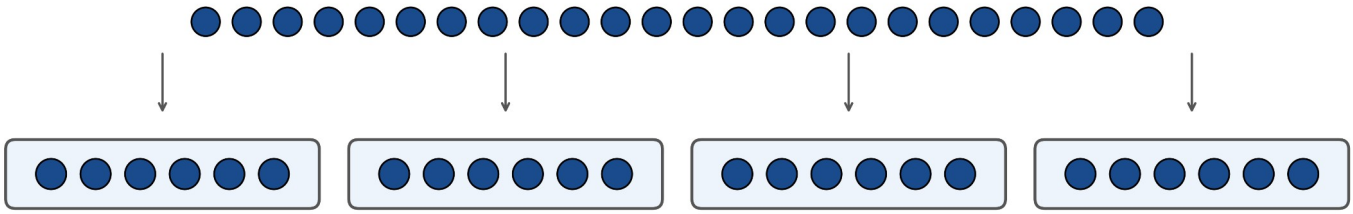
An array of four rows of three cubes, cut into two equal parts. Two threes make six, and two more threes make six.

∴ 4 × 3 = 12. There are 12 cubes altogether.

We try 2 — share, and make groups

4 friends share $24. Use counters. Let each counter be $1. How many dollars does each friend get?

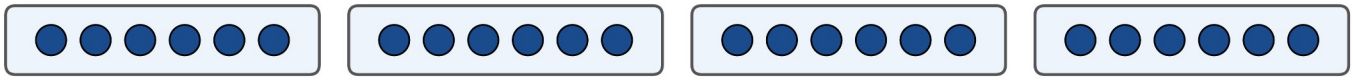
Working	Note
Start with 24 counters.	That is $24.
Give 1 counter to each friend, then 1 more, and so on. Keep going until all 24 are given out.	Share into 4 equal groups.
Each friend gets 6 counters.	24 ÷ 4 = 6.
The 6 is dollars. Each friend gets $6.	What does the answer mean?



Twenty-four counters shared into four equal groups. Each group has six counters.

Now put \$24 into groups of \$6. How many groups can you make?

Working	Note
Make groups of 6 counters.	6, 12, 18, 24.
There are 4 groups.	24 ÷ 6 = 4.
The 4 is friends. Each friend gets \$6.	The 4 is the number of groups.



Twenty-four counters in groups of six. There are four groups.

∴ 24 ÷ 4 = 6 dollars each, and 24 ÷ 6 = 4 friends.

Questions to practise

With help

Q1. Make an array with counters: 3 rows of 4.

a. 4 + 4 + 4 = ▢

b. 3 × 4 = ▢

c. Turn the array around. 4 × 3 = ▢

Q2. These arrays all show 12. Fill in the missing numbers.

●●●●●● ●●●●●●

2 rows of ▢. 2 × 6 = ▢

●● ●● ●● ●● ●● ●●

6 rows of ▢. 6 × 2 = ▢

●●●● ●●●● ●●●●

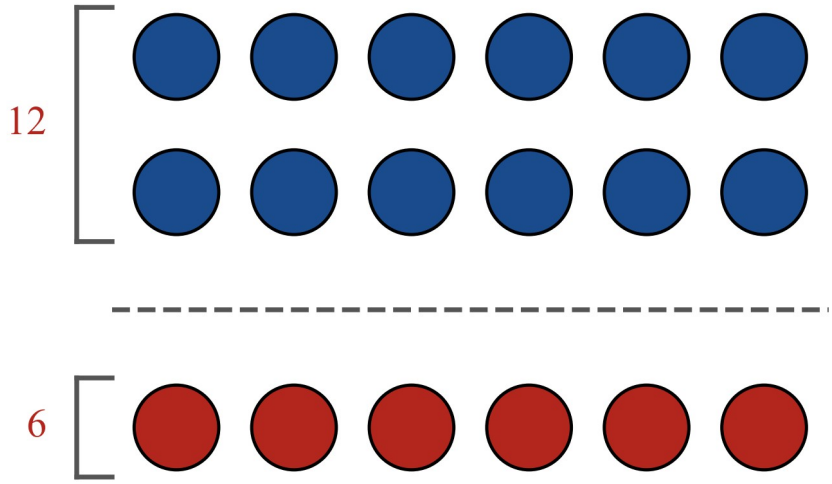
3 rows of ▢. 3 × 4 = ▢

●●● ●●● ●●● ●●●

4 rows of ▢. 4 × 3 = ▢

Q3. Break the array to count it. Here are 3 rows of 6.

●●●●●● ●●●●●● ●●●●●●



12 + 6 = 18

Three rows of six dots. The first two rows make twelve, and one more row makes six more.

I can see 2 sixes first. 2 sixes is 12.

a. 12 + 6 = ▢

b. 3 × 6 = ▢

Q4. Share 10 stars between 2 children. Draw the stars, then share them out.

★★★★★★★★★★

Each child gets ▢ stars.

10 ÷ 2 = ▢

Q5. Put 15 beads into groups of 5. Circle the groups.

●●●●●●●●●●●●●●●

There are ▢ groups.

15 ÷ 5 = ▢

Q6. Use a Think Board. Share $20 between 5 friends. Use toy-money $1 coins.

What we know	What we find
$20 and 5 friends	How many dollars for each friend?

Give each friend 1 dollar, then 1 dollar more, and so on, until all $20 is given out.

Each friend gets $▢.

20 ÷ 5 = ▢

The answer is dollars or friends. Circle one.

On your own

Q7. Write it with ×.

a. 3 + 3 + 3 + 3 + 3 = ▢. That is ▢ threes. ▢ × ▢ = ▢

b. 6 + 6 + 6 = ▢. That is ▢ sixes. ▢ × ▢ = ▢

c. 2 + 2 + 2 + 2 = ▢. That is ▢ twos. ▢ × ▢ = ▢

Q8. Draw an array with dots. Then fill in the numbers.

a. 2 × 5: ▢ rows of ▢. There are ▢ altogether.

b. 3 × 6: ▢ rows of ▢. There are ▢ altogether.

Q9. Name the array. Then write the number sentence.

●●●●● ●●●●● ●●●●● ●●●●●

▢ fives. ▢ × ▢ = ▢

●● ●● ●●

▢ twos. ▢ × ▢ = ▢

●●●● ●●●● ●●●● ●●●● ●●●●

▢ fours. ▢ × ▢ = ▢

Q10. Skip count to find the answer.

a. 4 fives: 5, ▢, ▢, ▢. So 4 × 5 = ▢

b. 3 fours: 4, ▢, ▢. So 3 × 4 = ▢

c. 6 twos: 2, ▢, ▢, ▢, ▢, ▢. So 6 × 2 = ▢

Q11. Break the array to find the total.

a. 3 fives: 2 fives is ▢, and 1 five more. ▢ + 5 = ▢

b. 4 fours: 2 fours is ▢, and 2 more fours is ▢. ▢ + ▢ = ▢

c. 5 twos: 4 twos is ▢, and 2 more. ▢ + 2 = ▢

Q12. Share it.

a. 12 ÷ 3 = ▢

b. 20 ÷ 5 = ▢

c. 18 ÷ 2 = ▢

d. 24 ÷ 4 = ▢

Q13. Make groups. Then say what the answer means.

a. 12 apples go into bags of 4. 12 ÷ 4 = ▢. The 3 is the ▢ (bags or apples).

b. 24 players go into teams of 6. 24 ÷ 6 = ▢. The 4 is the ▢ (teams or players).

Q14. Play “Array race” with a partner.

Things you need: a dice, counters, paper, a pencil.

How to play:

1. Write 0 as your first total.
2. On your turn, roll the dice 2 times. The first roll is how many rows. The second roll is how many counters in each row.
3. Make the array. Say how many counters there are altogether.
4. Add your number to your total.
5. Take turns. The first player to reach 50 or more wins.

Maths in real life

Q15. AFL at the MCG

In AFL, each team has 18 players on the ground. Big games are played at the MCG in Melbourne.

Source: AFL, Laws of the Game, afl.com.au, retrieved 2026-08-19.

a. 2 teams play. Each team has 18 players on the ground. How many players is that altogether? Write the number sentence.

b. 4 players carry the footballs. They share the 24 footballs equally. How many footballs does each player carry? Write the number sentence.

c. The players put 30 cones into groups of 5. How many groups are there?

Answers

Q1. a. 12 b. 12 c. 12.

Q2. a. 6, 12 b. 2, 12 c. 4, 12 d. 3, 12.

Q3. a. 18 b. 18.

Q4. 5 stars; 10 ÷ 2 = 5.

Q5. 3 groups; 15 ÷ 5 = 3.

Q6. $4; 20 ÷ 5 = 4. The answer is dollars.

Q7. a. 15; 5 threes; 5 × 3 = 15 b. 18; 3 sixes; 3 × 6 = 18 c. 8; 4 twos; 4 × 2 = 8.

Q8. a. 2 rows of 5; 10 b. 3 rows of 6; 18.

Q9. a. 4 fives; 4 × 5 = 20 b. 3 twos; 3 × 2 = 6 c. 5 fours; 5 × 4 = 20.

Q10. a. 10, 15, 20; 20 b. 8, 12; 12 c. 4, 6, 8, 10, 12; 12.

Q11. a. 10; 10 + 5 = 15 b. 8; 8; 8 + 8 = 16 c. 8; 8 + 2 = 10.

Q12. a. 4 b. 4 c. 9 d. 6.

Q13. a. 3; bags b. 4; teams.

Q14. Game. Check each turn: the dice rolls make an array, the array total is right, and the running total goes up.

Q15. a. 36 players; 18 + 18 = 36 (or 2 × 18 = 36). b. 6 footballs; 24 ÷ 4 = 6. c. 6 groups; 30 ÷ 5 = 6.

All the working

Q1. a. Add the rows: 4 + 4 + 4 = 12. b. 3 rows of 4 is 3 fours: 3 × 4 = 12. c. Turned around, the array is 4 rows of 3: 4 × 3 = 12.

∴ a. 12 b. 12 c. 12.

Q2. a. 2 rows of 6: 2 × 6 = 12. b. 6 rows of 2: 6 × 2 = 12. c. 3 rows of 4: 3 × 4 = 12. d. 4 rows of 3: 4 × 3 = 12. The arrays turn around, but the number stays 12.

∴ a. 6, 12 b. 2, 12 c. 4, 12 d. 3, 12.

Q3. Break 3 sixes into 2 sixes and 1 six: 2 sixes is 12, and 12 + 6 = 18. So 3 × 6 = 18.

∴ a. 18 b. 18.

Q4. Share the 10 stars, one at a time, between the 2 children. Each child gets 5 stars.

∴ 5 stars; 10 ÷ 2 = 5.

Q5. Circle groups of 5 beads: 5, 10, 15. That is 3 groups.

∴ 3 groups; 15 ÷ 5 = 3.

Q6. Deal the $20 out to 5 friends, 1 dollar at a time. Each friend gets $4. The 4 tells how many dollars each friend gets, so the answer is dollars.

∴ $4; 20 ÷ 5 = 4; dollars.

Q7. Count the same number again and again, then write it with ×. a. 3 + 3 + 3 + 3 + 3 = 15: 5 threes, 5 × 3 = 15. b. 6 + 6 + 6 = 18: 3 sixes, 3 × 6 = 18. c. 2 + 2 + 2 + 2 = 8: 4 twos, 4 × 2 = 8.

∴ a. 15; 5 threes; 5 × 3 = 15 b. 18; 3 sixes; 3 × 6 = 18 c. 8; 4 twos; 4 × 2 = 8.

Q8. a. 2 × 5 is 2 rows of 5: 5 + 5 = 10. b. 3 × 6 is 3 rows of 6: 6 + 6 + 6 = 18.

∴ a. 2 rows of 5; 10 b. 3 rows of 6; 18.

Q9. Name the rows, then multiply. a. 4 rows of 5: 4 fives, 4 × 5 = 20. b. 3 rows of 2: 3 twos, 3 × 2 = 6. c. 5 rows of 4: 5 fours, 5 × 4 = 20.

∴ a. 4 fives; 4 × 5 = 20 b. 3 twos; 3 × 2 = 6 c. 5 fours; 5 × 4 = 20.

Q10. Skip count, then count how many of that number you have. a. 5, 10, 15, 20: 4 fives, so 4 × 5 = 20. b. 4, 8, 12: 3 fours, so 3 × 4 = 12. c. 2, 4, 6, 8, 10, 12: 6 twos, so 6 × 2 = 12.

∴ a. 10, 15, 20; 20 b. 8, 12; 12 c. 4, 6, 8, 10, 12; 12.

Q11. Break each array into parts you know. a. 3 fives: 2 fives is 10, and 1 five more: 10 + 5 = 15. b. 4 fours: 2 fours is 8, and 2 more fours is 8: 8 + 8 = 16. c. 5 twos: 4 twos is 8, and 2 more: 8 + 2 = 10.

∴ a. 10; 10 + 5 = 15 b. 8; 8; 8 + 8 = 16 c. 8; 8 + 2 = 10.

Q12. Share into equal groups. a. 12 shared into 3 groups: 4 in each group. b. 20 shared into 5 groups: 4 in each group. c. 18 shared into 2 groups: 9 in each group. d. 24 shared into 4 groups: 6 in each group.

∴ a. 4 b. 4 c. 9 d. 6.

Q13. a. 12 apples, bags of 4: 12 ÷ 4 = 3. The 3 is the number of bags. b. 24 players, teams of 6: 24 ÷ 6 = 4. The 4 is the number of teams.

∴ a. 3; bags b. 4; teams.

Q14. This is a game. On each turn, the first dice roll is the number of rows and the second is how many counters in each row. Check the array total, and check that each running total goes up by that number.

Q15. a. 2 teams with 18 players each: 18 + 18 = 36. b. 24 footballs shared between 4 players: 24 ÷ 4 = 6. c. 30 cones in groups of 5: skip count 5, 10, 15, 20, 25, 30 — that is 6 groups, so 30 ÷ 5 = 6.

∴ a. 36 players; 18 + 18 = 36 b. 6 footballs; 24 ÷ 4 = 6 c. 6 groups; 30 ÷ 5 = 6.

Modelling additive and multiplicative problems, including money transactions

> *use mathematical modelling to solve practical problems involving additive and multiplicative situations, including money transactions; represent situations and choose calculation strategies; interpret and communicate solutions in terms of the context* — VC2M2N06

Have a go. Read the story, pick the operation, and check your answer makes sense.

Things you need: counters, cubes, toy money ($1 and $2 coins, and $5, $10 and $20 notes), a number line, a 2026 wall calendar, paper, pencils.

What we learn

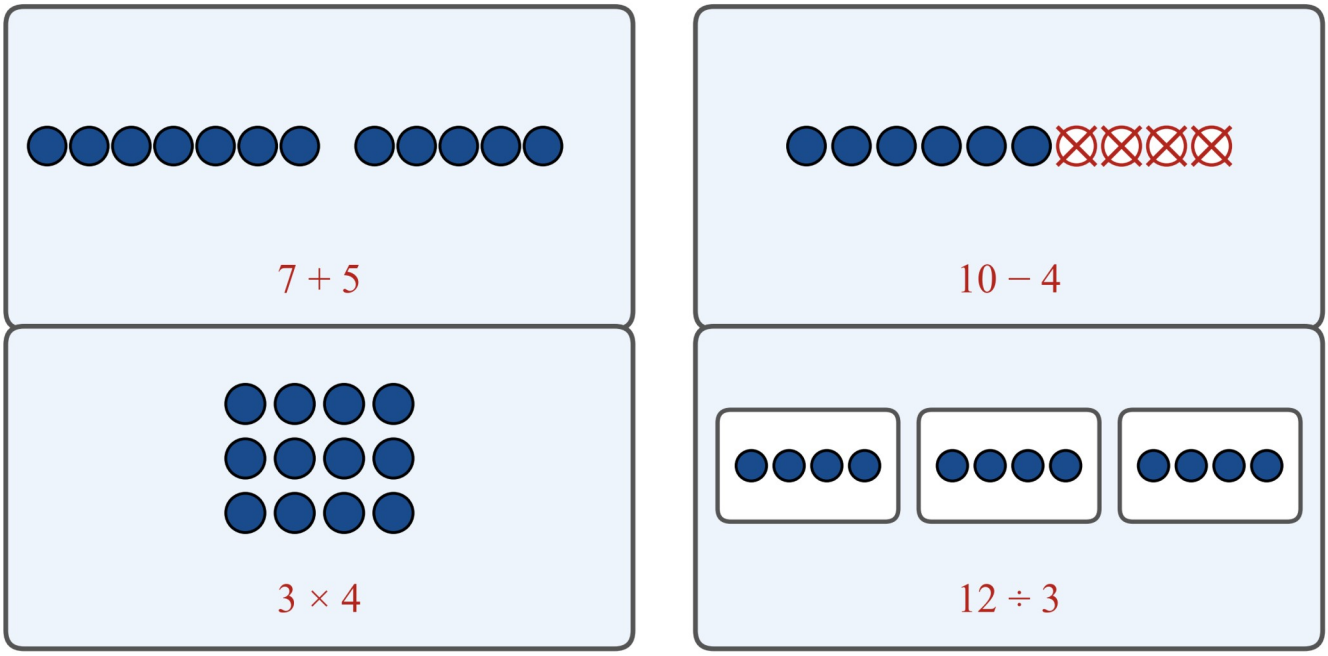
Spot the story

A maths problem is a story. Follow 4 steps to solve it.

Step 1. Read the story. What do we know? What do we need to find out?

Step 2. Pick the operation. What is happening in the story?

In the story	Operation	Example
Put together. More come.	addition	7 + 5 = ▢
Take away. How many left? How much change?	subtraction	10 − 4 = ▢
Equal groups. The same amount, again and again.	multiplication	3 × 4 = ▢
Share equally. Make equal teams.	division	12 ÷ 3 = ▢



Four number stories: seven and five, ten take away four, three rows of four, and twelve shared into three equal groups.

Be ready to say how you know:

“I used subtract. I knew the total and one part. I subtracted to find the missing part.”

Step 3. Show it. Use counters, cubes, a drawing, a number line or toy money. Then write the number sentence. ▢ is the number you do not know yet.

Step 4. Answer in words. Say the answer back to the story. Check: does it make sense?

There is more than one way to work it out. You can count on, count back, use a number line, or use facts you know. Pick the way that helps you.

The money we use

In Australia, we use dollars. In this book, we use only whole dollars.

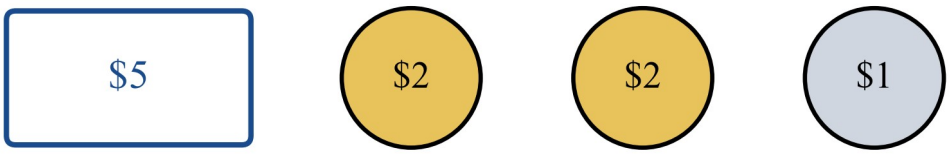
- Coins: $1 and $2.
- Notes: $5, $10, $20, $50 and $100.

The money we use. Coins: $1 and $2. Notes: $5, $10, $20, $50 and $100.

Source: Wikipedia, Banknotes of the Australian dollar and Coins of the Australian dollar, en.wikipedia.org, retrieved 2026-08-19.

To count money, sort it first. Count the notes, then the coins.

$5 + $2 + $2 + $1 = $10



$$\$5 + \$2 + \$2 + \$1 = \$10$$

A $5 note, two $2 coins and a $1 coin. They make $10.

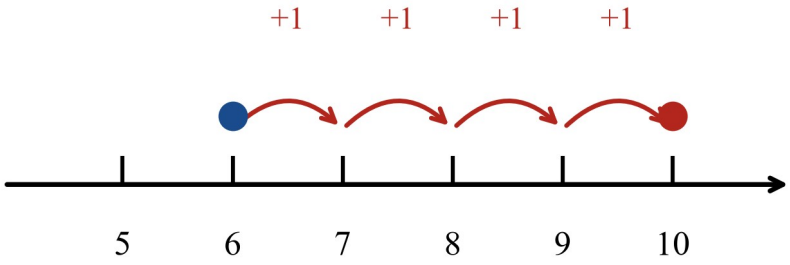
Paying and getting change

When you buy something, you pay money. If you pay more than the cost, you get money back. The money back is the **change**.

To find change, count up from the cost to what you paid.

A toy costs $6. You pay $10. Count up from 6: 7, 8, 9, 10. That is 4.

10 − 6 = 4. The change is $4.



A number line from 5 to 10. It counts up from 6 to 10. That is 4.

Days left in the year

A calendar can tell you how many days are left in the year.

How many days are there left in 2026 after Tuesday 1 December 2026?

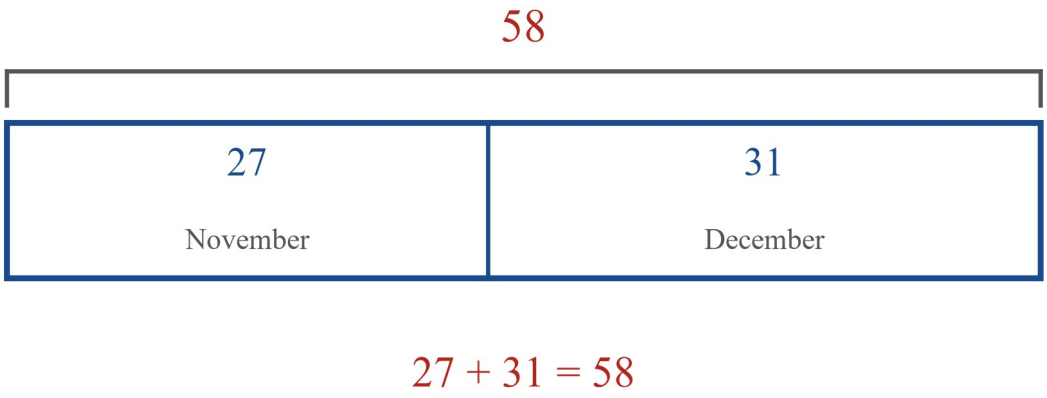
Count the days left in December: 2 December to 31 December is 30 days. There are 30 days left.

For a longer count, count month by month, then add:

How many days are there left in 2026 after Tuesday 3 November 2026?

- Days left in November: 30 − 3 = 27
- Days in December: 31

27 + 31 = 58. There are 58 days left.



A bar for 58 days: 27 days in November and 31 days in December.

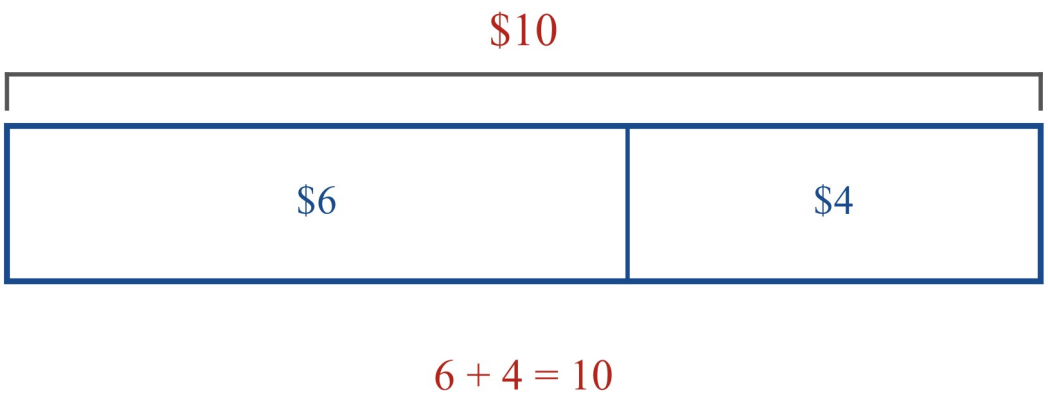
We try together

Do these with your teacher. Use counters, toy money or the working here.

We try 1 — buy two things and find the change

The class has a shop. Tom buys a sticker for $2 and a toy for $4. He pays with a $10 note. How much change does Tom get?

Working	Note
2 + 4 = 6	Add the two prices. The cost is $6.
10 − 6 = ▢	Tom pays $10. Subtract to find the change.
Count up from 6 to 10: 7, 8, 9, 10. That is 4.	Use a number line or toy money.



A bar for $10 cut into two parts: $6 and $4.

∴ 10 − 6 = 4. Tom gets $4 change.

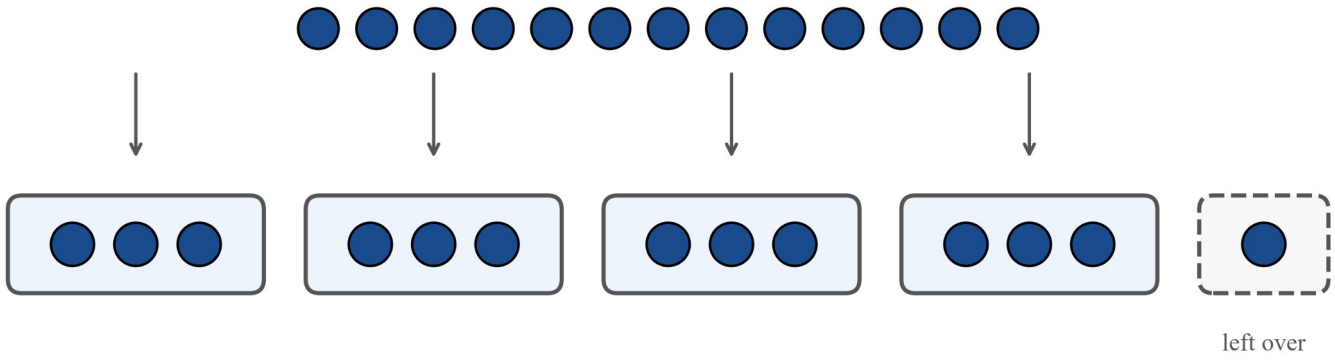
Check: 6 + 4 = 10. ✓

We try 2 — share, and decide what to do with the remainder

4 children share 13 strawberries. How many strawberries does each child get?

Use counters. Let each counter be a strawberry.

Working	Note
Give 1 counter to each child, then 1 more, and so on.	Deal them out, 1 at a time.
3 each uses 12 counters: 3 × 4 = 12. And 13 − 12 = 1.	1 counter is left.
Each child gets 3 strawberries. 1 is left over.	13 ÷ 4 gives 3, with 1 left over.



Thirteen counters shared into four equal groups. Each group has three counters, and one is left over.

The 1 left over is the **remainder**. Talk about it: what can the children do with it? Save it for later? Give it to a friend? Say what you would do.

∴ Each child gets 3 strawberries, and 1 is left over.

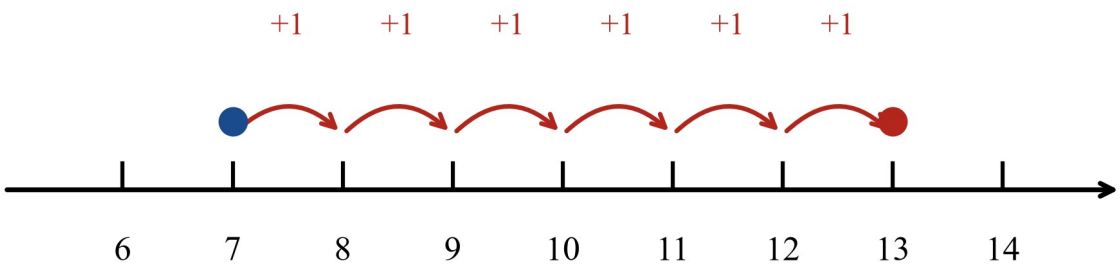
Questions to practise

With help

Q1. Luca saves $7 one week and $6 the next week. How much money does Luca have altogether?

Help: start at 7 on the number line. Count on 6.

7 + 6 = ▢



A number line from 6 to 14. It starts at 7 and counts on 6 more, to 13.

Q2. Zoe has $20. She buys a puzzle for $12. How much change does Zoe get?

Help: count up from 12 to 20.

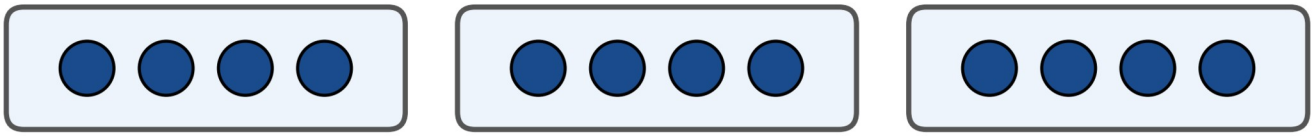
20 − 12 = ▢

Q3. There are 3 boxes. Each box has 4 apples. How many apples is that altogether?

Help: draw 3 groups of 4 counters.

4 + 4 + 4 = ▢

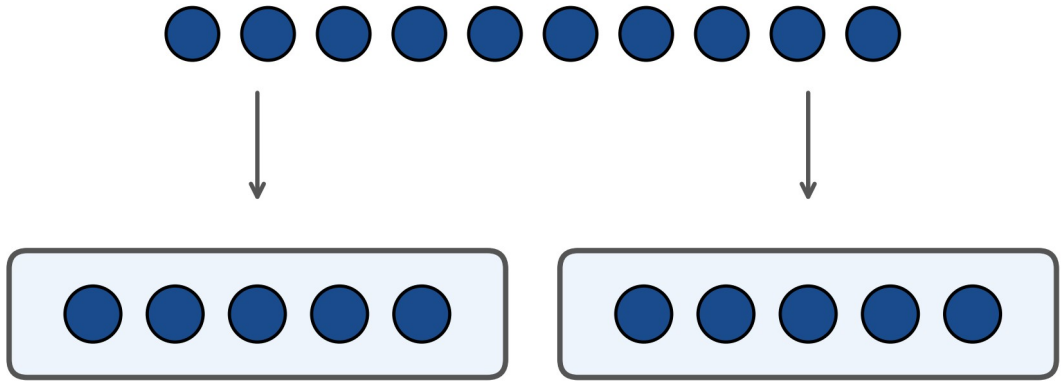
3 × 4 = ▢



Three groups of four counters. There are twelve counters.

Q4. Share 10 pencils between 2 cups. Deal them out, 1 at a time. How many pencils are in each cup?

10 ÷ 2 = ▢

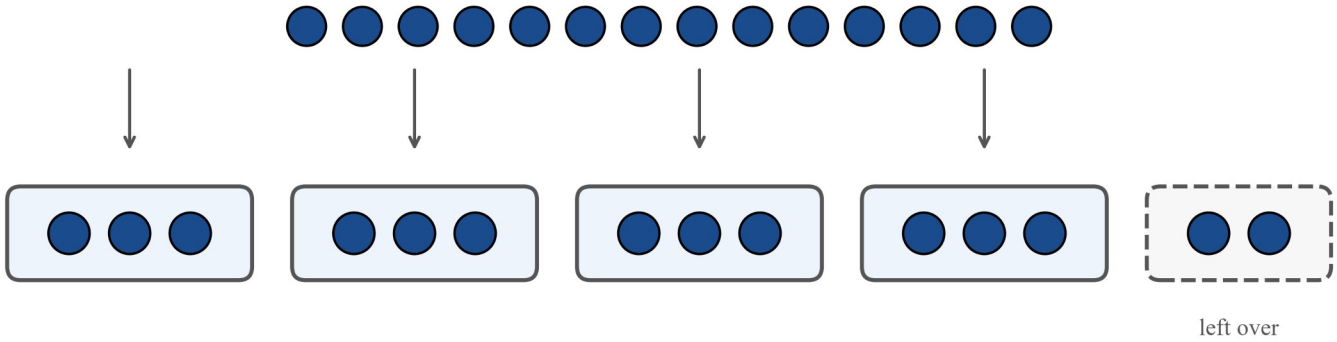


Ten counters shared into two equal groups. Each group has five counters.

Q5. Share 14 biscuits between 4 plates. Deal them out, 1 at a time.

How many biscuits are on each plate? How many are left over?

Each plate has ▢ biscuits. ▢ left over.



Fourteen counters shared into four equal groups. Each group has three counters, and two are left over.

Q6. Read each story. Circle the operation. Then say how you know.

a. 9 birds are on a fence. 5 more birds come. How many birds are there now?

addition subtraction multiplication division

b. There are 12 sandwiches and 4 plates. Each plate gets the same number. How many sandwiches are on each plate?

addition subtraction multiplication division

On your own

Q7. The class shop sells hats for $6 and bags for $4. Priya buys 1 hat and 1 bag. How much does Priya pay altogether?

Q8. Ben buys a toy car for $14. He pays with a $20 note. How much change does Ben get?

Q9. Each of the 6 children in a group puts $5 into the class jar. How much money is in the jar altogether?

Q10. 3 children share $21. They each get the same amount. How much does each child get?

Q11. 24 children are at the park. They make teams of 6. How many teams do they make?

Q12. 4 children share $17. They each get the same whole-dollar amount. How much does each child get? How much is left over? What could they do with the money left over?

Q13. Christmas Day is Friday 25 December 2026. Use your 2026 calendar. How many days are there left in 2026 after Christmas Day?

Q14. Your class has $20. You buy 3 rolls of paper. Each roll costs $4. How much change do you get?

Maths in real life

Q15. Our Melbourne Cup Day party

The Melbourne Cup is a horse race. It is held every year at Flemington in Melbourne, on the first Tuesday of November. In 2026, it is on Tuesday 3 November.

Source: Victoria Racing Club, Melbourne Cup Carnival, vrc.com.au, retrieved 2026-08-19.

Your class has a party on Melbourne Cup Day. Work with a friend. Use the 2026 calendar, counters and toy money.

a. Find Tuesday 3 November on the calendar. Your class starts making paper chains on Monday 26 October. How many days after Monday 26 October is the party?

b. Each paper chain uses 4 pieces of paper. You make 5 chains. How many pieces of paper do you use altogether?

c. Your class buys 6 hats for the party. Each hat costs $2. How much do the hats cost altogether? You pay with a $20 note. How much change do you get?

d. There are 25 strawberries. 6 children at your table share them equally. How many strawberries does each child get? How many are left over? What will your table do with the remainder?

e. Tell the class: which operation did you use for each part? How do you know?

(The dollar amounts here are made up for you to practise with. Level 2 uses whole dollars only.)

Answers

Q1. $13; 7 + 6 = 13.

Q2. $8 change; 20 − 12 = 8.

Q3. 12 apples; 4 + 4 + 4 = 12; 3 × 4 = 12.

Q4. 5 pencils; 10 ÷ 2 = 5.

Q5. 3 biscuits each; 2 left over.

Q6. a. addition; 9 + 5 = 14 b. division; 12 ÷ 4 = 3.

Q7. $10; 6 + 4 = 10.

Q8. $6 change; 20 − 14 = 6.

Q9. $30; 6 × 5 = 30.

Q10. $7 each; 21 ÷ 3 = 7.

Q11. 4 teams; 24 ÷ 6 = 4.

Q12. $4 each; $1 left over. Any kind answer for the $1, for example put it in the class jar.

Q13. 6 days: 26, 27, 28, 29, 30, 31 December.

Q14. $8 change; 3 × 4 = 12, then 20 − 12 = 8.

Q15. a. 8 days b. 20 pieces; 5 × 4 = 20 c. $12 for the hats; $8 change d. 4 each; 1 left over; any kind plan for the remainder e. the operation for each part matches its story.

All the working

Q1. Start at 7 and count on 6: 8, 9, 10, 11, 12, 13. That is 7 + 6 = 13.

∴ Luca has $13.

Q2. Count up from 12 to 20: 13, 14, 15, 16, 17, 18, 19, 20. That is 8. So 20 − 12 = 8.

∴ Zoe gets $8 change.

Q3. 3 groups of 4 apples: 4 + 4 + 4 = 12. That is 3 × 4 = 12.

∴ 12 apples.

Q4. Deal the 10 pencils into 2 cups, 1 at a time. Each cup gets 5. That is 10 ÷ 2 = 5.

∴ 5 pencils in each cup.

Q5. Deal the 14 biscuits to 4 plates. 3 on each plate uses 12 biscuits, and 14 − 12 = 2 left over.

∴ 3 biscuits on each plate; 2 left over.

Q6. a. More birds come, so put together. It is addition: 9 + 5 = 14. b. The same number on each plate, so share. It is division: 12 ÷ 4 = 3.

∴ a. addition; 14 birds b. division; 3 sandwiches on each plate.

Q7. Add the two prices: 6 + 4 = 10.

∴ Priya pays $10.

Q8. Count up from 14 to 20: 15, 16, 17, 18, 19, 20. That is 6. So 20 − 14 = 6.

∴ Ben gets $6 change.

Q9. 6 children, and each one puts in $5. That is 6 groups of $5: 6 × 5 = 30.

∴ $30 in the jar.

Q10. Share 21 dollars between 3 children: 21 ÷ 3 = 7. The 7 is dollars.

∴ Each child gets $7.

Q11. Make groups of 6 from 24 children: skip count 6, 12, 18, 24. That is 4 groups. 24 ÷ 6 = 4.

∴ They make 4 teams.

Q12. Deal the $17 to 4 children. $4 each uses $16, and 17 − 16 = 1 left over. The $1 can go in the class jar.

∴ $4 each; $1 left over.

Q13. Christmas Day is 25 December. The days left in 2026 are 26, 27, 28, 29, 30 and 31 December. Count them: 6 days.

∴ 6 days.

Q14. The cost of 3 rolls at $4 each: 3 × 4 = 12. Pay from $20: 20 − 12 = 8.

∴ You get $8 change.

Q15. a. Count the days: 27, 28, 29, 30, 31 October, then 1, 2, 3 November. That is 8 days. b. 5 chains with 4 pieces each: 5 × 4 = 20 pieces. c. 6 hats at $2 each: 6 × 2 = 12. The hats cost $12. Change from $20: 20 − 12 = 8. d. Deal the 25 strawberries to 6 children. 4 each uses 24, and 25 − 24 = 1 left over. e. The operation in each part matches its story: counting on for the days, multiplication for equal groups, subtraction for change, division for sharing.

∴ a. 8 days b. 20 pieces c. $12, and $8 change d. 4 strawberries each, 1 left over e. reasons as given.

One-half, and quarters and eighths by repeated halving

recognise and describe one-half as one of 2 equal parts of a whole and connect halves, quarters and eighths through repeated halving — VC2M2N03

Fold, share and count. Take your time, and the parts will soon make sense.

Things you need: paper strips for folding, counters, pencils and paper.

What we learn

What is a half?

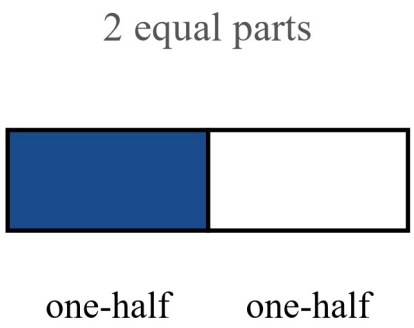
Start with one whole thing. Make it into 2 equal parts. Equal means the 2 parts are the same.

One of the 2 equal parts is **one-half**.

A half is one part out of 2 equal parts of a whole.

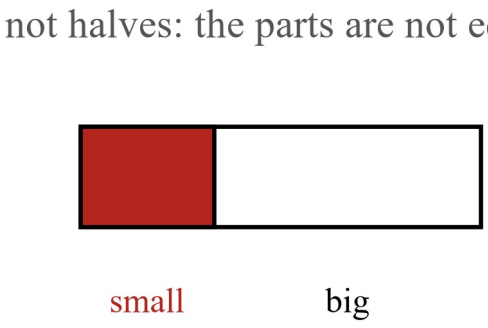
■ □

This strip has 2 equal parts. The coloured part is one-half of the strip. The white part is one-half too. 2 halves make the whole strip.



A strip with 2 equal parts. The left part is blue. Each part is one-half of the strip.

The parts must be equal. One big part and one small part are not halves.



A strip with one big part and one small part. The parts are not equal, so they are not halves.

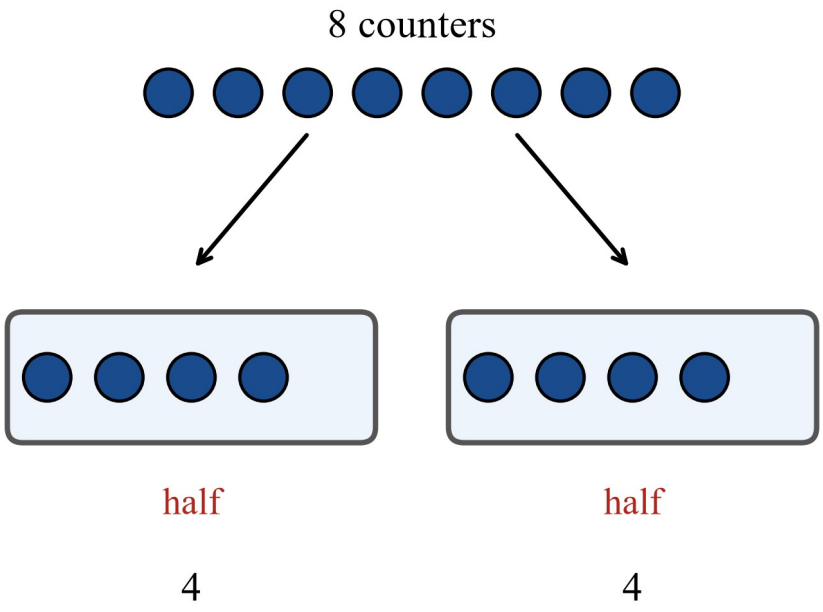
Halves of a group of things

You can halve a group of things too. Share the group into 2 equal groups.

Share 8 counters into 2 equal groups:

●●●● ●●●●

Each group has 4 counters. Each group is one-half of the 8 counters.



8 counters shared into 2 equal groups, with 4 counters in each group.

Half of 8 is 4. Half of 12 is 6. Half of 4 is 2.

Fold a strip in half

Take a paper strip. Fold it so the 2 ends meet. Open it up.

The fold makes 2 equal parts. Each part is one-half of the strip.

Halve it again — quarters

Fold the strip in half again. Open it up.

Now there are 4 equal parts. Each part is **one-quarter**.

■ □ □ □

The coloured part is one-quarter of the strip.

4 equal parts

one-quarter

A strip with 4 equal parts. The first part is blue. Each part is one-quarter of the strip.

A quarter is half of a half. Fold a half in half, and you get 2 quarters.

2 quarters make one-half. 4 quarters make the whole strip.

Halve it again — eighths

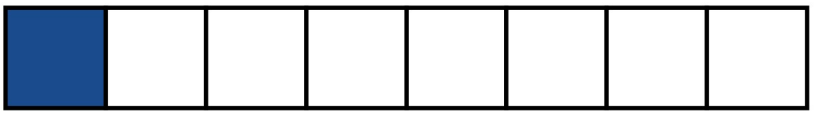
Fold the strip in half one more time. Open it up.

Now there are 8 equal parts. Each part is **one-eighth**.

■ □ □ □ □ □ □ □

The coloured part is one-eighth of the strip.

8 equal parts



one-eighth

A strip with 8 equal parts. The first part is blue. Each part is one-eighth of the strip.

An eighth is half of a quarter. Fold a quarter in half, and you get 2 eighths.

2 eighths make one-quarter. 4 eighths make one-half. 8 eighths make the whole strip.

Count the equal parts

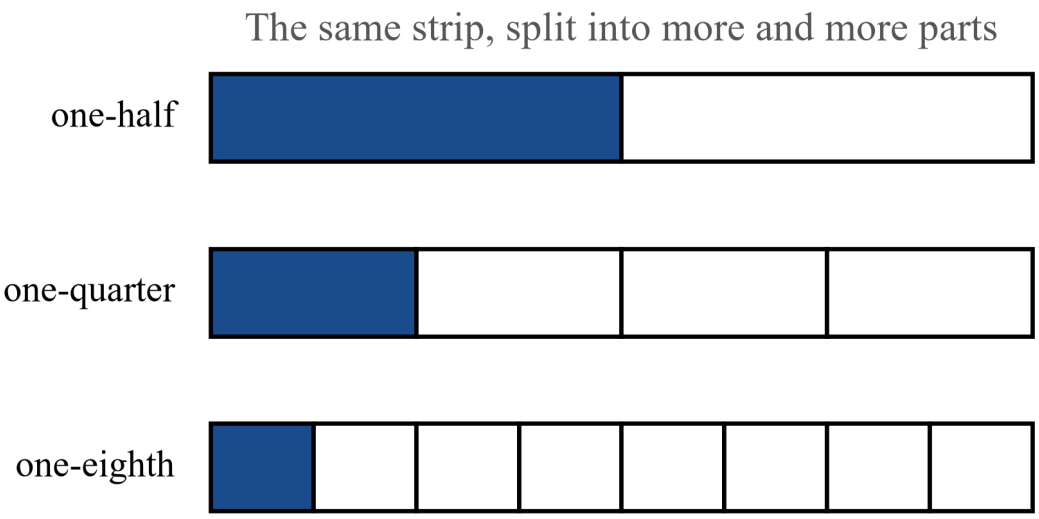
Count the parts to name each part:

Parts	Each part is
2 equal parts	one-half

Parts	Each part is
4 equal parts	one-quarter
8 equal parts	one-eighth

More folds give more parts. Each part is less of the strip.

One-half is more than one-quarter. One-quarter is more than one-eighth.



Three strips of the same size. The top strip shows one-half, the next shows one-quarter and the bottom one shows one-eighth.

Where you will see this again

Later in this book, you will use halves, quarters and eighths again — with shapes, objects and time (3D).

We try together

Do these with your teacher. Use things to touch, or look at the pictures here.

We try 1 — fold a strip: halves, then quarters, then eighths

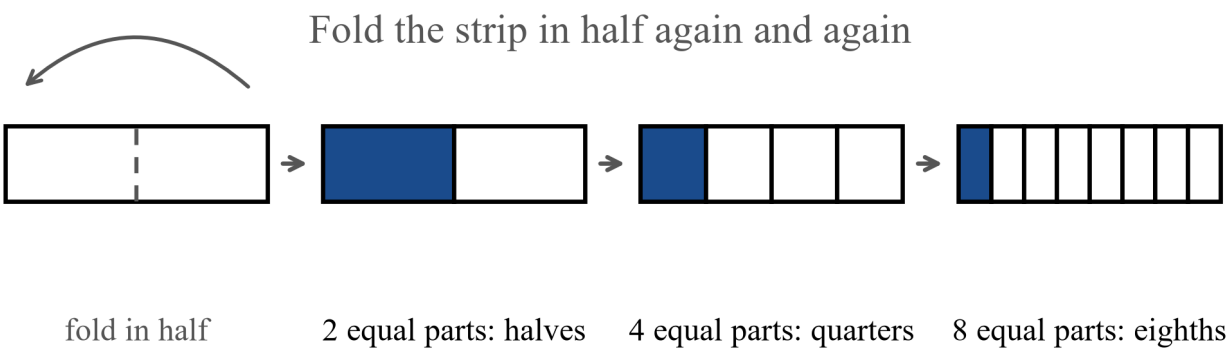
Take a paper strip. Fold it in half again and again. Name the parts each time.

Working	Note
Fold the strip so the 2 ends meet. Open it up.	2 equal parts. Each part is one-half.
Fold the strip in half again. Open it up.	4 equal parts. Each part is one-quarter.
Fold the strip in half one more time. Open it up.	8 equal parts. Each part is one-eighth.
Count the parts: 2, then 4, then 8.	Each fold halves every part again.

■ □ — 2 equal parts: halves

■ □ □ □ — 4 equal parts: quarters

■ □ □ □ □ □ □ □ — 8 equal parts: eighths



A paper strip folded in half, then in half again and in half again, making 2 equal parts, then 4, then 8.

∴ A quarter is half of a half, and an eighth is half of a quarter.

We try 2 — halve a group of counters, again and again

Use 16 counters. Share them into halves, then quarters, then eighths.

Working	Note
Put out 16 counters. Share them into 2 equal groups.	8 in each group. Half of 16 is 8. 16 ÷ 2 = 8.
Take one group of 8. Share it into 2 equal groups.	4 in each group. Half of 8 is 4. 4 is one-quarter of 16.
Take one group of 4. Share it into 2 equal groups.	2 in each group. Half of 4 is 2. 2 is one-eighth of 16.

16 counters:

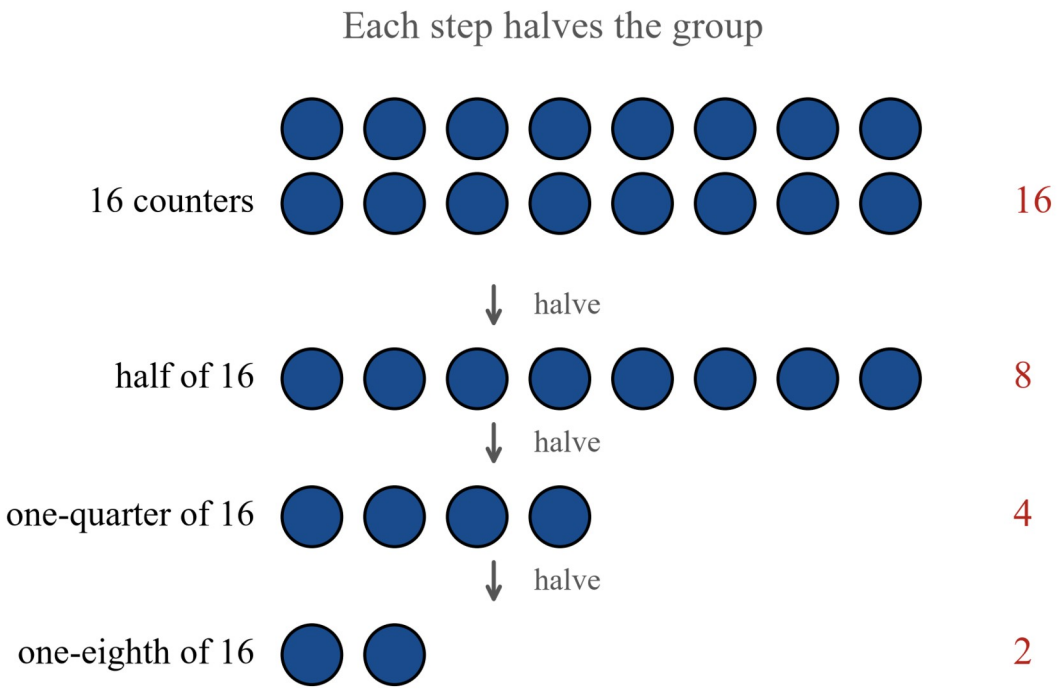
●●●●●●●●

●●●●●●●●

Half of 16: ●●●●●●●● (8 counters)

One-quarter of 16: ●●●● (4 counters)

One-eighth of 16: ●● (2 counters)



16 counters, then half of them, then one-quarter of them, then one-eighth of them: 16, 8, 4 and 2.

∴ 16 → 8 → 4 → 2. Each step halves the group.

Questions to practise

With help

Q1. Share into 2 equal groups to find half. Use counters to help you.

a. Half of 6 is ▢.

b. Half of 10 is ▢.

c. Half of 12 is ▢.

Q2. Use one of these words: half, quarter, eighth.

a. A strip has 2 equal parts. Each part is one ▢ of the strip.

b. A strip has 4 equal parts. Each part is one ▢ of the strip.

c. A strip has 8 equal parts. Each part is one ▢ of the strip.

Q3. Look at the strip.

4 equal parts

one-quarter

A strip with 4 equal parts. The first part is blue. Each part is one-quarter of the strip.

■ □ □ □

a. How many equal parts does the strip have? ▢

b. The coloured part is one ▢ of the strip.

c. How many parts are not coloured? ▢

Q4. Fold a paper strip.

a. Fold it in half. How many equal parts? ▢

b. Fold it in half again. How many equal parts now? ▢

c. Fold it in half one more time. How many equal parts now? ▢

Q5. True or false?

a. A quarter is half of a half. ▢

b. Half of 8 is 4. ▢

c. One-eighth is more than one-half. ▢

Q6. How many equal parts do you need?

a. To make halves: ▢ parts.

b. To make quarters: ▢ parts.

c. To make eighths: ▢ parts.

On your own

Q7. Find half.

a. Half of 8 = ▢

b. Half of 14 = ▢

c. Half of 16 = ▢

d. Half of 20 = ▢

e. Half of 18 = ▢

Q8. Halve again to find one-quarter.

Half of 8 is 4, so one-quarter of 8 is 2.

a. Half of 12 is ▢, so one-quarter of 12 is ▢.

b. Half of 16 is ▢, so one-quarter of 16 is ▢.

c. Half of 4 is ▢, so one-quarter of 4 is ▢.

Q9. Halve again to find one-eighth.

a. One-quarter of 8 is 2, so one-eighth of 8 is ▢.

b. One-quarter of 16 is 4, so one-eighth of 16 is ▢.

Q10. Count the parts to name them.

a. A shape has 4 equal parts. Each part is one ▢ of the shape.

b. A shape has 8 equal parts. Each part is one ▢ of the shape.

c. A shape has 2 equal parts. Each part is one ▢ of the shape.

Q11. Which is more?

a. One-half of 8, or one-quarter of 8? ▢

b. One-quarter of 16, or one-eighth of 16? ▢

Q12. Draw 2 strips of the same size. On one strip, show one-half. On the other strip, show one-quarter. Which is more, one-half or one-quarter?

Q13. Halve and halve again. Fill in the missing numbers.

a. 16 → 8 → ▢ → ▢

b. 12 → 6 → ▢

c. 20 → ▢ → ▢

Q14. Play "Fold and name" with a partner.

Things you need: paper strips, a pencil.

How to play:

1. Player 1 folds a strip in half and opens it. Player 1 counts the parts and says: "2 equal parts. Each part is one-half."
2. Player 2 folds the strip in half again and opens it. Player 2 counts the parts and says: "4 equal parts. Each part is one-quarter."
3. Player 1 folds the strip in half one more time: "8 equal parts. Each part is one-eighth."
4. Open the strip and count all the parts together to check.
5. Start again with a new strip. Player 2 goes first.

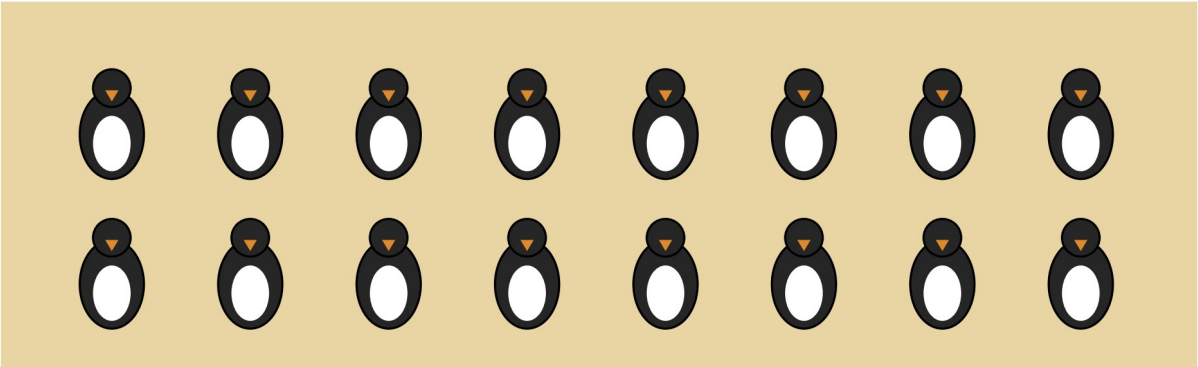
Maths in real life

Q15. Penguins on Phillip Island

Phillip Island is a real island in Victoria. Little penguins live there. In the evening, the penguins come out of the sea and walk up the beach to their homes.

Source: Phillip Island Nature Park, Penguin Parade, penguins.org.au, retrieved 2026-08-19.

16 penguins on the sand



16 little penguins on the sand, in 2 rows of 8.

a. Sam counts 16 penguins on the beach. Half of them walk fast up the sand. How many penguins walk fast?

b. Half of the fast penguins stop to rest. How many penguins stop to rest?

c. Half of the resting penguins climb the hill. How many penguins climb the hill?

d. Finish the numbers: 16 → ▢ → ▢ → ▢. Each number is one ▢ of the number before it.

Answers

Q1. a. 3 b. 5 c. 6.

Q2. a. half b. quarter c. eighth.

Q3. a. 4 b. quarter c. 3.

Q4. a. 2 b. 4 c. 8.

Q5. a. true b. true c. false.

Q6. a. 2 b. 4 c. 8.

Q7. a. 4 b. 7 c. 8 d. 10 e. 9.

Q8. a. 6, 3 b. 8, 4 c. 2, 1.

Q9. a. 1 b. 2.

Q10. a. quarter b. eighth c. half.

Q11. a. One-half of 8. b. One-quarter of 16.

Q12. Drawings; one-half is more than one-quarter.

Q13. a. 4, 2 b. 3 c. 10, 5.

Q14. Game. Check that each player counts the parts and names them: halves, then quarters, then eighths.

Q15. a. 8 penguins b. 4 penguins c. 2 penguins d. 8, 4, 2, half.

All the working

Q1. Share each group into 2 equal groups. 6 counters: 3 in each group. 10 counters: 5 in each group. 12 counters: 6 in each group.

∴ a. 3 b. 5 c. 6.

Q2. 2 equal parts are halves. 4 equal parts are quarters. 8 equal parts are eighths.

∴ a. half b. quarter c. eighth.

Q3. The strip ■ □ □ □ has 4 equal parts. The coloured part is one of the 4 equal parts, so it is one-quarter. The other 3 parts are not coloured.

∴ a. 4 b. quarter c. 3.

Q4. Each fold halves every part. 2 parts, then 4 parts, then 8 parts.

∴ a. 2 b. 4 c. 8.

Q5. a. Fold a half in half to make quarters, so a quarter is half of a half: true. b. Half of 8 is 4: true. c. One-eighth is less than one-half, so this is false.

∴ a. true b. true c. false.

Q6. Halves need 2 equal parts. Quarters need 4 equal parts. Eighths need 8 equal parts.

∴ a. 2 b. 4 c. 8.

Q7. Half of 8 is 4. Half of 14 is 7. Half of 16 is 8. Half of 20 is 10. Half of 18 is 9.

∴ a. 4 b. 7 c. 8 d. 10 e. 9.

Q8. a. Half of 12 is 6. Halve 6 to get 3, so one-quarter of 12 is 3. b. Half of 16 is 8. Halve 8 to get 4, so one-quarter of 16 is 4. c. Half of 4 is 2. Halve 2 to get 1, so one-quarter of 4 is 1.

∴ a. 6, 3 b. 8, 4 c. 2, 1.

Q9. a. Half of 2 is 1, so one-eighth of 8 is 1. b. Half of 4 is 2, so one-eighth of 16 is 2.

∴ a. 1 b. 2.

Q10. 4 equal parts: each part is one-quarter. 8 equal parts: each part is one-eighth. 2 equal parts: each part is one-half.

∴ a. quarter b. eighth c. half.

Q11. a. One-half of 8 is 4. One-quarter of 8 is 2. 4 is more than 2, so one-half of 8 is more. b. One-quarter of 16 is 4. One-eighth of 16 is 2. 4 is more than 2, so one-quarter of 16 is more.

∴ a. One-half of 8 b. One-quarter of 16.

Q12. Draw 2 strips of the same size. Split one strip into 2 equal parts and colour 1 part: that is one-half. Split the other strip into 4 equal parts and colour 1 part: that is one-quarter. One-half is more than one-quarter.

∴ One-half is more.

Q13. Halve each time. a. 16 → 8 → 4 → 2. b. 12 → 6 → 3. c. 20 → 10 → 5.

∴ a. 4, 2 b. 3 c. 10, 5.

Q14. This is a game. Each turn, the player folds the strip in half, opens it, counts the parts and names them: halves, then quarters, then eighths. Check that the counts go 2, then 4, then 8.

Q15. a. Half of 16 is 8, so 8 penguins walk fast. b. Half of 8 is 4, so 4 penguins stop to rest. 4 is one-quarter of 16. c. Half of 4 is 2, so 2 penguins climb the hill. 2 is one-eighth of 16. d. 16 → 8 → 4 → 2. Each number is one-half of the number before it.

∴ a. 8 penguins b. 4 penguins c. 2 penguins d. 8, 4, 2, half.

What comes next

Next year you will learn new ways to write one-half, one-quarter and one-eighth (VC2M3N03).

Test

Chapter 1 test — Number (check C1 · task T1)

Mathematics 2 · Level 2 · Victorian Curriculum 2.0

Before you start

- This is a check, not an exam. There is no time limit. Guidance: about 30 minutes. It may be split across two sessions.
- Materials supplied: counters, cubes, a number line, toy money ($1 and $2 coins, and $5, $10 and $20 notes), paper strips, pencils.
- No calculators are used in this check.
- Your teacher may read any item to you.
- Show how you worked when a question asks. Marks are shown like this: [1 mark].

Section	What to do	Questions	Marks
A	Circle the right answer	Q1–Q4	4
B	Short answer	Q5–Q10	18
C	Show all your working	Q11	8
Total			**30**

Section A — Circle the right answer

Circle the letter of the right answer. Each question is worth 1 mark.

Q1. Which number comes after 399? [1 mark]

A. 398

B. 400

C. 409

D. 490

Q2. In 352, what does the digit 5 mean? [1 mark]

A. 5 ones

B. 5 hundreds

C. 5 tens

D. 35

Q3. 27 + 6 = ▢ [1 mark]

A. 28

B. 32

C. 33

D. 87

Q4. A cake is cut into 2 equal parts. What is one part called? [1 mark]

A. one-half

B. one-quarter

C. one-eighth

D. two

Section B — Short answer

Q5. The Penguin Parade (3 marks)

Phillip Island is a real island in Victoria. Every night, little penguins come out of the sea and walk up the beach. People count them as they come in. (The counts in this question are simplified.)

Source: Phillip Island Nature Parks, Penguin Parade, penguins.org.au, retrieved 2026-08-19.

a. The count goes up by 10s. Fill in the boxes. [2 marks]

960	970	980	▢	▢	1010

b. Put these counts in order, from smallest to largest. [1 mark]

705, 570, 750, 507

Q6. Bottle tops (3 marks)

We collect bottle tops for recycling. We have 527 bottle tops.

a. Partition 527 into hundreds, tens and ones. [1 mark]

527 = ▢ hundreds ▢ tens ▢ ones

b. Rename 527 as tens and ones. [1 mark]

527 = ▢ tens ▢ ones

c. Another collection has 405 bottle tops. What does the 0 in 405 tell us? [1 mark]

Q7. Healesville Sanctuary (4 marks)

Healesville Sanctuary is a real zoo in Victoria. (The numbers here are made up for you to practise with.)

Source: Zoos Victoria, Healesville Sanctuary, zoo.org.au, retrieved 2026-08-19.

a. On Saturday, 56 children visited. On Sunday, 27 children visited. How many children visited on the two days altogether? Write a number sentence. Show how you worked. [2 marks]

b. On Monday, 35 children visited. How many more children visited on Saturday than on Monday? Write a number sentence. Show how you worked. [2 marks]

Q8. Arrays and equal groups (3 marks)

a. This array has 3 rows. Each row has 4 counters. How many counters are there altogether? [1 mark]

●●●●
●●●●
●●●●

b. Write a repeated addition number sentence for this array. [1 mark]

c. 18 bottles of water are packed into 3 boxes. Each box gets the same number. How many bottles are in each box? Write the number sentence. [1 mark]

Q9. Money and stories (3 marks)

a. Sam has a $5 note, a $2 coin, another $2 coin and a $1 coin. How much money does Sam have altogether? [1 mark]

b. Luca buys a puzzle for $7. He pays with a $10 note. How much change does Luca get? [1 mark]

c. 20 pencils are packed into boxes. Each box holds 5 pencils. How many boxes are needed? Circle the operation. Then say how you know. [1 mark]

addition subtraction multiplication division

Q10. Halves and quarters (2 marks)

a. Half of 14 is ▢. [1 mark]

b. Mia folds a paper strip in half. Then she folds it in half again. She opens it up. How many equal parts are there? What is each part called? [1 mark]

Section C — Show all your working

Q11. Queen Victoria Market (8 marks)

Queen Victoria Market is a real market in Melbourne. Mia and her dad go shopping there. (Prices are simplified for you to practise with. Level 2 uses whole dollars only.)

Source: Queen Victoria Market, Plan your visit, qvm.com.au, retrieved 2026-08-19.

a. A bag of apples costs $4. A bag of oranges costs $7. How much do the two bags cost altogether? Write the number sentence. [1 mark]

b. They spend $13 altogether. Dad pays with a $20 note. How much change does Dad get? Show how you worked. [2 marks]

c. Apples come in bags of 6. Dad buys 4 bags. How many apples does Dad buy? Write a repeated addition number sentence and a multiplication number sentence. [2 marks]

d. They buy 26 strawberries. They share them equally onto 4 plates. How many strawberries are on each plate? How many are left over? What could they do with the ones left over? [2 marks]

e. Which operation did you use in part d? How do you know? [1 mark]

Solutions

Teacher information. Not student-facing.

Answer key

Question	Answer	CD	Marks
Q1	B — 400	VC2M2N01	1
Q2	C — 5 tens	VC2M2N02	1
Q3	C — 33	VC2M2N04	1
Q4	A — one-half	VC2M2N03	1
Q5a	990, 1000	VC2M2N01	2
Q5b	507, 570, 705, 750	VC2M2N01	1
Q6a	5 hundreds, 2 tens, 7 ones	VC2M2N02	1
Q6b	52 tens 7 ones	VC2M2N02	1
Q6c	There are no tens	VC2M2N02	1
Q7a	56 + 27 = 83; 83 children	VC2M2N04	2
Q7b	56 − 35 = 21; 21 more children	VC2M2N04	2
Q8a	12 counters	VC2M2N05	1
Q8b	4 + 4 + 4 = 12	VC2M2N05	1
Q8c	18 ÷ 3 = 6; 6 bottles	VC2M2N05	1
Q9a	$10	VC2M2N06	1
Q9b	10 − 7 = 3; $3 change	VC2M2N06	1
Q9c	division; equal groups of 5; 4 boxes	VC2M2N06	1
Q10a	7	VC2M2N03	1
Q10b	4 equal parts; each part is one-quarter	VC2M2N03	1
Q11a	4 + 7 = 11; $11	VC2M2N04	1
Q11b	20 − 13 = 7; $7 change	VC2M2N06	2
Q11c	6 + 6 + 6 + 6 = 24; 4 × 6 = 24; 24 apples	VC2M2N05	2
Q11d	6 on each plate; 2 left over; any sensible plan	VC2M2N06	2
Q11e	division; sharing into equal groups	VC2M2N06	1
	Total		**30**

Worked solutions

Q1. Count on from 399. 1 more makes the next number: 400. 10 tens make 1 hundred, so after 39 tens and 9 ones comes 40 tens.

∴ B — 400.

Q2. In 352, the 3 is in the hundreds place, the 5 is in the tens place and the 2 is in the ones place. The digit 5 means 5 tens.

∴ C — 5 tens.

Q3. Count on from 27: 28, 29, 30, 31, 32, 33. Or bridge to 10: 27 + 3 = 30, then 30 + 3 = 33.

∴ C — 33.

Q4. The cake is cut into 2 equal parts. One part out of 2 equal parts is one-half.

∴ A — one-half.

Q5. a. The count goes up by 10s: 960, 970, 980, 990, 1000, 1010. After 990 comes 1000 — 10 tens make 1 hundred. b. Read each number. 507 and 570 have 5 hundreds; 705 and 750 have 7 hundreds. 507 comes before 570 (0 tens is less than 7 tens). 705 comes before 750: both have 7 hundreds, and 0 tens is less than 5 tens. In order: 507, 570, 705, 750.

∴ a. 990, 1000 b. 507, 570, 705, 750.

Q6. a. 527 is 5 hundreds, 2 tens and 7 ones. b. The 5 hundreds and the 2 tens make 52 tens, so 527 is 52 tens and 7 ones. c. The 0 in 405 is in the tens place. It tells us there are no tens: 405 is 4 hundreds and 5 ones.

∴ a. 5 hundreds, 2 tens, 7 ones b. 52 tens 7 ones c. There are no tens.

Q7. a. The story puts two amounts together, so add: 56 + 27 = ▢. Partition into tens and ones: 50 + 20 = 70, and 6 + 7 = 13. Then 70 + 13 = 83. (Counting on also works: 56 + 20 = 76, then 76 + 7 = 83.) b. Compare Saturday and Monday, so subtract: 56 − 35 = ▢. Take away the tens, then the ones: 56 − 30 = 26, then 26 − 5 = 21.

∴ a. 83 children b. 21 more children.

Q8. a. Count by 4s down the rows: 4, 8, 12. 3 rows of 4 is 12. b. The same number added 3 times: 4 + 4 + 4 = 12. c. The same number in each box means equal groups, so divide: 18 ÷ 3 = 6. Check: 6 + 6 + 6 = 18. ✓

∴ a. 12 counters b. 4 + 4 + 4 = 12 c. 6 bottles in each box.

Q9. a. Count the note first, then the coins: $5 + $2 + $2 + $1 = $10. b. Count up from 7 to 10: 8, 9, 10. That is 3, so 10 − 7 = 3. c. 20 pencils go into equal groups of 5, so the operation is division: 20 ÷ 5 = 4. We know because we are making equal groups of 5, not adding, taking away or sharing into a given number of groups.

∴ a. $10 b. $3 change c. division; 4 boxes.

Q10. a. Share 14 into 2 equal groups: 7 and 7. Half of 14 is 7. b. One fold in half makes 2 equal parts. Folding in half again halves each part, making 4 equal parts. Each part is one-quarter of the strip.

∴ a. 7 b. 4 equal parts; each part is one-quarter.

Q11. a. Add the two prices: 4 + 7 = 11. b. Find change by counting up from the cost to what was paid: 13 to 20 is 14, 15, 16, 17, 18, 19, 20 — that is 7. So 20 − 13 = 7. c. 4 bags of 6 apples: 6 + 6 + 6 + 6 = 24. That is 4 × 6 = 24. Check by counting by 6s: 6, 12, 18, 24. ✓ d. Share 26 strawberries onto 4 plates, dealing 1 at a time. 6 on each plate uses 24 strawberries: 4 × 6 = 24, and 26 − 24 = 2 left over. Any sensible plan for the 2 is fine — for example, give them to 2 children, or save them for later. e. Sharing 26 strawberries equally onto 4 plates means equal groups, so the operation is division. We knew the total (26) and the number of groups (4 plates), and needed the number in each group: 26 ÷ 4 gives 6, with 2 left over.

∴ a. $11 b. $7 change c. 24 apples d. 6 on each plate, 2 left over e. division.

Marking guide

Per §7, each rubric is written in the language of the CD's achievement-standard extract as carried in the authority file (quoted verbatim, as carried there), and the strategy is scored as well as the answer where the CD requires explanation or justification (`VC2M2N06.E01`).

`VC2M2N01` (1A) — Q1, Q5 — 4 marks. *"students order and represent numbers to at least 1000;"* Credit ordering and representing numbers to at least 1000, including across 1000 (in scope per D19). Within the marks, credit the strategy: using the count-by-10s pattern and place value to find missing numbers (Q5a, 1 mark per box), and comparing hundreds first, then tens, then ones, to order (Q5b).

`VC2M2N02` (1B) — Q2, Q6 — 4 marks. *"apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts; and regroup partitioned numbers to assist in calculations."* Credit partitioning a three-digit number into hundreds, tens and ones, non-standard renaming in terms of tens, and describing the zero digit as holding the tens place.

`VC2M2N04` (1C) — Q3, Q7, Q11a — 6 marks. *Carried on `VC2M2N04` in the authority file: "apply knowledge of place value to partition, rearrange and rename two- and three-digit numbers in terms of their parts; and regroup partitioned numbers to assist in calculations."* Credit correct number sentences and answers for one- and two-digit addition and subtraction. Each 2-mark worked part scores 1 mark for the correct answer and 1 mark for valid working — partitioning tens and ones, bridging to 10, counting on or back, a number line or materials. No vertical algorithm (D18); any valid Level 2 strategy is acceptable.

`VC2M2N05` (1D) — Q8, Q11c — 5 marks. *Carried on `VC2M2N05` in the authority file: "They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies."* Credit reading an array as equal rows, writing repeated addition and multiplication number sentences for the same situation, and choosing division for equal sharing.

`VC2M2N06` (1E) — Q9, Q11b, Q11d, Q11e — 8 marks. *"They use mathematical modelling to solve practical additive and multiplicative problems, including money transactions, representing the situation and choosing calculation strategies."* Credit interpreting each situation, choosing the operation and justifying the choice (Q9c, Q11e — `VC2M2N06.E01`), computing whole-dollar totals and change, and deciding what to do with a remainder in context (Q11d — `VC2M2N06.E03`). Parts b and d of Q11 score 1 mark for the answer and 1 mark for the strategy or plan.

`VC2M2N03` (1F) — Q4, Q10 — 3 marks. *"Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts."* (The part–whole sentence, carried on `VC2M2N03` in the export — D25.) Credit identifying one-half of a whole and one-half of a collection, and connecting repeated halving to quarters: fold in half, then in half again, 2 parts then 4.

Coverage

CD	Subtopic	Items	Marks
`VC2M2N01`	1A	Q1, Q5	4
`VC2M2N02`	1B	Q2, Q6	4
`VC2M2N04`	1C	Q3, Q7, Q11a	6
`VC2M2N05`	1D	Q8, Q11c	5
`VC2M2N06`	1E	Q9, Q11b, Q11d, Q11e	8
`VC2M2N03`	1F	Q4, Q10	3
		Total	**30**

- Only CDs owned by Chapter 1 in §4 are scored, and every owned CD contributes at least one separately scored item (§7).
- MCQ share: 4 of 30 marks (13 per cent), under §7's one-quarter cap. Each MCQ carries four options A–D and is keyed to the CD code of its subtopic (§7).
- Item types per §7: short-answer (Q5–Q10) and worked-response (Q7, Q11), with MCQ sparingly (Q1–Q4).

- VC2M2N04.E06 and VC2M2N06.E05 are not drawn on in this check (CONTENT_POLICY Rule 1); recorded as ACCEPTED §2A exclusions.