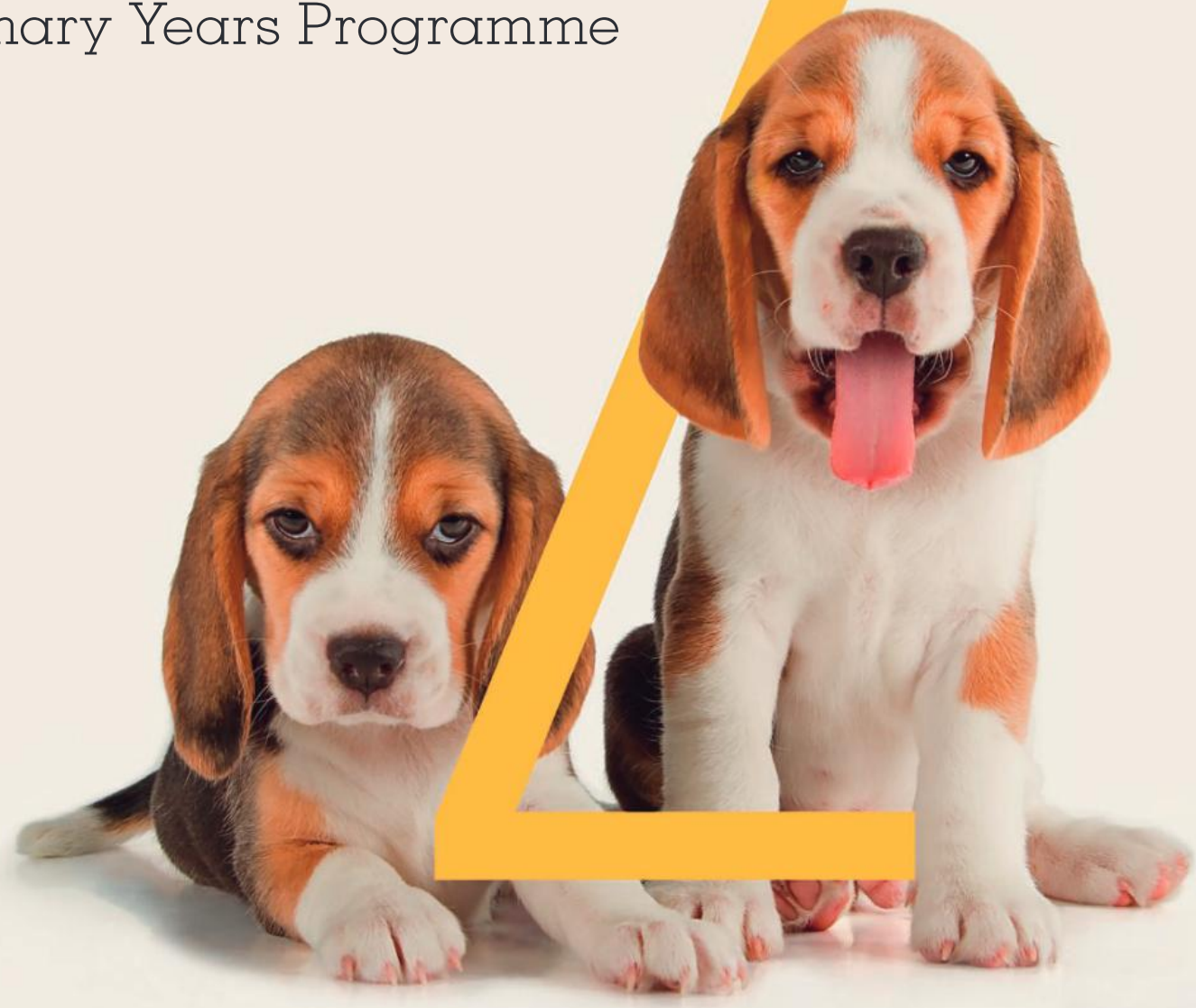
Student Book PYP

Oxford **Mathematics**

Primary Years Programme



Annie Facchinetti

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To the teacher

Oxford Mathematics PYP provides students with guided and independent work to support mathematical skills and understandings, as well as opportunities for problem-solving in real-world contexts. Teachers will find the supporting materials clear, comprehensive and easy to use. While the series offers complete coverage of the PYP mathematics scope and sequence, teachers can also use the topics that fit well with other areas of work to support student learning across the PYP curriculum.

Student Books

Each topic features:

- **Guided practice** – a worked example of the concept, followed by the opportunity for students to practise, supported by careful scaffolding
- **Independent practice** – further opportunities for students to consolidate their understanding of the concept in different ways, with a decreasing amount of scaffolding
- **Extended practice** – the opportunity for students to apply their learning and extend their understanding in new contexts.

Differentiation

Differentiation is key to ensuring that every student can access the curriculum at their point of need. In addition to the gradual release approach of the Student Books, the Teacher Books help teachers to choose appropriate pathways for students, and provide activities for students who require extra support or extension.

Oxford **Mathematics**

Primary Years Programme

2

Contents

NUMBER, PATTERN AND FUNCTION

MEASUREMENT, SHAPE AND SPACE

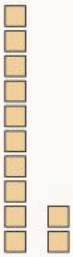
DATA HANDLING

OXFORD UNIVERSITY PRESS
AUSTRALIA & NEW ZEALAND

This is a one.

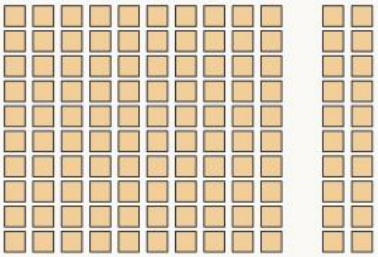
This is 12 ones

OR 1 ten and 2 ones.



This is 120 ones

OR 1 hundred and 2 tens.

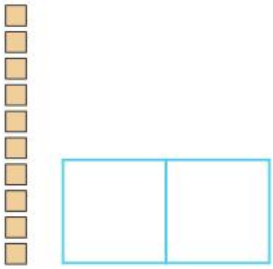


Guided practice

1 How many?

In a 3-digit number, the first digit is hundreds, the second is tens and the third is ones.

a



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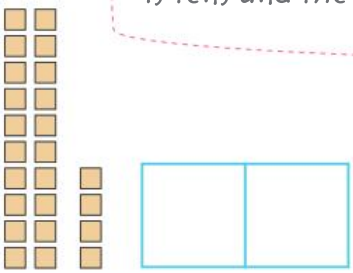

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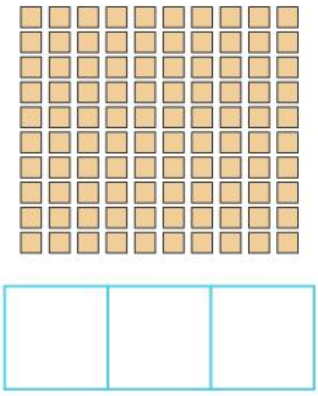

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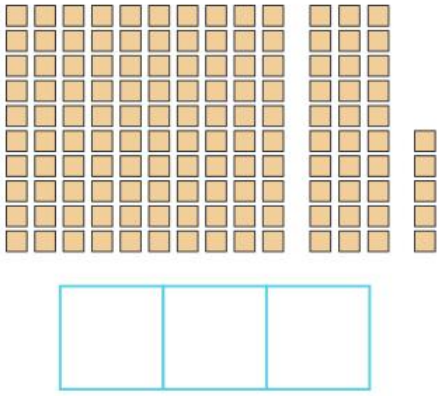
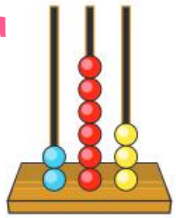


2 Write the numbers.

a



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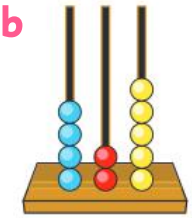

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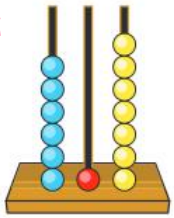
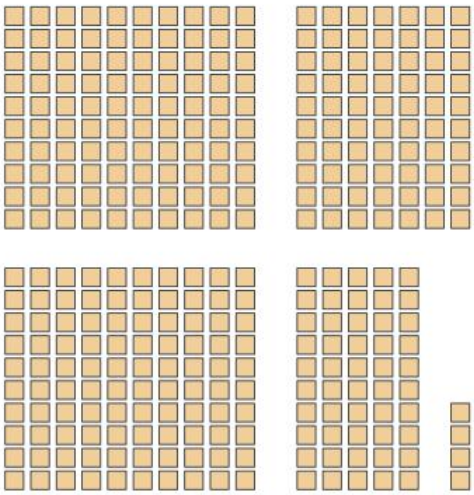


Independent practice

1 This is 354.

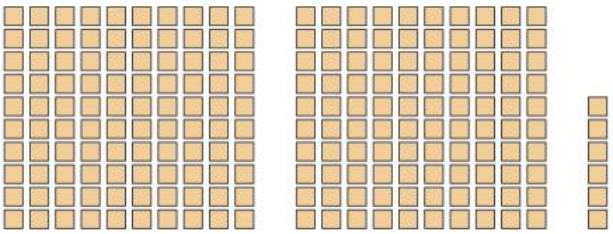


☐ hundreds

☐ tens

☐ ones

2 This is 206.

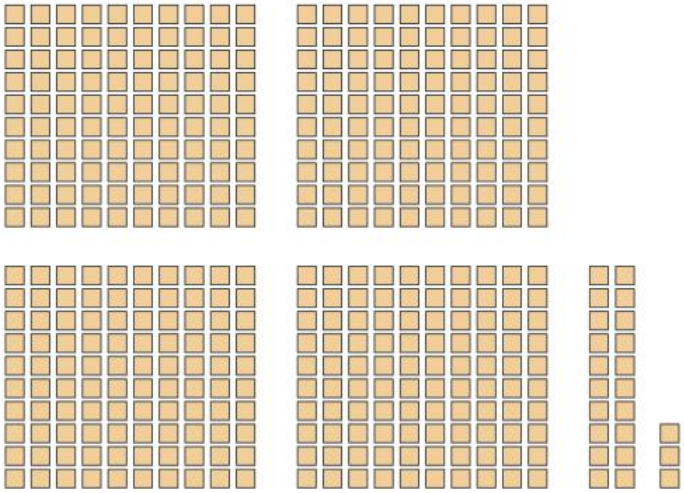


☐ hundreds

☐ tens

☐ ones

3 This is 423.



☐ hundreds

☐ tens

☐ ones

4

a In 849, the 9 is in the ones place. How many:

tens? ☐ hundreds? ☐

b In 347, the 4 is in the tens place. How many:

ones? ☐ hundreds? ☐

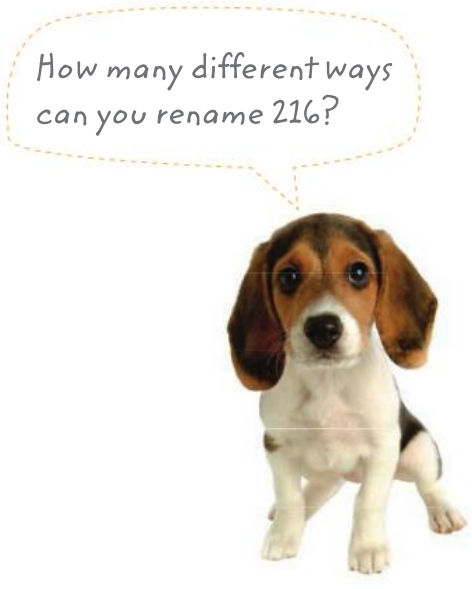
c In 413, how many:

hundreds? ☐ tens? ☐ ones? ☐

d In 508, how many:

tens? ☐ hundreds? ☐ ones? ☐

5 Draw 216.



Extended practice

1

Use the digits to make:

a the biggest number.

b the smallest number.

c the biggest number with 8 in the ones place.

d 2-digit numbers.

2 Write a digit on each balloon.

Use the digits to make:

a the biggest number.

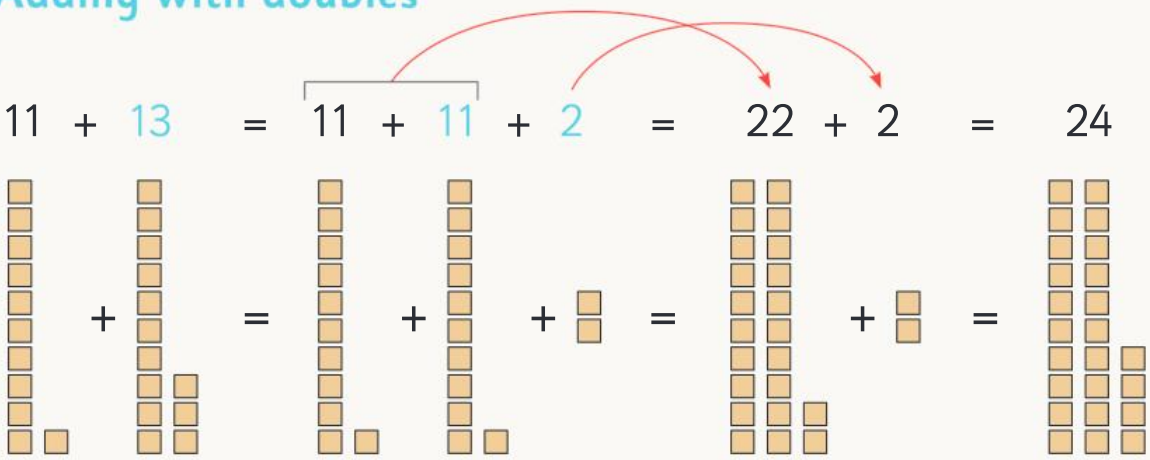
b the smallest number.

3

a The smallest number is:

b The numbers bigger than 115 are:

Adding with doubles



Guided practice

1 Use doubles to help you add.

a 8 + 9 = 8 + 8 + ☐ = 1 6 + ☐ = ☐☐

b 10 + 13 = 10 + 10 + ☐ = ☐☐ + ☐ = ☐☐

c 15 + 17 = 15 + 15 + ☐ = ☐☐ + ☐ = ☐☐

d 12 + 13 = 12 + 12 + ☐ = ☐☐ + ☐ = ☐☐

e 14 + 15 = 14 + 14 + ☐ = ☐☐ + ☐ = ☐☐

Independent practice

1 Add these doubles.

a 7 + 7 = ☐☐

b 11 + 11 = ☐☐

c 16 + 16 = ☐☐

d 20 + 20 = ☐☐

e 25 + 25 = ☐☐

f 50 + 50 = ☐☐☐

2 Add these near doubles.

a 7 + 9 = ☐ + ☐ + ☐ = ☐☐ + ☐ = ☐☐

b 11 + 13 = ☐☐ + ☐☐ + ☐ = ☐☐ + ☐

= ☐☐

c 16 + 17 = ☐☐ + ☐☐ + ☐ = ☐☐ + ☐

= ☐☐

d 20 + 23 = ☐☐ + ☐☐ + ☐ = ☐☐ + ☐

= ☐☐

e 25 + 27 = ☐☐ + ☐☐ + ☐ = ☐☐ + ☐

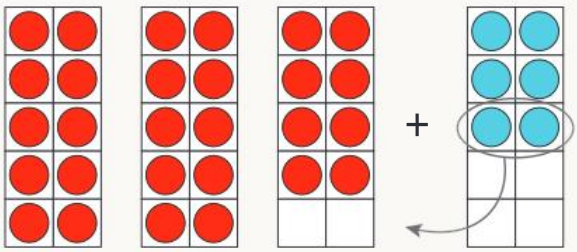
= ☐☐

Getting to a 10

$28 + 6 = 28 + 2 + 4$

$= 30 + 4$

$= 34$



Guided practice

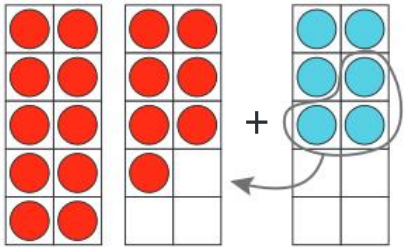
It's easier to add numbers to a tens number like 10, 20 or 30.

1 Add by getting to a 10.

a $17 + 6 = 17 + \boxed{3} + \boxed{}$

$= 20 + \boxed{}$

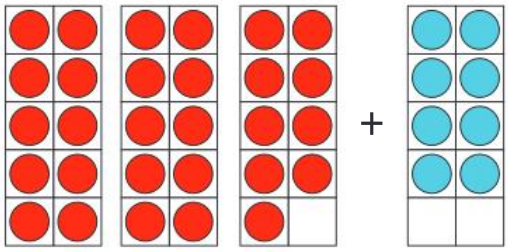
$= \boxed{}\boxed{}$



b $29 + 8 = 29 + \boxed{} + \boxed{}$

$= 30 + \boxed{}$

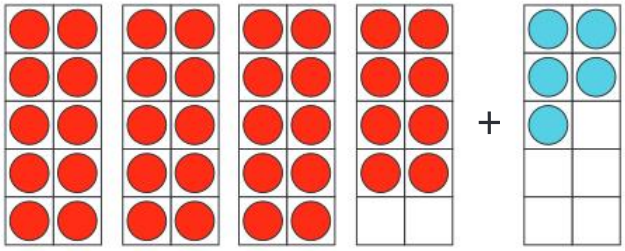
$= \boxed{}\boxed{}$



c $38 + 5 = 38 + \boxed{} + \boxed{}$

$= 40 + \boxed{}$

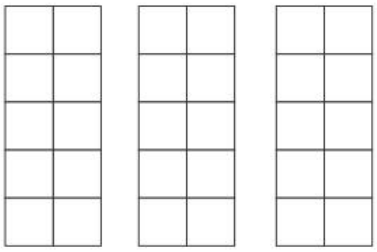
$= \boxed{}\boxed{}$



Independent practice

1 Draw getting to a 10 to solve the equations.

a

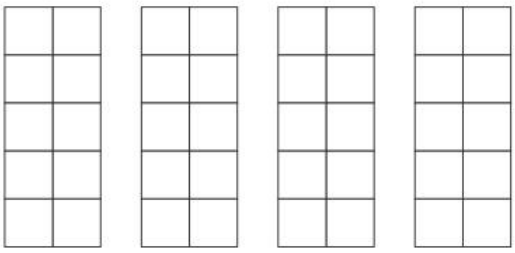


18 + 9 = ☐☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

b



26 + 7 = ☐☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

2 Solve by getting to a 10.

a 25 + 8 = ☐☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

b 37 + 6 = ☐☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

Extended practice

1 Use doubles to help you find the answers.

a 20 + 22 = ☐☐

b 25 + 28 = ☐☐

c 30 + 33 = ☐☐

d 40 + 42 = ☐☐

e 50 + 51 = ☐☐☐

f 55 + 57 = ☐☐☐

2 Use getting to a 10 to solve these in your head.

a 28 + 9 = ☐☐

b 36 + 8 = ☐☐

c 47 + 5 = ☐☐

d 59 + 7 = ☐☐

e 66 + 6 = ☐☐

f 78 + 7 = ☐☐

3 Choose which method you will use, then solve the equations.

a 39 + 7 = ☐☐

Near doubles	Getting to a 10

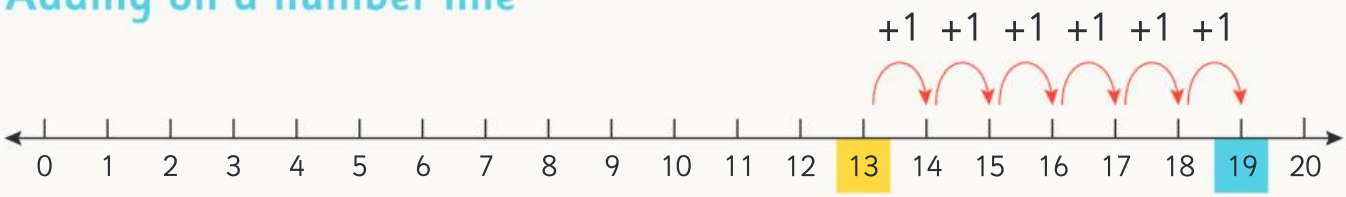
b 40 + 41 = ☐☐

Near doubles	Getting to a 10

c 100 + 102 = ☐☐☐

Near doubles	Getting to a 10

Adding on a number line



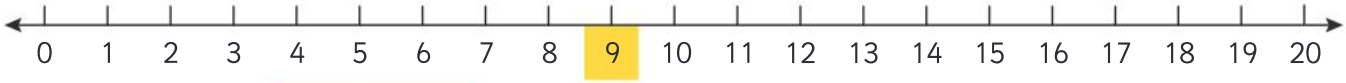
13 + 6 = 19

Guided practice

Start from the bigger number when you are adding on the number line!

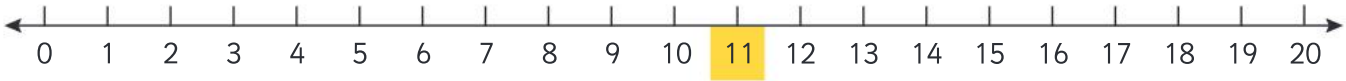
Find the answers with the number lines.

1



9 + 5 = ☐☐

2



11 + 7 = ☐☐

3

6 + 18 = ☐☐

4

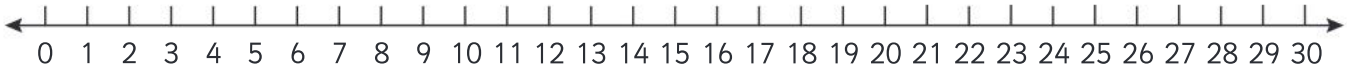
23 + 5 = ☐☐

Independent practice

Why is it easier to start from the bigger number?

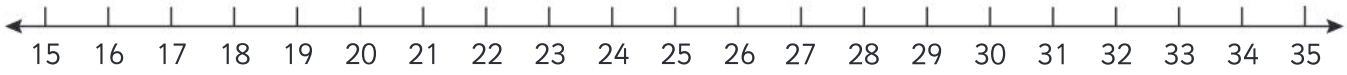
Use the number lines to find the answers.

1



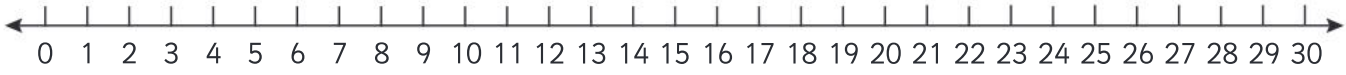
19 + 8 = ☐☐

2



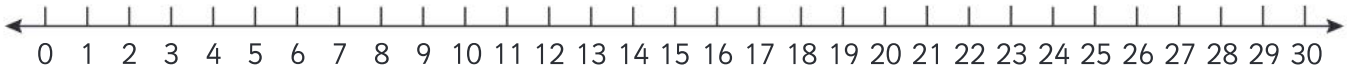
24 + 6 = ☐☐

3



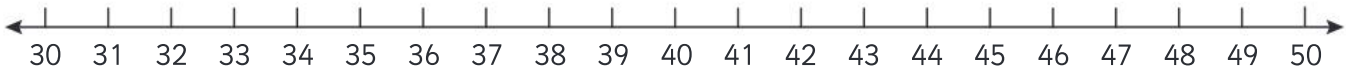
7 + 14 = ☐☐

4



5 + 21 = ☐☐

5



32 + 10 = ☐☐

Extended practice

1 Show on the number lines and solve.

a

14 + 5 = ☐☐

b

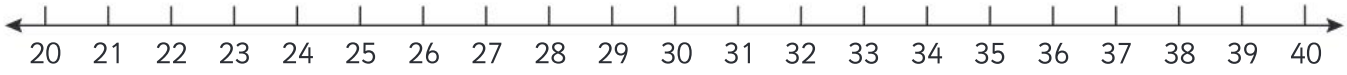
21 + 6 = ☐☐

c

32 + 7 = ☐☐

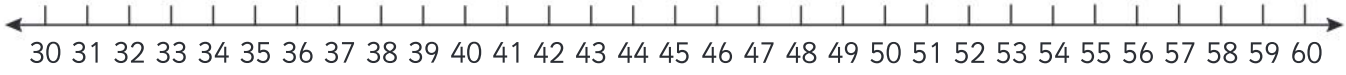
2 Solve on the number lines.

a



23 + 12 = ☐☐

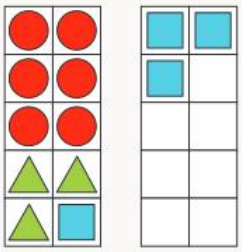
b



35 + 24 = ☐☐

You can add numbers in any order.

6 + 3 + 4 = 6 + 4 + 3 = 4 + 3 + 6



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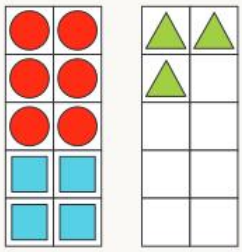
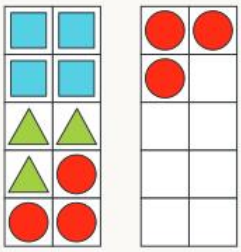


is the same as

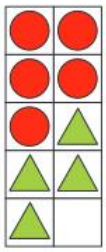


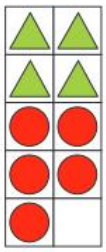
Guided practice

Fill in the gaps.

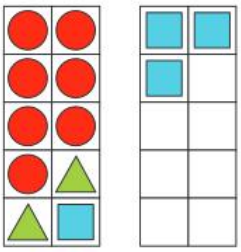
When might it be useful to change the order of the numbers you are adding?

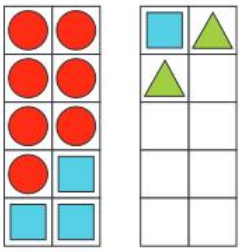
1 5 + 4 = 4 + ☐ = 9



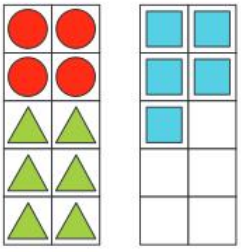


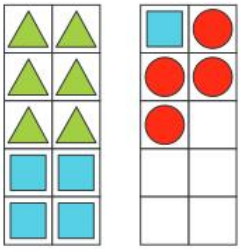
2 7 + 2 + 4 = 7 + ☐ + ☐ = ☐☐





3 4 + 6 + 5 = ☐ + 5 + ☐ = ☐☐

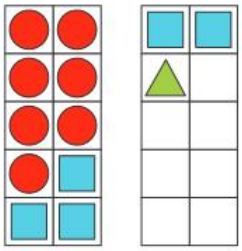


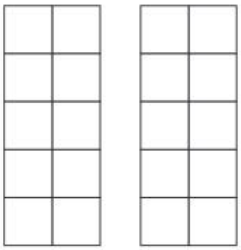


Independent practice

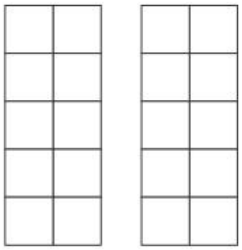
1 Draw and solve.

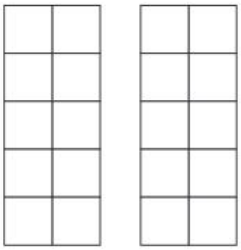
a 7 + 5 + 1 = ☐ + ☐ + ☐ = ☐☐



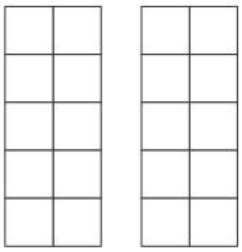


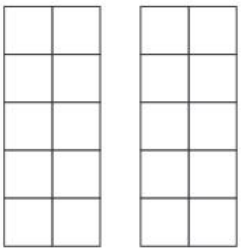
b 2 + 9 + 4 = ☐ + ☐ + ☐ = ☐☐





c 8 + 1 + 7 = ☐ + ☐ + ☐ = ☐☐





2 Fill in the gaps.

a 4 + 7 + 5 = ☐ + ☐ + ☐ = ☐ + ☐ + ☐

= ☐☐

b 1 + 9 + 4 = ☐ + ☐ + ☐ = ☐ + ☐ + ☐

= ☐☐

Extended practice

1 Fill in the missing numbers.

Can you change the order of the numbers when you are doing subraction?

a ☐ + 5 + 7 = ☐ + 8 + 7 = 20

b 6 + 9 + ☐ = 4 + 9 + ☐ = 19

c 8 + 3 + 4 = 4 + ☐ + ☐ = ☐☐

d 22 = 9 + 7 + ☐ = ☐ + 7 + 9

e 19 = ☐ + 4 + 7 = 7 + 8 + ☐

2 Use the numbers to make 3 addition sums.

a 3, 5, 7, 15

☐ + ☐ + ☐ = ☐ ☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

b 8, 2, 9, 19

☐ + ☐ + ☐ = ☐ ☐ + ☐ + ☐ = ☐

☐ + ☐ + ☐ = ☐

c 9, 21, 7, 5

☐ + ☐ + ☐ = ☐ ☐ + ☐ + ☐ = ☐

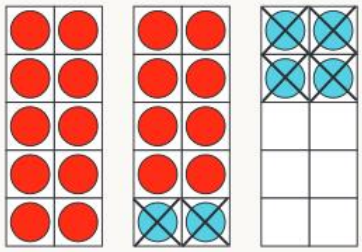
☐ + ☐ + ☐ = ☐

Getting to a 10

$24 - 6 = 24 - 4 - 2$

$= 20 - 2$

$= 18$



It's easier to subtract numbers from a tens number like 10, 20 or 30.

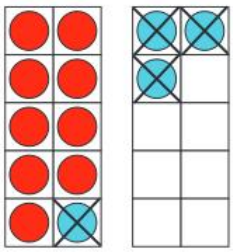
Guided practice

1 Subtract by getting to a 10.

a $13 - 4 = 13 - \boxed{3} - \square$

$= 10 - \square$

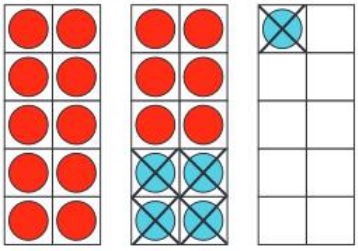
$= \square$



b $21 - 5 = 21 - \square - \square$

$= 20 - \square$

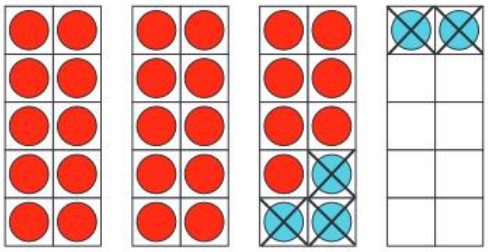
$= \square\square$



c $32 - 5 = 32 - \square - \square$

$= 30 - \square$

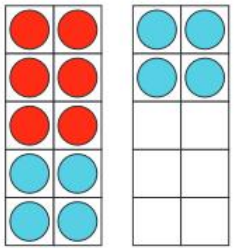
$= \square\square$



Independent practice

1 Show getting to a 10 to solve the equations.

a

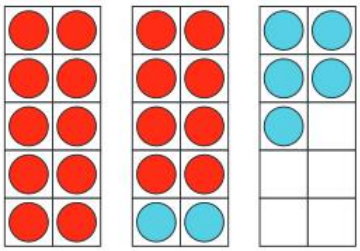


$14 - 8 = \square\square - \square - \square$

$= \square\square - \square$

$= \square$

b



$25 - 7 = \square\square - \square - \square$

$= \square\square - \square$

$= \square\square$

2 Solve by getting to a 10.

a $22 - 6 = \square\square - \square - \square$

$= \square\square - \square$

$= \square\square$

b $35 - 8 = \square\square - \square - \square$

$= \square\square - \square$

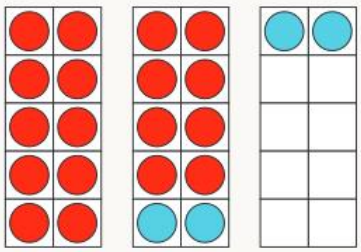
$= \square\square$

Counting up to friendly numbers

22 – 18

Count up from 18 to 20. 18 + 2 = 20

Count up from 20 to 22. 20 + 2 = 22



The difference between 18 and 22 is 4 (2 + 2), so 22 – 18 = 4.

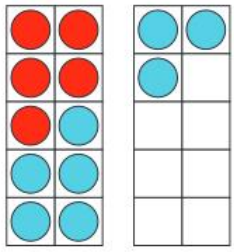
Guided practice

1 Count up to find the answers.

a 13 – 5

Count up from 5 to 10. 5 + ☐ = 10

Count up from 10 to 13. 10 + ☐ = 13



The difference between 13 and 5

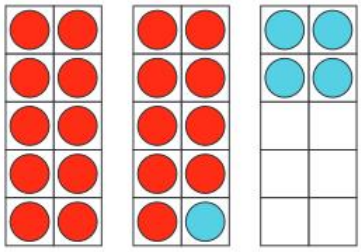
is 5 + 3 OR ☐.

So 13 – 5 = ☐.

b 24 – 19

Count up from 19 to 20. 19 + ☐ = 20

Count up from 20 to 24. 20 + ☐ = 24



The difference between 19 and 24

is ☐ + ☐ OR ☐.

So 24 – 19 = ☐.

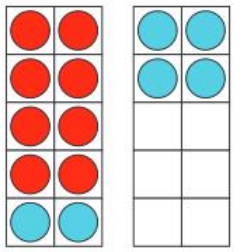
Why do we count up from the smaller number?

Independent practice

1 Fill in the gaps.

a 14 – 8

Count up from ☐ to ☐☐.



8 + ☐ = ☐☐

Count up from 10 to ☐☐.

10 + ☐ = ☐☐

The difference between 14 and 8 is ☐ + ☐ OR ☐.

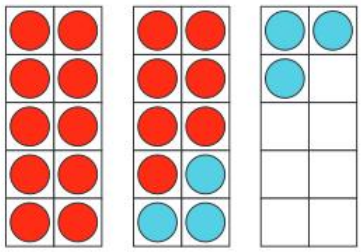
So 14 – 8 = ☐.

b 23 – 17

17 + ☐ = ☐☐

20 + ☐ = ☐☐

So 23 – 17 = ☐.

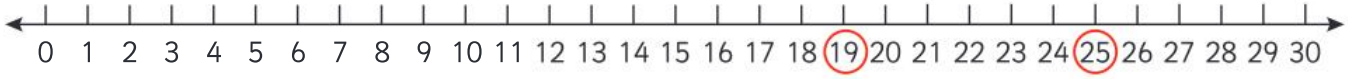


2 Count up to find the difference.

a

16 – 9 = ☐

b



25 – 19 = ☐

Extended practice

1 Use getting to a 10 to solve in your head.

a 12 – 4 = ☐

b 15 – 8 = ☐

c 21 – 9 = ☐☐

d 32 – 6 = ☐☐

e 46 – 7 = ☐☐

f 53 – 5 = ☐☐

2 Count up to find the answers.

a 18 – 7 = ☐☐

b 22 – 15 = ☐

c 35 – 23 = ☐☐

d 38 – 27 = ☐☐

e 43 – 36 = ☐

f 48 – 29 = ☐☐

3 Choose which strategy to use and solve in your head.

a 28 – 16 = ☐☐

Getting to a 10	Counting up

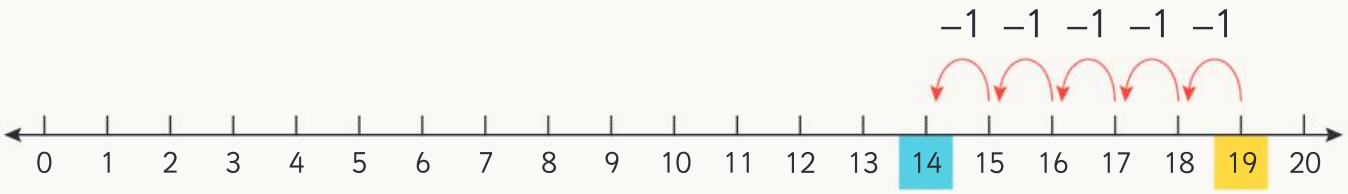
b 34 – 8 = ☐☐

Getting to a 10	Counting up

c 41 – 34 = ☐

Getting to a 10	Counting up

Subtracting on a number line



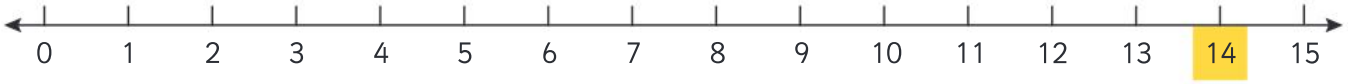
$19 - 5 = 14$

Guided practice

Which way do you go on the number line when you are subtracting?

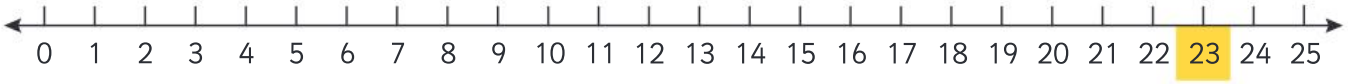
Find the answers with the number lines.

1 $14 - 6 =$ ☐



2 $18 - 7 =$ ☐☐

3 $23 - 8 =$ ☐☐

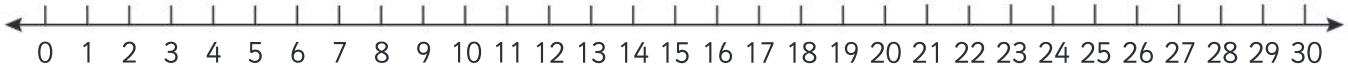


4 $27 - 9 =$ ☐☐

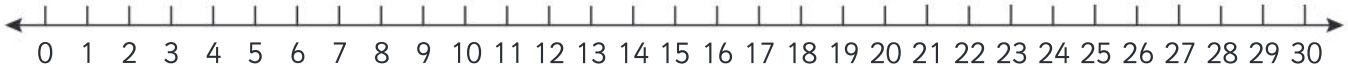
Independent practice

Use the number lines to find the answers.

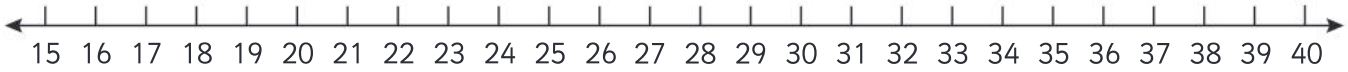
1 28 – 7 = ☐☐



2 25 – 8 = ☐☐

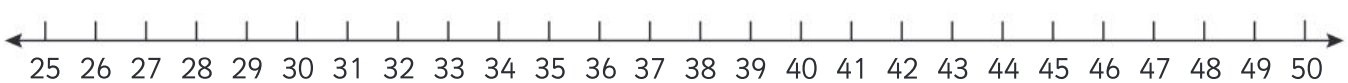


3 34 – 6 = ☐☐



4 43 – 9 = ☐☐

5 48 – 12 = ☐☐



Extended practice

1 Show on the number lines and solve.

a 19 – 4 = ☐☐

b 28 – 8 = ☐☐

c 33 – 7 = ☐☐

d 36 – 14 = ☐☐

2 Solve on the number lines.

a 37 – 4 – 5 = ☐☐

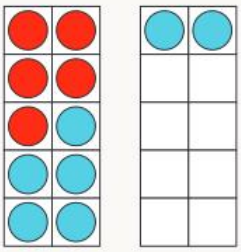
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

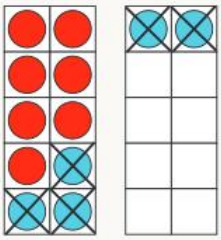
b 41 – 7 – 6 = ☐☐

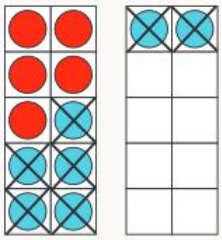
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

Addition and subtraction are connected.

If I know 5 + 7 = 12, I also know 12 – 5 = 7 and 12 – 7 = 5.





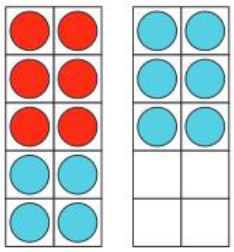


Guided practice

Why do both subtraction equations start with the same number?

1 Write two subtraction facts to match the addition fact.

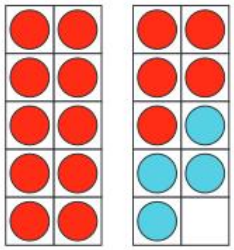
a 6 + 10 = 16



16 – 1 0 = 6

16 – 6 = ☐ ☐

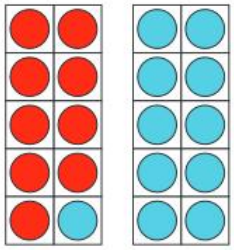
b 15 + 4 = 19



19 – ☐ ☐ = ☐

19 – ☐ = ☐ ☐

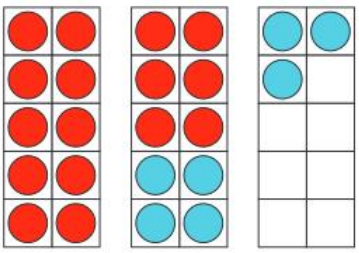
c 9 + 11 = 20



☐ ☐ – 9 = ☐ ☐

☐ ☐ – 11 = ☐

d 16 + 7 = 23



23 – ☐ ☐ = ☐

☐ ☐ – ☐ = ☐ ☐

Independent practice

1 Fill in the gaps.

a

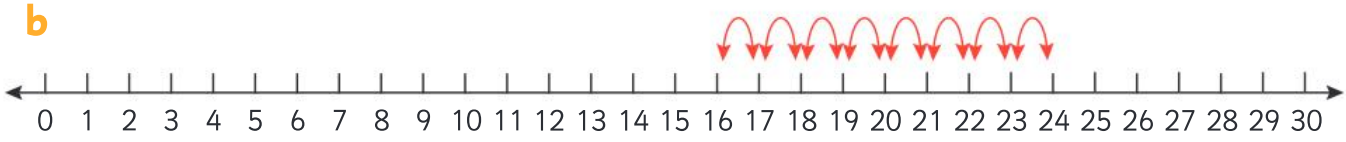
13 + 5 = 18

5 + ☐☐ = 18

18 – ☐ = ☐☐

18 – ☐☐ = ☐

b



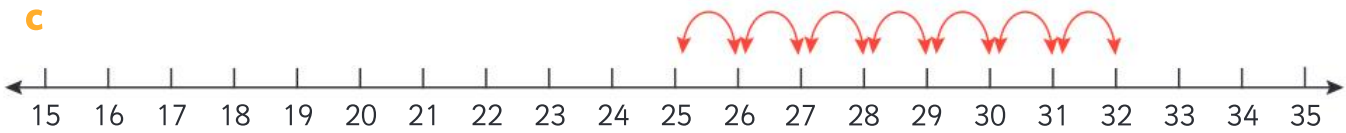
16 + ☐ = 24

8 + 16 = 24

☐☐ – 8 = 16

24 – ☐☐ = 8

c



25 + ☐ = ☐☐

7 + ☐☐ = ☐☐

☐☐ – 7 = 25

☐☐ – 25 = 7

2 Write a matching subtraction fact.

a 8 + 6 = 14 ☐☐ – ☐ = ☐

b 16 + 10 = 26 ☐☐ – ☐☐ = ☐☐

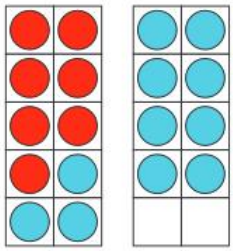
c 13 + 12 = 25 ☐☐ – ☐☐ = ☐☐

d 11 + 27 = 38 ☐☐ – ☐☐ = ☐☐

Extended practice

1 Write addition and subtraction facts to match the pictures.

a



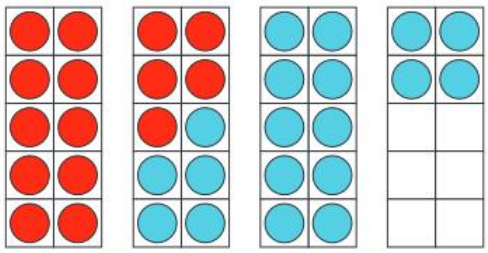
□ + □□ = □□

□□ − □ = □□

□□ + □ = □□

□□ − □□ = □

b



□□ + □□ = □□

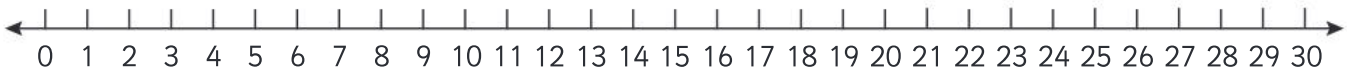
□□ − □□ = □□

□□ + □□ = □□

□□ − □□ = □□

2 Solve on the number lines and use addition to check your answers.

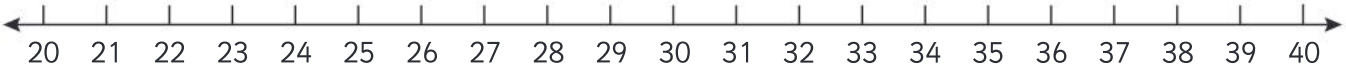
a



24 − 5 = □□

□□ + □ = 24

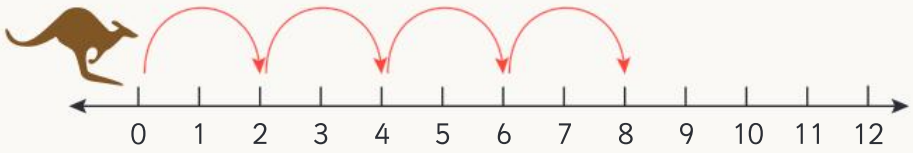
b

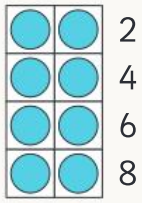


35 − 12 = □□

□□ + □□ = 35

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

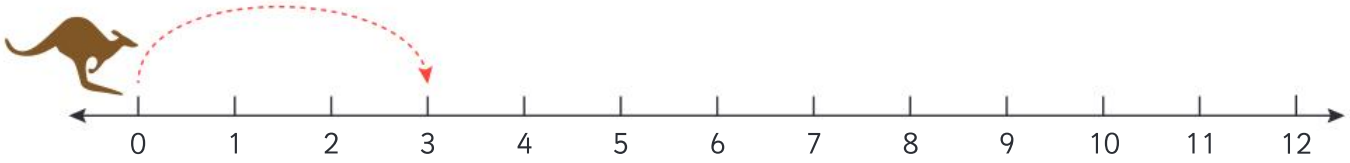




Guided practice

Show on the number lines and fill in the blanks.

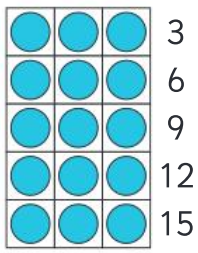
1 $3 + 3 + 3 = \square \times \square = \square$



2 $5 + 5 + 5 + 5 + 5 = \square \times \square = \square\square$

Fill in the blanks.

3



$\square + \square + \square + \square + \square = 15$

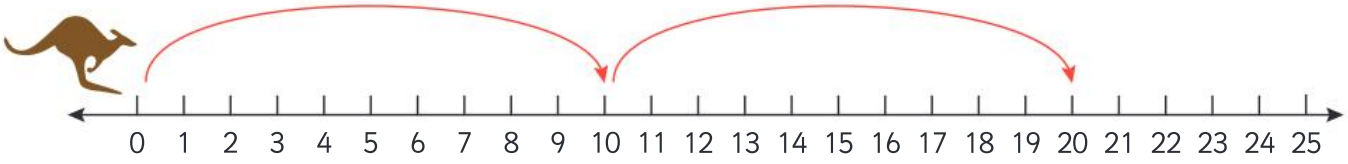
$\square$ threes are $\square\square$

$\square \times \square = \square\square$

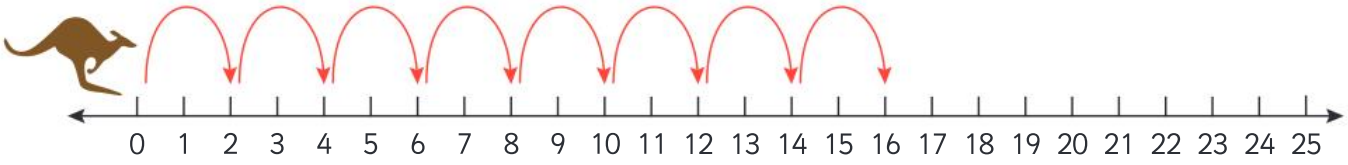
Independent practice

Write the equation.

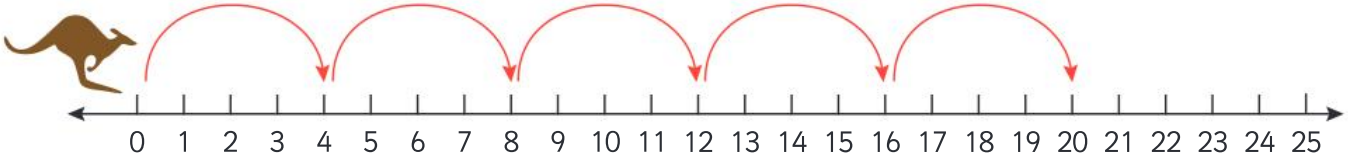
1 ☐ × ☐☐ = ☐☐



2 ☐ × ☐ = ☐☐

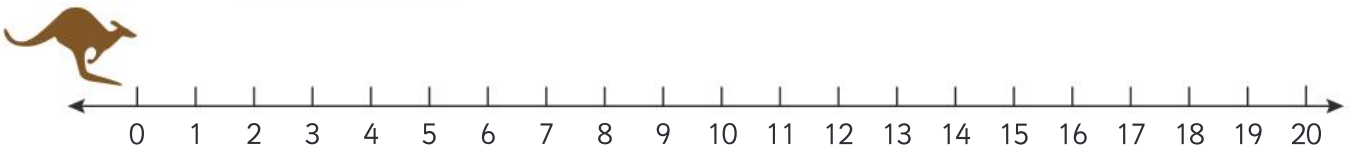


3 ☐ × ☐ = ☐☐

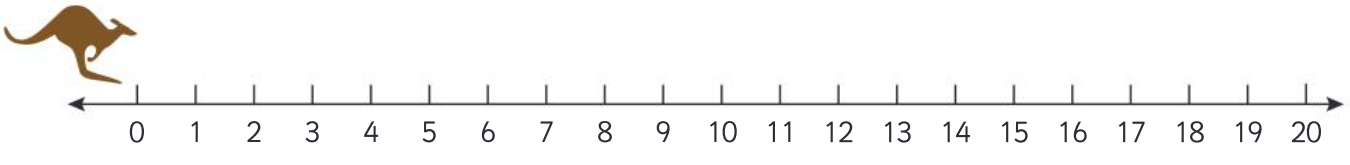


Show on the number line.

4 3 × 5 = ☐☐



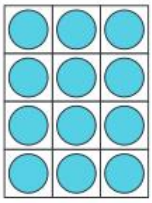
5 6 × 2 = ☐☐



6 $7 \times 3 =$ ☐☐

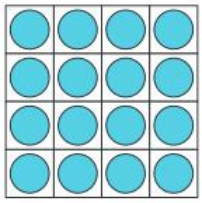
Write an equation to match the array.

7



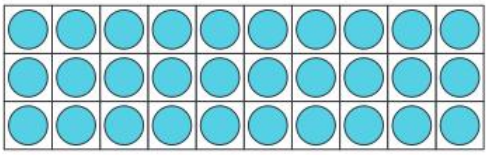
☐ × ☐ = ☐☐

8



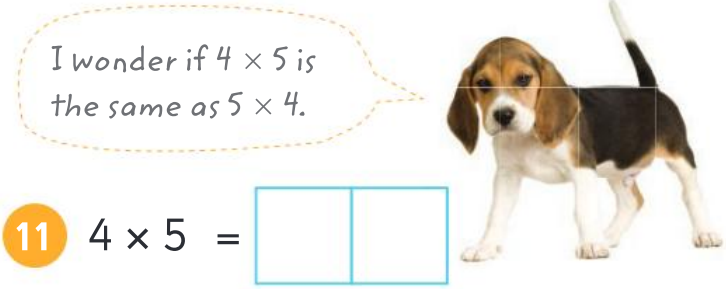
☐ × ☐ = ☐☐

9



☐ × ☐☐ = ☐☐

Draw the array.

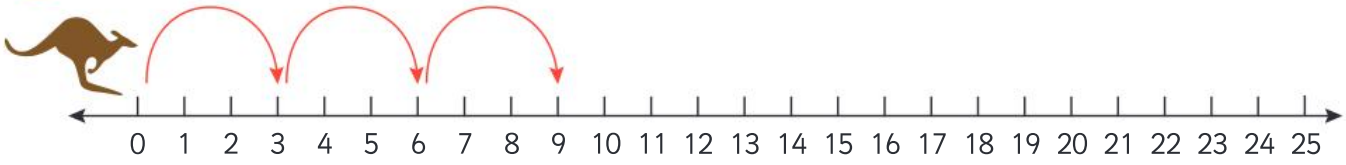


10 $3 \times 6 =$ ☐☐

11 $4 \times 5 =$ ☐☐

Extended practice

1



If the kangaroo continues, will she land on ... ?

14	Yes	No	18	Yes	No	20	Yes	No
23	Yes	No	21	Yes	No	30	Yes	No

2

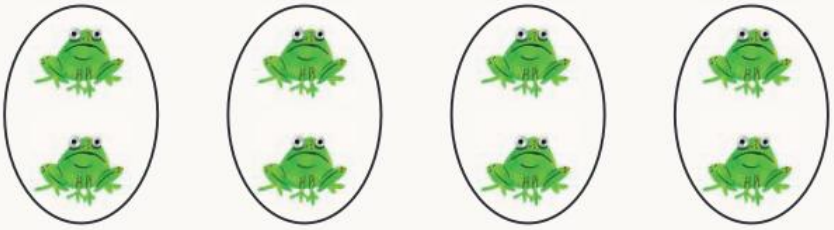
How many donuts?

Show how you got your answer.

3 Draw three different arrays of 12 counters.

☐ × ☐ = 12	☐ × ☐ = 12	☐ × ☐ = 12

How many groups of 2 in 8?



8 – 2 = 6 6 – 2 = 4 4 – 2 = 2 2 – 2 = 0

8 divided into groups of 2 gives 4 groups
OR 8 ÷ 2 = 4

Guided practice

1 Draw circles to make equal groups of:

a **4**

12 – 4 = ☐ ☐ – 4 = ☐ ☐ – 4 = 0

12 divided by 4 is ☐ 12 ÷ 4 = ☐

b **3**

15 – 3 = ☐☐ ☐☐ – 3 = ☐ ☐ – 3 = ☐

☐ – 3 = ☐ ☐ – 3 = ☐

15 divided by 3 is ☐ 15 ÷ 4 = ☐

2 Equal or unequal shares?

a

Equal	Unequal

b

Equal	Unequal

Independent practice

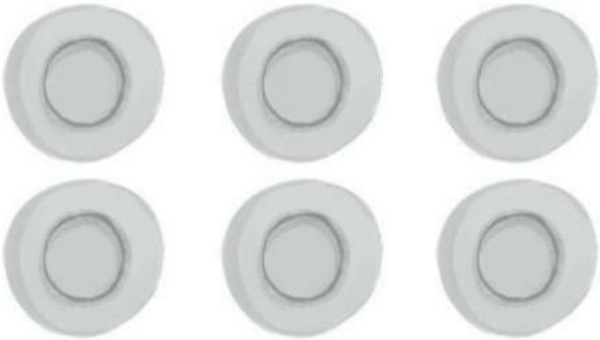
1 Share the items equally and fill in the blanks.

a

9 – ☐ = ☐ ☐ – ☐ = ☐ ☐ – ☐ = ☐

9 divided by 3 = ☐ 9 ÷ 3 = ☐

b



12 – ☐ = ☐☐ ☐☐ – ☐ = ☐

☐ – ☐ = ☐ 6 – ☐ = ☐

☐ – ☐ = ☐ ☐ – ☐ = ☐

12 divided by 6 = ☐ 12 ÷ 6 = ☐

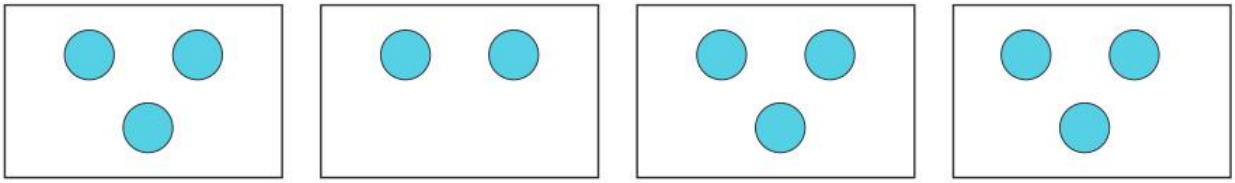
c

10 – ☐ = ☐ ☐ – ☐ = ☐

10 divided by 2 = ☐ 10 ÷ 2 = ☐

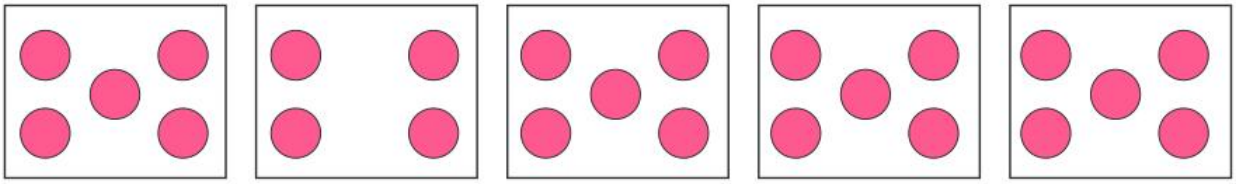
2 Make the shares equal.

a



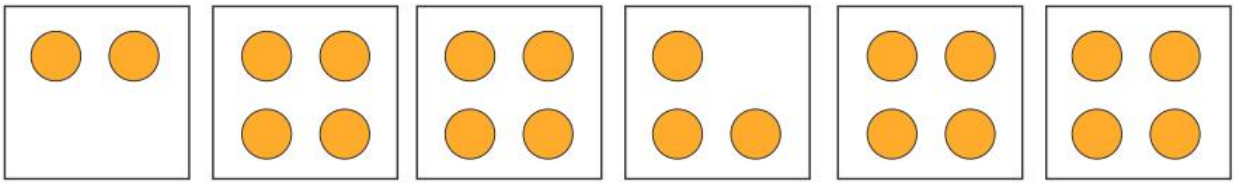
12 ÷ ☐ = ☐

b



25 ÷ ☐ = ☐

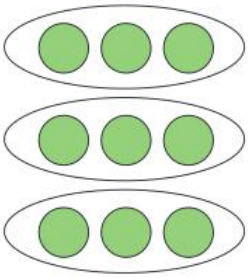
c



24 ÷ ☐ = ☐

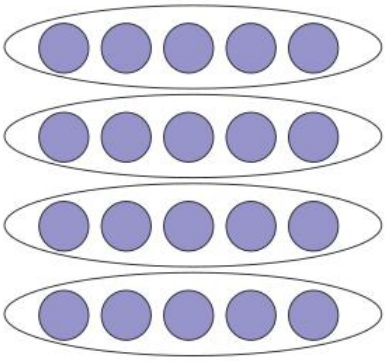
3 Write the equation.

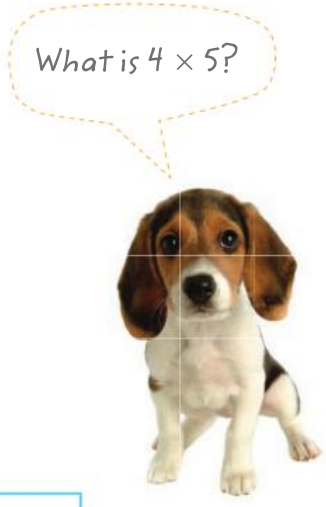
a



☐ ÷ ☐ = ☐

b





☐☐ ÷ ☐ = ☐

Extended practice

1 Draw 3 ways to equally share 16.

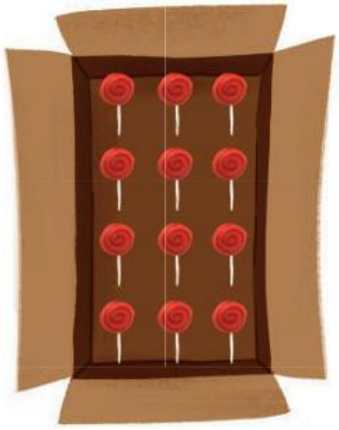
16 ÷ ☐ = ☐ 16 ÷ ☐ = ☐ 16 ÷ ☐ = ☐

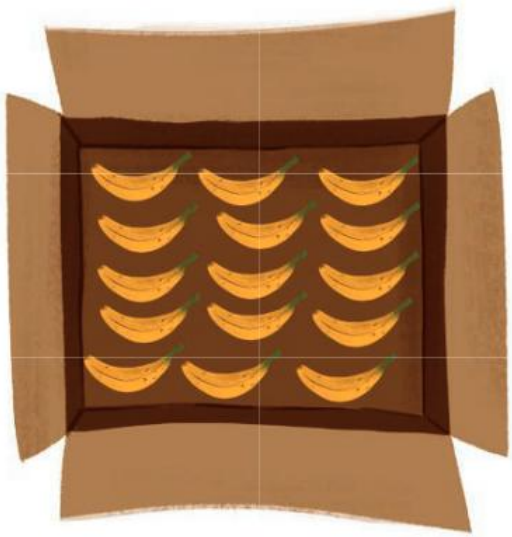
2 There are 4 students in each row.

How many rows of students in a class of:

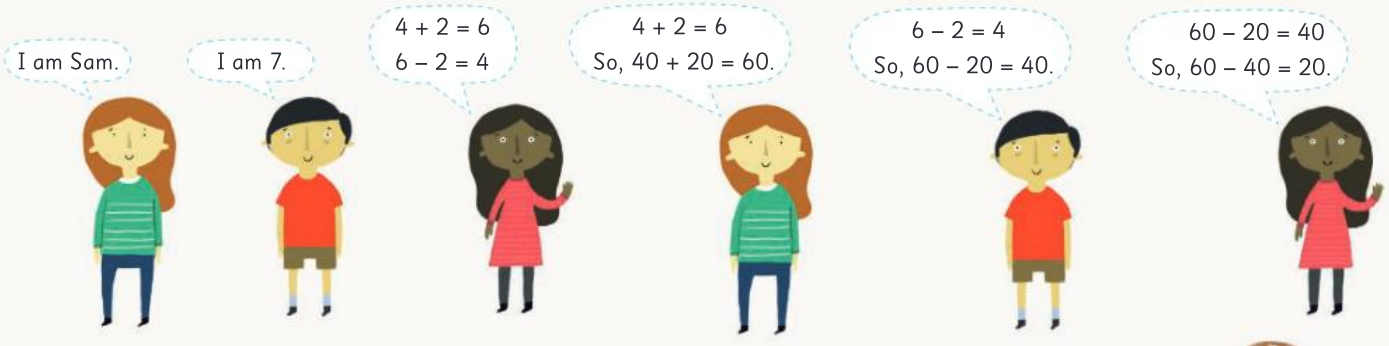
12? ☐ 20? ☐ 28? ☐

3 Circle the groups that can be shared equally between 3.



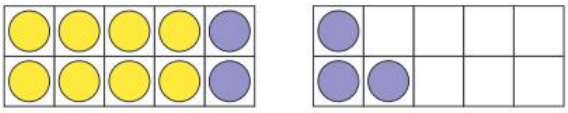


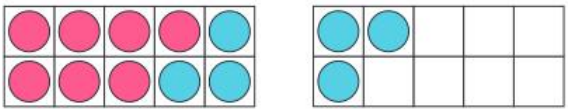
If we remember some things ... we can work out other things.



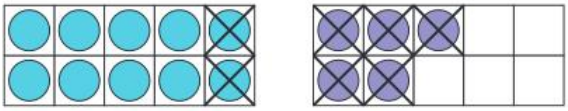
Guided practice

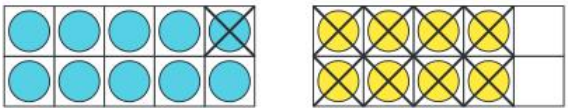
1 Write and remember these addition facts.

a  + =

b  + =

2 Write and remember these subtraction facts.

a  – =

b  – =

3 Write these addition and subtraction facts from memory.

a 7 + 6 = **b** 8 + 5 = **c** 15 – 7 =

d 5 + 8 = **e** 18 – 9 = **f** 15 – 8 =

Independent practice

Let's look at some ways to help you learn addition and subtraction facts.

1 Use near doubles.

a 6 + 7 = ?

6 + 7 = 6 + 6 + 1 = 12 + 1 = 13.

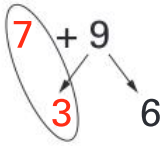
7 + 8 = ☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

2 Use getting to a 10.

7 + 9 = ?



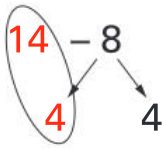
10 + 6 = 16

a 9 + 6 = ☐ + ☐ + ☐

= ☐☐ + ☐

= ☐☐

14 – 8 = ?



10 – 4 = 6

b 17 – 8 = ☐ – ☐ – ☐

= ☐☐ – ☐

= ☐☐

3 On a separate piece of paper, complete the addition facts as quickly as you can.

1 + 1 =	1 + 2 =	1 + 3 =
1 + 4 =	1 + 5 =	1 + 6 =
1 + 7 =	1 + 8 =	1 + 9 =
2 + 1 =	2 + 2 =	2 + 3 =
2 + 4 =	2 + 5 =	2 + 6 =
2 + 7 =	2 + 8 =	2 + 9 =
3 + 1 =	3 + 2 =	3 + 3 =
3 + 4 =	3 + 5 =	3 + 6 =
3 + 7 =	3 + 8 =	3 + 9 =
4 + 1 =	4 + 2 =	4 + 3 =
4 + 4 =	4 + 5 =	4 + 6 =
4 + 7 =	4 + 8 =	4 + 9 =
5 + 1 =	5 + 2 =	5 + 3 =
5 + 4 =	5 + 5 =	5 + 6 =
5 + 7 =	5 + 8 =	5 + 9 =
6 + 1 =	6 + 2 =	6 + 3 =
6 + 4 =	6 + 5 =	6 + 6 =
6 + 7 =	6 + 8 =	6 + 9 =
7 + 1 =	7 + 2 =	7 + 3 =
7 + 4 =	7 + 5 =	7 + 6 =
7 + 7 =	7 + 8 =	7 + 9 =
8 + 1 =	8 + 2 =	8 + 3 =
8 + 4 =	8 + 5 =	8 + 6 =
8 + 7 =	8 + 8 =	8 + 9 =
9 + 1 =	9 + 2 =	9 + 3 =
9 + 4 =	9 + 5 =	9 + 6 =
9 + 7 =	9 + 8 =	9 + 9 =

4 On a separate piece of paper, complete the subtraction facts as quickly as you can.

10 – 1 =	9 – 1 =	8 – 1 =
7 – 1 =	6 – 1 =	5 – 1 =
4 – 1 =	3 – 1 =	2 – 1 =
11 – 2 =	10 – 2 =	9 – 2 =
8 – 2 =	7 – 2 =	6 – 2 =
5 – 2 =	4 – 2 =	3 – 2 =
12 – 3 =	11 – 3 =	10 – 3 =
9 – 3 =	8 – 3 =	7 – 3 =
6 – 3 =	5 – 3 =	4 – 3 =
13 – 4 =	12 – 4 =	11 – 4 =
10 – 4 =	9 – 4 =	8 – 4 =
7 – 4 =	6 – 4 =	5 – 4 =
14 – 5 =	13 – 5 =	12 – 5 =
11 – 5 =	10 – 5 =	9 – 5 =
8 – 5 =	7 – 5 =	6 – 5 =
15 – 6 =	14 – 6 =	13 – 6 =
12 – 6 =	11 – 6 =	10 – 6 =
9 – 6 =	8 – 6 =	7 – 6 =
16 – 7 =	15 – 7 =	14 – 7 =
13 – 7 =	12 – 7 =	11 – 7 =
10 – 7 =	9 – 7 =	8 – 7 =
17 – 8 =	16 – 8 =	15 – 8 =
14 – 8 =	13 – 8 =	12 – 8 =
11 – 8 =	10 – 8 =	9 – 8 =
18 – 9 =	17 – 9 =	16 – 9 =
15 – 9 =	14 – 9 =	13 – 9 =
12 – 9 =	11 – 9 =	10 – 9 =

5 Circle the more likely answer.

a 48 + 48 = 86 or 96

b 73 – 31 = 42 or 41

c 47 + 27 = 74 or 64

d 89 – 51 = 48 or 38

6 This is Jasmin's homework. Explain what went wrong then write the correct answer.

a 17 – 9 = 26 ✗

b 14 + 15 = 28 ✗

c 35 – 8 = 28 ✗

Extended practice

1 Billy has 50 marbles in one bag and 30 in another. Tilly has 48 marbles in one bag and 48 in another.

a Who has more?

b How do you know?

2 This sentence has 25 letters:

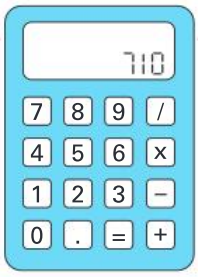
I like to have a birthday party.

Write a different sentence that has 25 letters.

Draw a picture to go with it.

3 Enter 710 on a calculator. Turn it upside down.

Can you see the word "oil"?

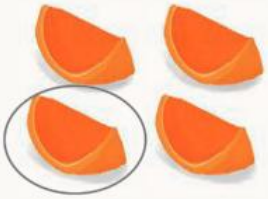
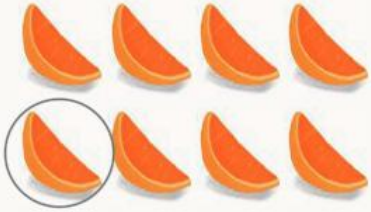


a What do you need to add to 350 to get the word "oil"?

b What can you eat if you subtract 37 from 700?

c Subtract 62 from 400 to find a busy insect.

d Find other 3-digit numbers that make calculator words.

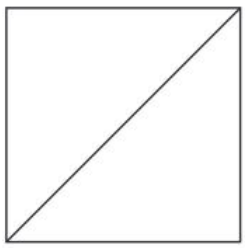
This is a whole.	This is a half.	This is a quarter.	This is an eighth.
			
1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$

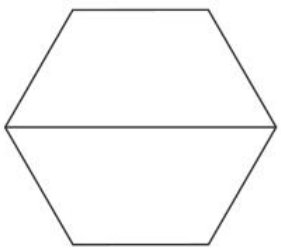
Guided practice

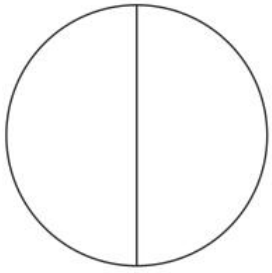
1 Draw a square around the whole objects.

2 Circle the fractions.

3 Colour $\frac{1}{2}$ of each shape.

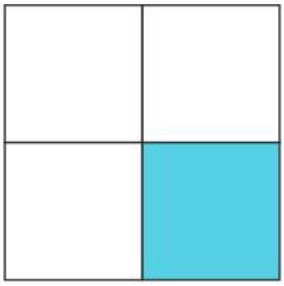


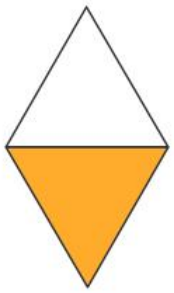


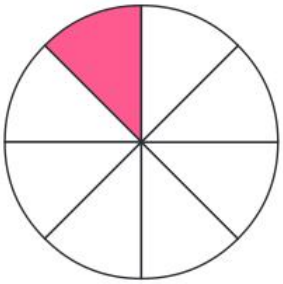


Independent practice

1 What fraction has been shaded?

a  ___

b  ___

c  ___

d  ___

2 Write the size of each piece as a fraction.

a  ___

b  ___

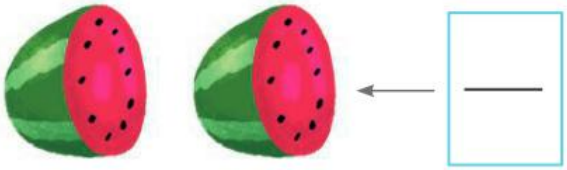
c  ___

3 Look at question 2. Which fraction is the biggest? ___

4 Look at question 2. Which fraction is the smallest? ___

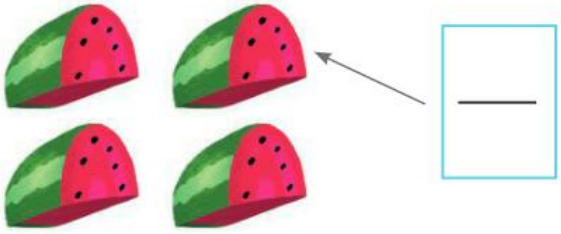
5 Label the fractions.

a



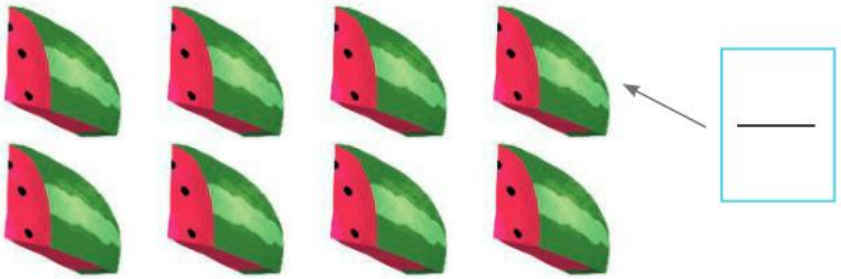
There are ☐ pieces.

b



There are ☐ pieces.

c

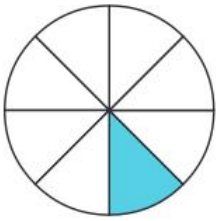


There are ☐ pieces.

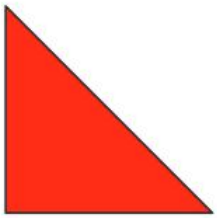
How many quarters make a half?

6 Draw a line from the fraction to the matching picture.

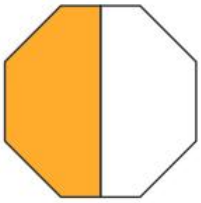
a



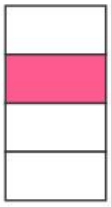
b



c



d



$\frac{1}{4}$ $\frac{1}{2}$ 1 $\frac{1}{8}$

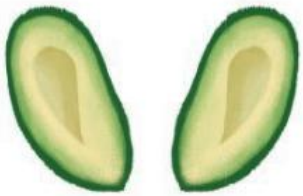
7 Write the letter of the shape in question 6 that shows:

a halves ☐ **b** eighths ☐ **c** quarters ☐

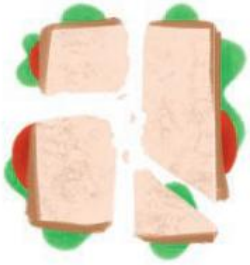
Extended practice

1 Circle the pictures that show quarters.

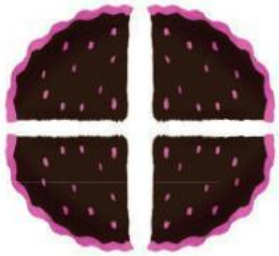
a



b

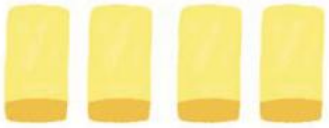


c



d

e

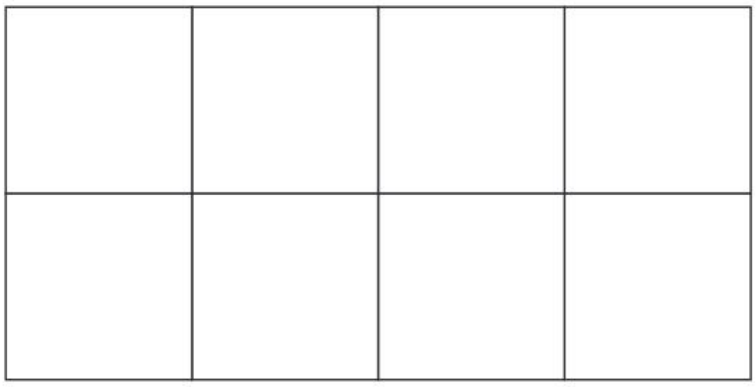


2

a Shade $\frac{1}{2}$ purple.

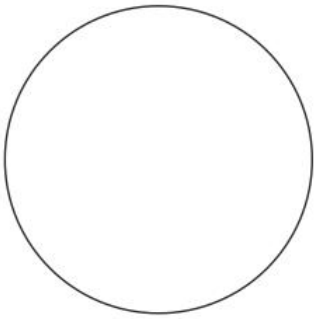
b Shade $\frac{1}{8}$ red.

c Shade $\frac{1}{4}$ green.

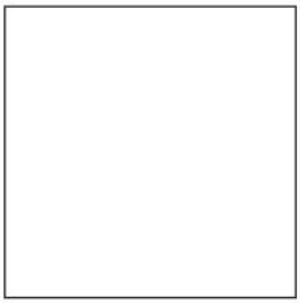


3 Divide into:

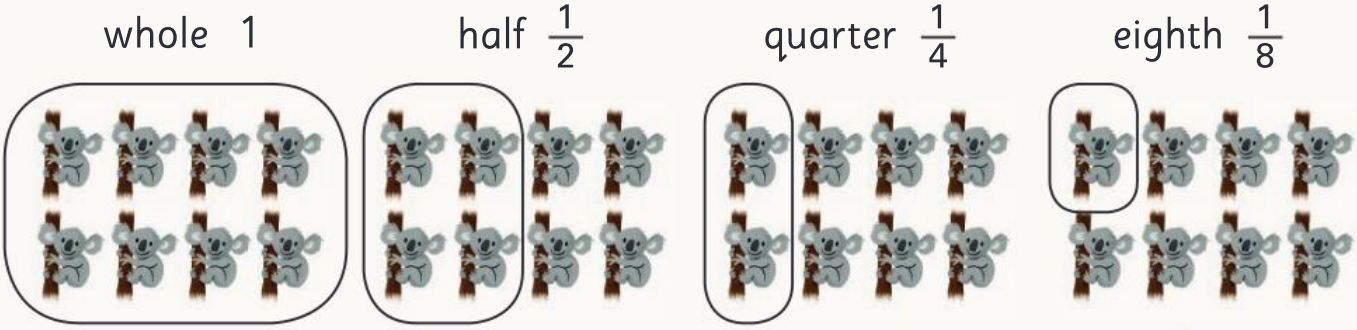
a halves.



b quarters.



c eighths.



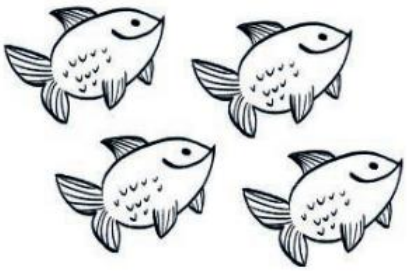
Guided practice

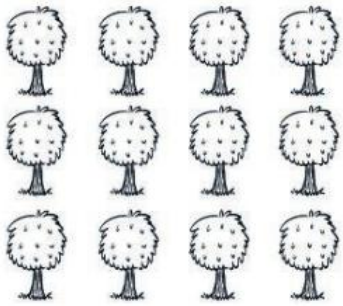
1 Colour $\frac{1}{2}$ of each group.

a 

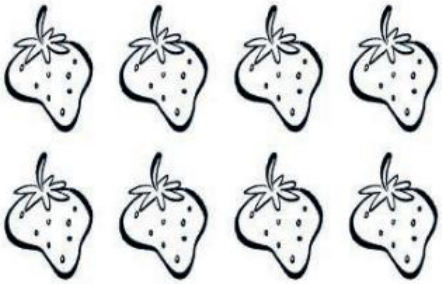
b 

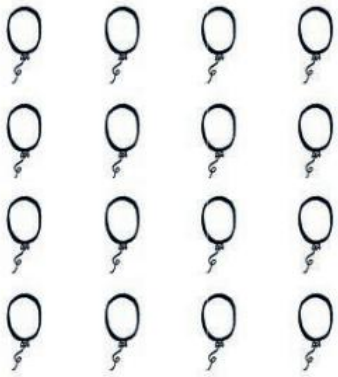
2 Colour $\frac{1}{4}$ of each group.

a 

b 

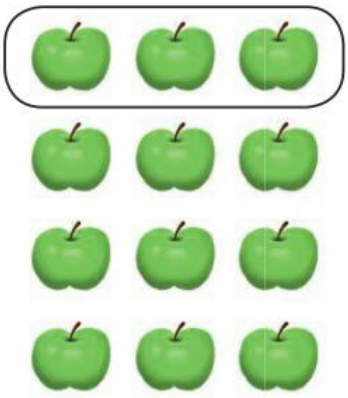
3 Colour $\frac{1}{8}$ of each group.

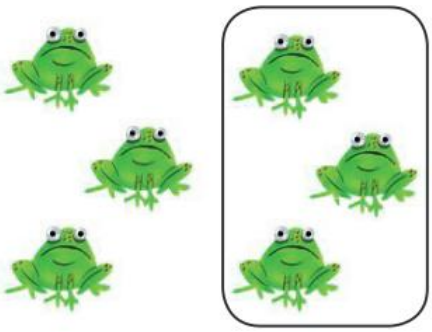
a 

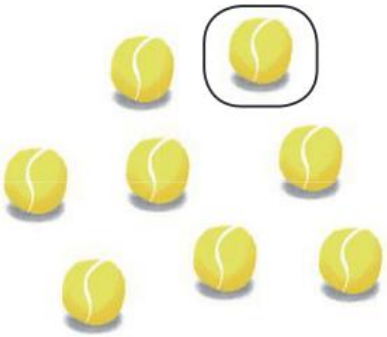
b 

Independent practice

1 What fraction is this?

a 

b 

c 

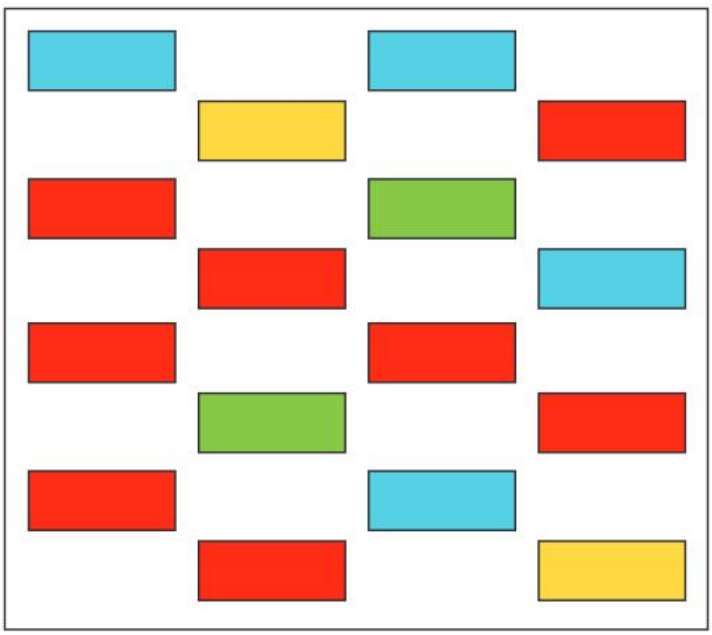
d 

2 What fraction of the group are ...

a the yellow blocks? ___

b the red blocks? ___

c the blue blocks? ___



3 **a** Circle $\frac{1}{2}$.

$\frac{1}{2}$ of 4 is ☐.

b Circle $\frac{1}{4}$.

$\frac{1}{4}$ of 8 is ☐.

c Circle $\frac{1}{8}$.

$\frac{1}{8}$ of ☐☐ is ☐.

d Circle $\frac{1}{4}$.

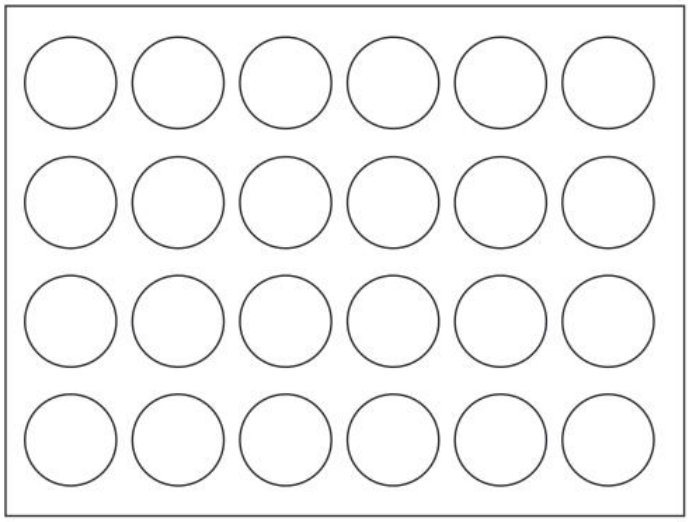
$\frac{1}{4}$ of ☐☐ is ☐.

4

a Colour $\frac{1}{2}$ red.

b Colour $\frac{1}{4}$ blue.

c Colour $\frac{1}{8}$ green.

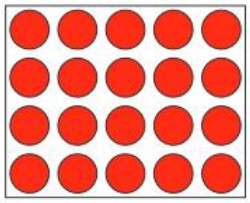


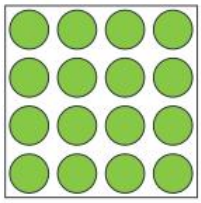
What does the number on the bottom of the fraction mean?

Extended practice

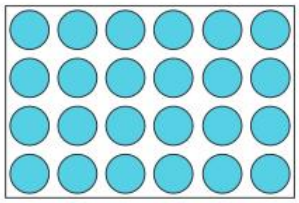
1 Circle which is bigger.

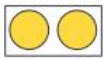
a $\frac{1}{2}$ of 20 OR $\frac{1}{4}$ of 16



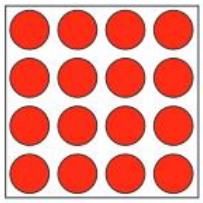


b $\frac{1}{8}$ of 24 OR $\frac{1}{2}$ of 2

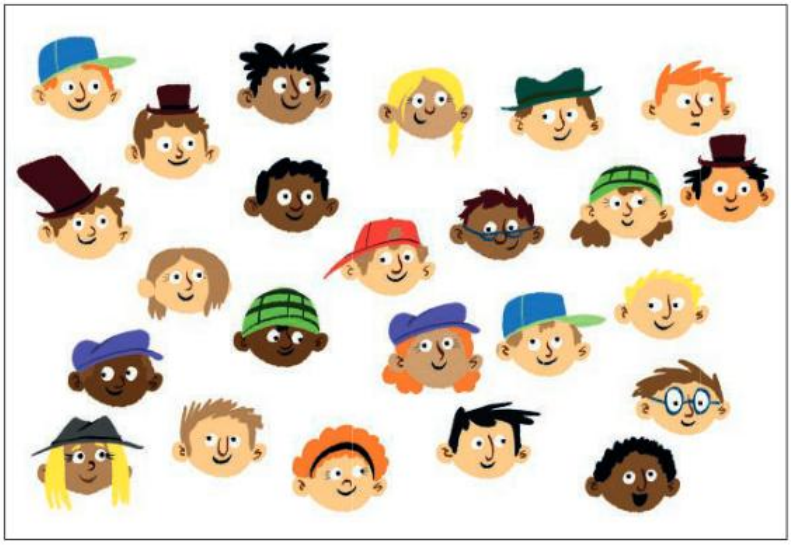




c $\frac{1}{4}$ of 16 OR $\frac{1}{8}$ of 16 OR $\frac{1}{2}$ of 16



2 What fraction of the group are ...



a girls? ___

b wearing hats? ___

c girls AND wearing hats? ___

To make $1, you can use:

Guided practice

1 Complete the table.

How many of these ...	... do you need to make this?	Draw the answer	Write the answer
5 CENTS	10 CENTS		5c + 5c = 10c
50 CENTS	2 DOLLARS		
20 CENTS	1 DOLLAR		

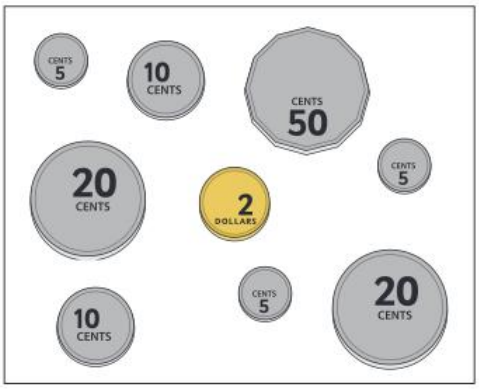
2 Complete the table.

How many of these ...	... do you need to make this?	Draw the answer	Write the answer
10 DOLLARS	50 DOLLARS		
50 DOLLARS	100 DOLLARS		
5 DOLLARS	20 DOLLARS		

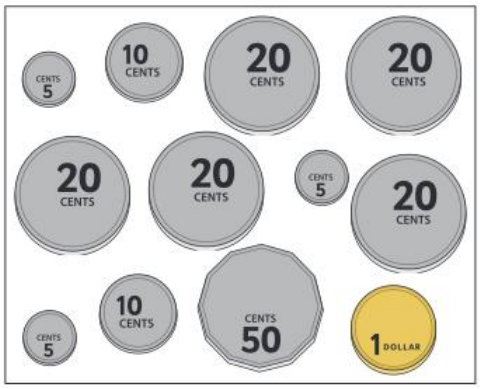
Independent practice

1 Circle coins that equal:

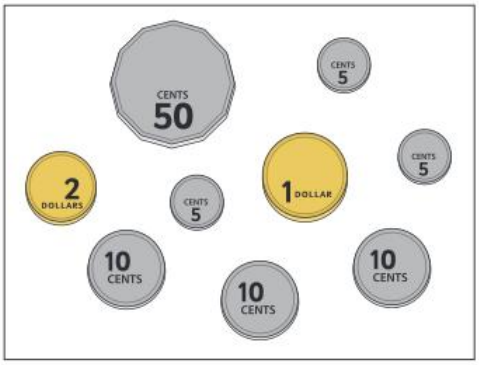
a $1



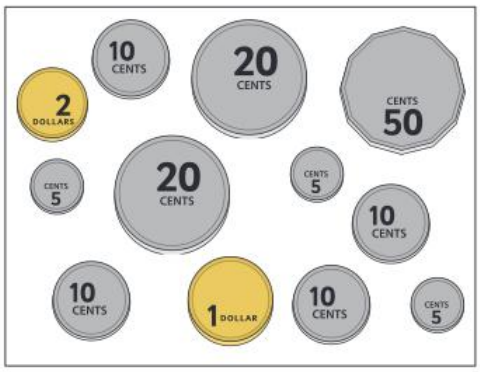
b $2



c 20c

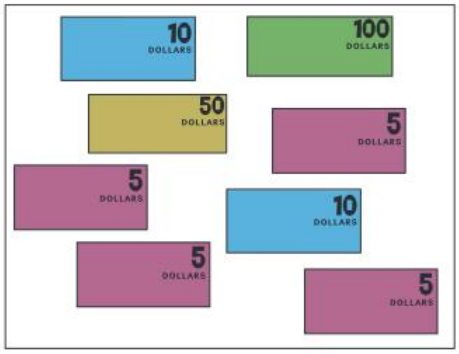


d 75c

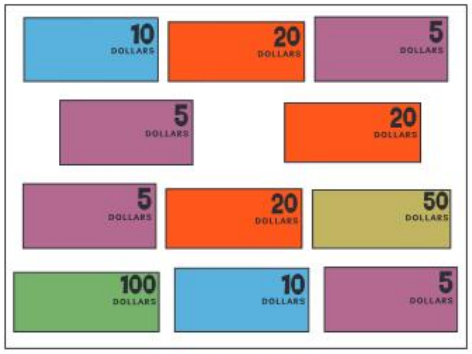


2 Circle notes that equal:

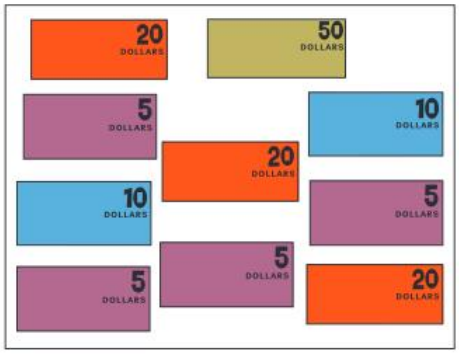
a $20



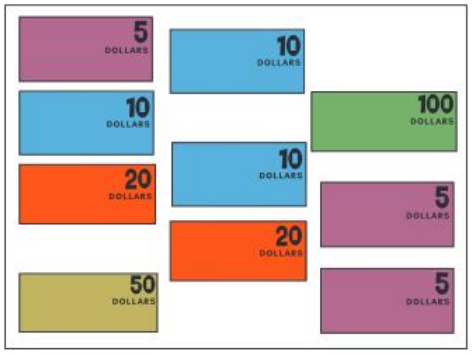
b $50



c $100

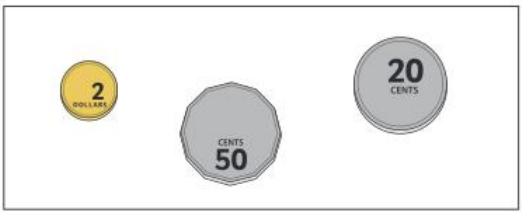


d $45

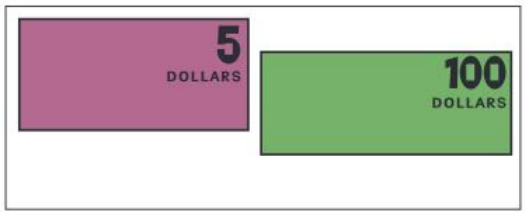


3 How much is ... ?

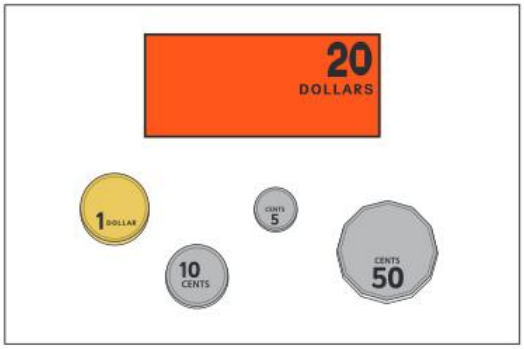
a



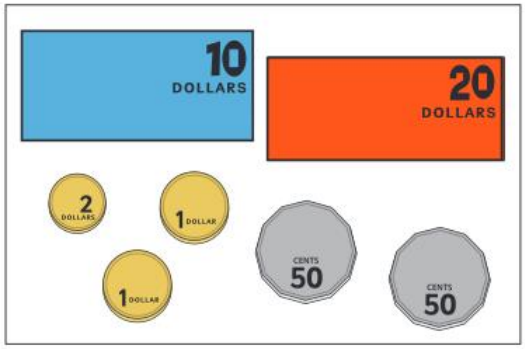
b

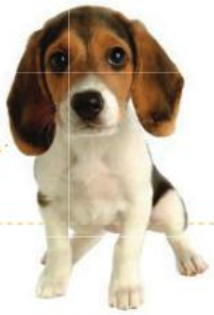


c



d

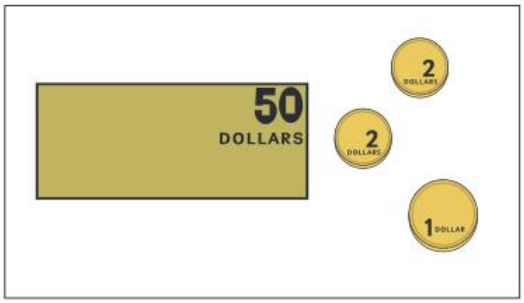




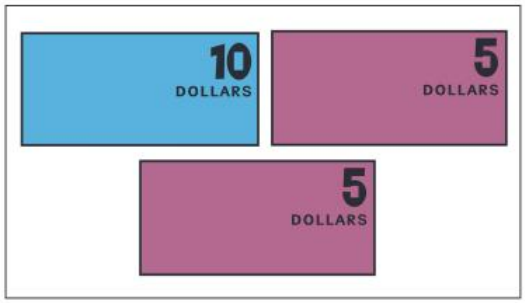
Is a $5 note or a 50c coin worth more? Why?

4 Order the totals from smallest to largest.

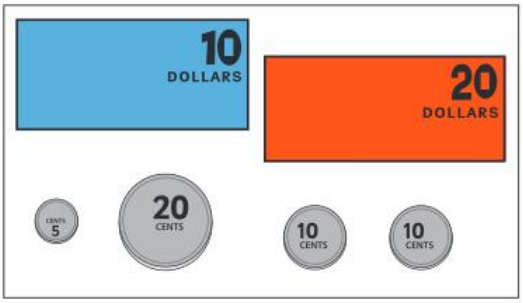
a



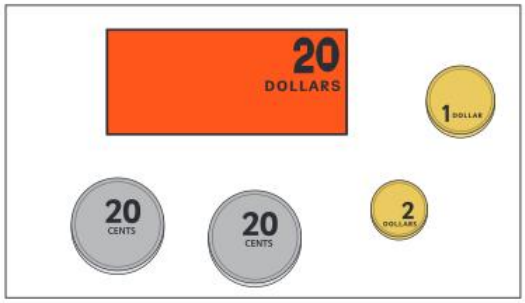
b



c



d



Smallest amount ☐ ☐ ☐ ☐ Largest amount

Extended practice

1 Using the coins and notes we have looked at in this topic, draw 3 different ways to make:

a $2

b $50

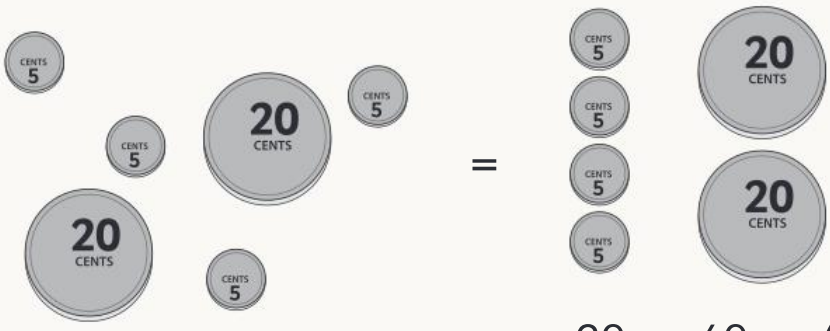
c $25

2

a Find 4 ways to make 20c.

b How many ways can you make 25c?

How much money?



20c + 40c = 60c

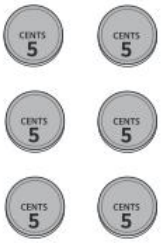
Guided practice

I can use skip counting to make it easier.

Count how much.

1

2



3

4

5

6

Independent practice

1 Make 40c with:

a 5c coins

b 10c coins

c 20c coins

2 Make $100 with:

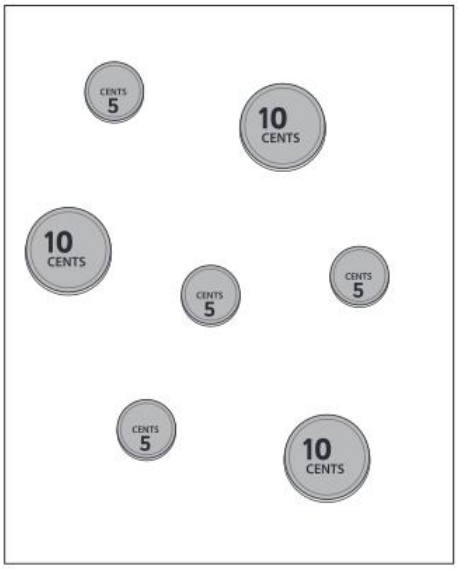
a $10 notes

b $20 notes

c $50 notes

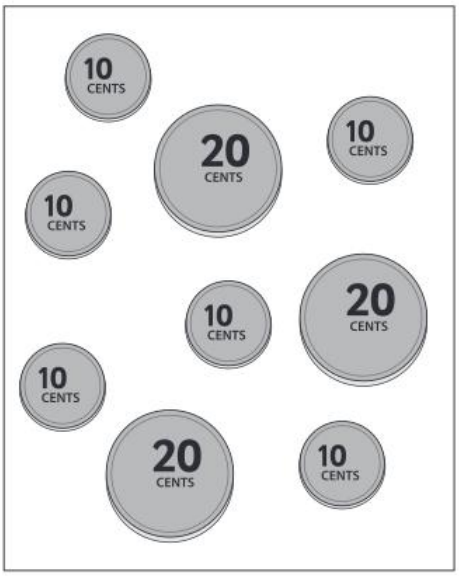
3 Rearrange the coins to make them easier to count.

a



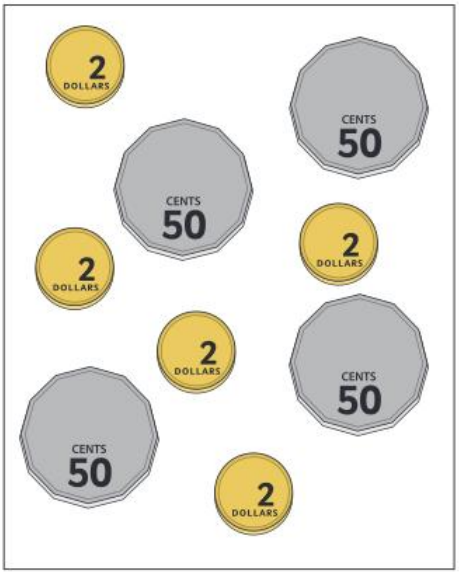
How much?

b



How much?

c



How much?

Extended practice

1 Using the coins we have looked at in this topic, draw the least number of coins you could use to make:

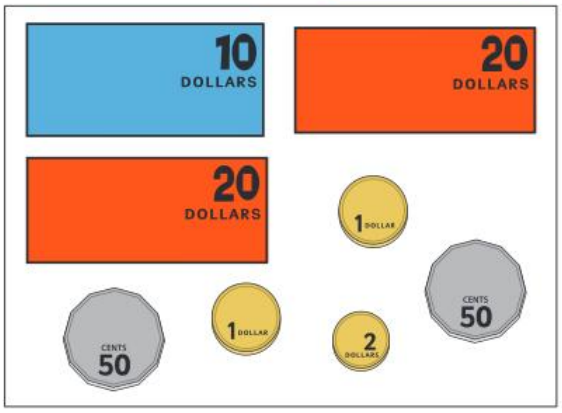
a $3.50

Number of coins:

b $6.85

Number of coins:

2 **a** How much?



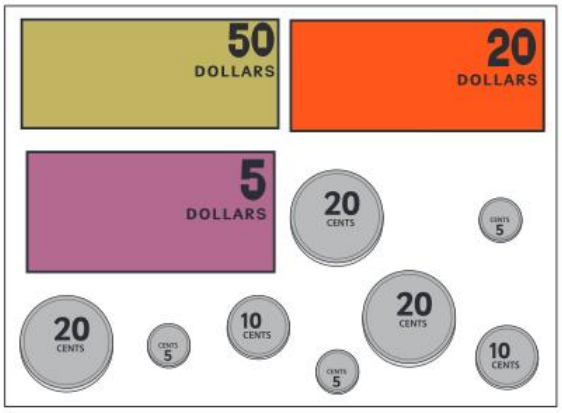
b How much would you have left over from this amount if you spent:

i $20?

ii $45?

iii $32?

3 **a** How much?



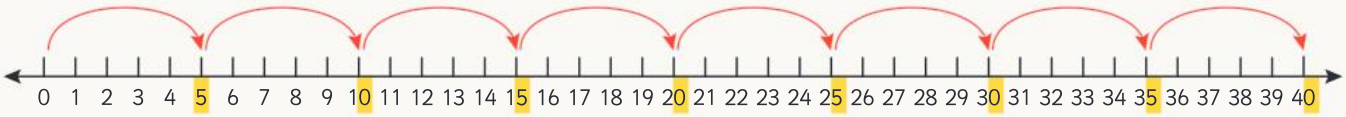
b How much would you have left over from this amount if you spent:

i $20?

ii $45?

iii $32?

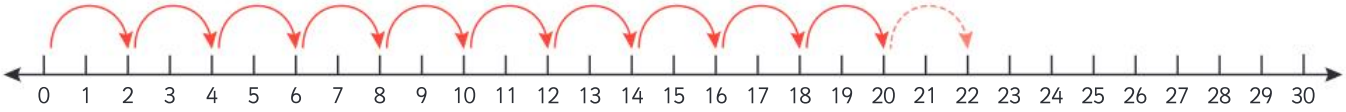
Last digit pattern counting by fives: 5 , 0



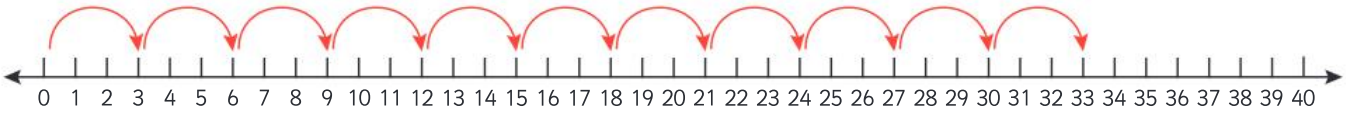
Guided practice

1 Find the last digit pattern, then continue the pattern on the number line.

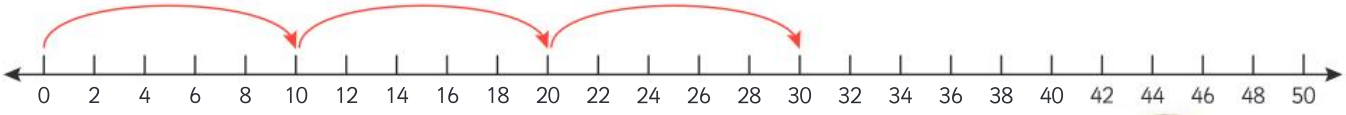
a Counting by twos: ☐ , ☐ , ☐ , ☐ , ☐

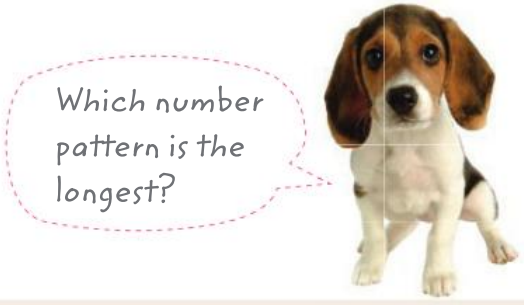


b Counting by threes: ☐ , ☐ , ☐ , ☐ , ☐ , ☐ , ☐ , ☐ , ☐ , ☐



c Counting by tens: ☐





Independent practice

1

a Circle the final digits in the pattern.

4	8	12	16	20	24				

b The pattern is counting by: ☐

c Complete the pattern.

2

a Circle the final digits in the pattern.

80	75	70	65	60	55				

b The pattern is counting by: ☐

c Complete the pattern.

3 Find the missing numbers.

a

	20	30	40		60			90	

b

50		46	44	42			36		

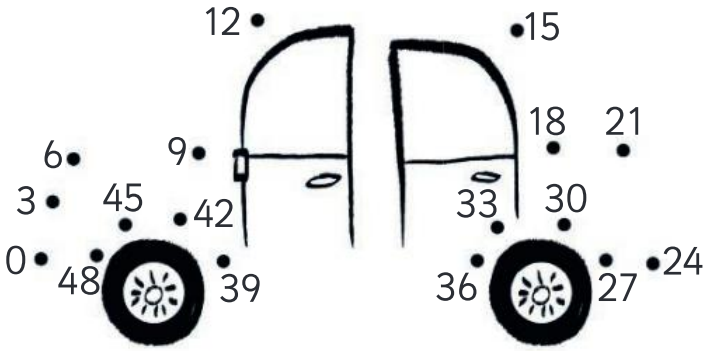
c

4	9	14		24			39		

d

30	27	24			15				

4 Join the dots by following the pattern.



5

0	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 Circle the numbers counting by 5 from 0.

b Shade the numbers counting by 2 from 0 in yellow.

c Shade the numbers counting by 3 from 0 in red.

6 Which number pattern has the green circle around it?

7 Which numbers are in both the tens and the fives patterns?

8 Which numbers are in the twos, threes, fives and tens patterns?

Extended practice

1

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 Circle the numbers counting by 5 from 3.

b What is the last digit pattern?

c Colour the numbers counting by 3 from 2.

d What is the last digit pattern?

2 What would you be counting by if the last digit pattern was:

a 2, 7, 2, 7, 2, 7?

b 0, 8, 6, 4, 2, 0, 8, 6, 4, 2?

c 7, 7, 7

3

a Use these numbers to make a pattern.

37 57 7 27 47 67 17

b What are you counting by?

Word problem

Two monsters went shopping.
They met three more monsters.
How many altogether?

Number sentence

2 + 3 = 5

Guided practice

1 Write a number sentence for the word problems.

a Andrew had 3 cars. He was given 4 more for his birthday. How many did he have altogether?

Number sentence

☐ + ☐ = ☐

b Abbey had 8 balloons. But 3 of them popped. How many did she have left?

Number sentence

☐ − ☐ = ☐

c There were 9 lemons on the tree. Then 5 new lemons grew. How many lemons now?

Number sentence

☐ + ☐ = ☐☐

Which words show you that it is an addition problem?

Independent practice

1 Draw the problem, then write a number sentence to solve it.

a Tessa has 15 cupcakes. She gives 6 to her friends. How many does she have left?

Picture

Number sentence:

b Hamish has 9 pencils and Primrose has 4 pencils. How many more pencils does Hamish have?

Picture

Number sentence:

c There are 13 candles on the cake. Linus blows out 7 of them. How many are still lit?

Picture

Number sentence:

d Laura read 10 books in April and 6 books in May. How many did she read altogether?

Picture

Number sentence:

2 Write a word problem to match the number sentence.

a 8 + 4 = 12

b 15 – 5 = 10

c 16 + 5 = 21

3 Decide if each word problem is addition or subtraction.

a Remy scored 14 points on Monday and 17 points on Tuesday. What was his total point score?

Addition	Subtraction

b Jay had 17 marbles. He bought another 12. How many does he have now?

Addition	Subtraction

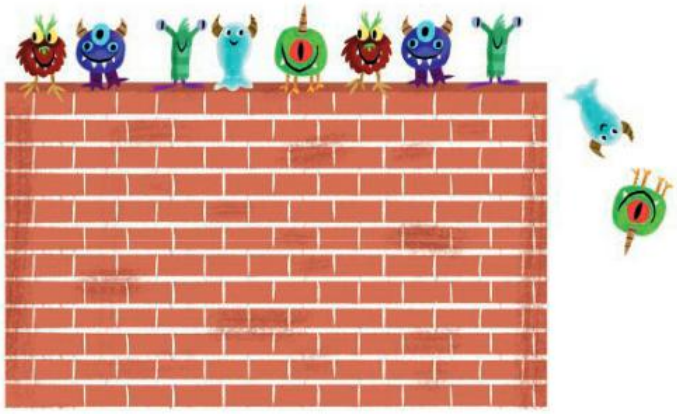
c Nina had 16 pairs of shoes. She gave away 14 pairs. How many pairs does she have left?

Addition	Subtraction

Extended practice

1 Write a word problem and number sentence to match each picture.

a



Word problem

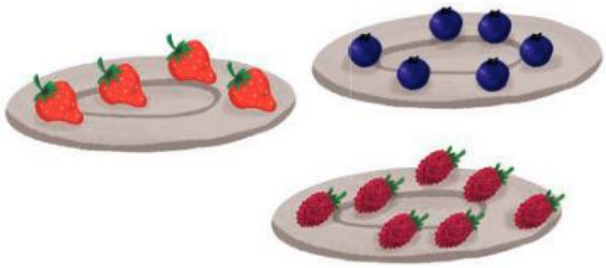
Number sentence

b

Word problem

Number sentence

c

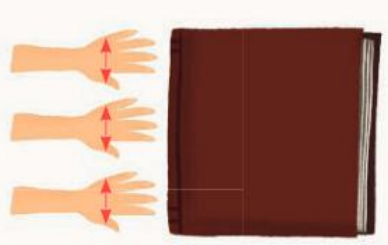


When might you need to solve a word problem in real life?

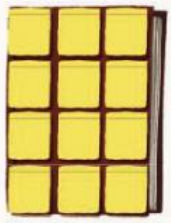
Word problem

Number sentence

This book is 3 hand spans long.



This book has an area of 12 sticky notes.

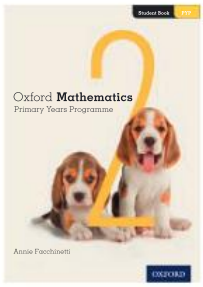


Why might I need to know the area of something?

Guided practice

1 Use your hand span to find the length of:

a this book



☐ hand spans

b your table

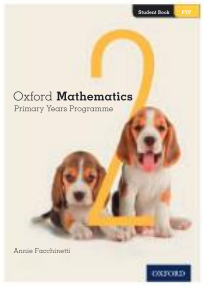
☐ hand spans

c the whiteboard

☐ hand spans

2 Use sticky notes to find the area of:

a a book



☐ sticky notes

b your table

☐ sticky notes

c another item

☐

☐ sticky notes

Independent practice

1 Complete the table.

Length to find	Unit of length used	Estimate	Actual length
my arm	hand span	4 hand spans	
my pencil			
my chair			
the door			

2 Choose a unit to measure the length of these items.

Unit: ____

3 Order the items from shortest to longest.

pencil	eraser	match	toy car

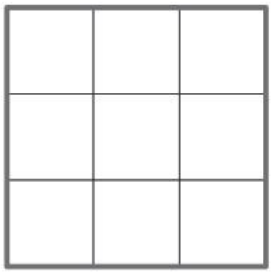
4 Complete the table.

Area to find	Unit of area used	Estimate	Actual area
my pencil case	erasers	32 erasers	
my writing book			
my lunch box			
my eraser			

5 Find the area of each shape.

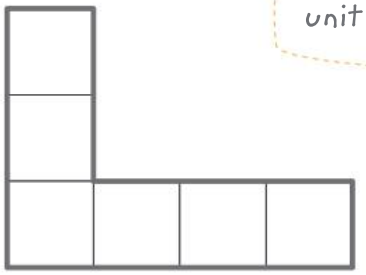
Would a frisbee be a good unit to measure area with?

a



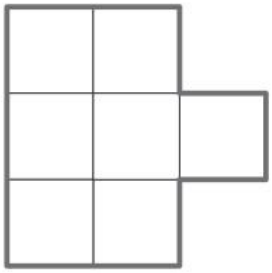
squares

b



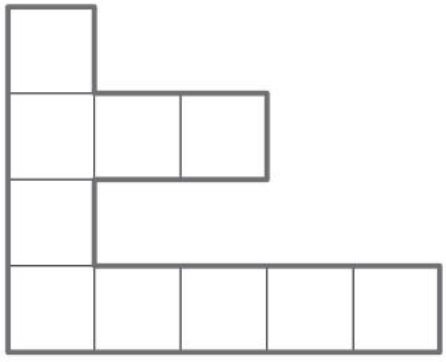
squares

c



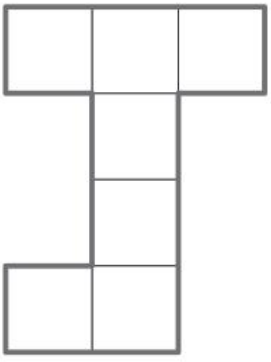
squares

d



squares

e



squares

6 Circle the shape with the largest area.

Extended practice

1 Find the length and area of each shape using units of your choice.

Length | $2\frac{1}{2}$ | erasers

Area | 9 | fingertips

Length | | |

Area | | |

Length | | |

Area | | |

Length | | |

Area | | |

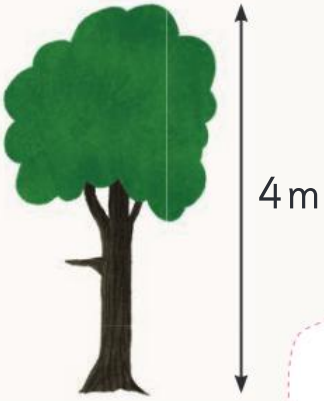
2 Circle the longest shape.

3 Put a tick on the shape with the greatest area.

4 Draw a star on the shape with the smallest area.

Metres

We measure the length of long items in metres (m).



What are some things we might measure in metres?

Guided practice

1 Use a metre ruler to find:

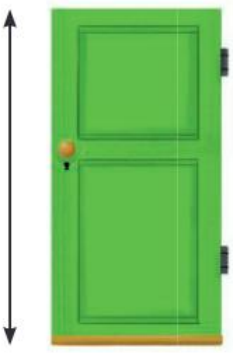
a the length of your classroom.

☐ metres

b the width of a bookcase.

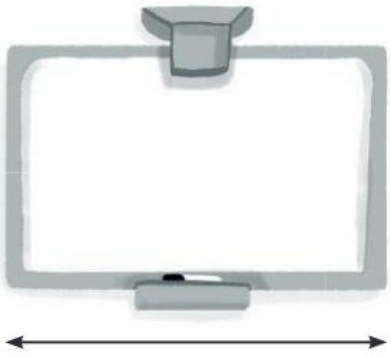
☐ metres

c the height of the door.



☐ metres

d the width of the whiteboard.



☐ metres

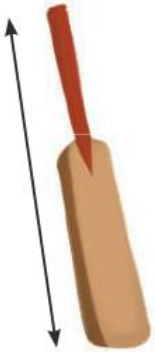
Independent practice

1 Find items you think fit the estimates, then check with a metre ruler.

Item	Estimate	Actual length
mathematics book	less than 1 metre	less than 1 metre
	less than 1 metre	
	about 1 metre	
	more than 1 metre	

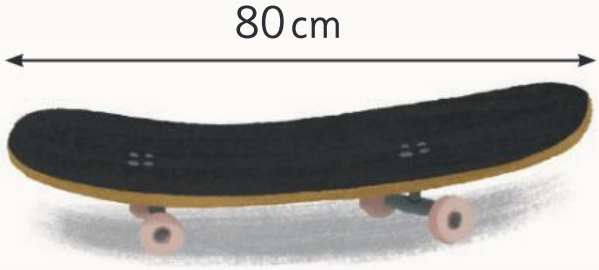
2 Draw lines to match the items with the estimates.

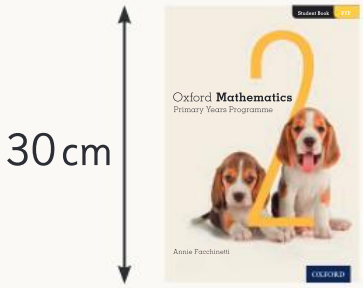
less than 1 metre	about 1 metre	more than 1 metre



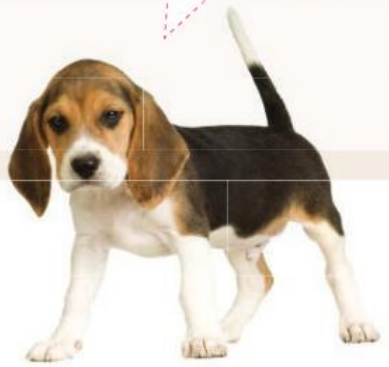
Centimetres

We measure the length of small items in centimetres (cm).





There are 100 centimetres in 1 metre.



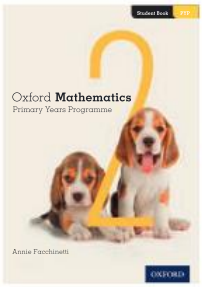
Guided practice

1 Use a 30 cm ruler to find:

a the length of your pencil.

☐ centimetres

b the width of this book.



☐ centimetres

c the width of your hand span.

☐ centimetres

d the length of your pencil case.

☐ centimetres

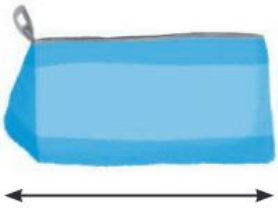
Independent practice

1 Find items you think fit the estimates, then check with a 30 cm ruler.

Item	Estimate	Actual length
my eraser	less than 30 cm	5 cm
	less than 30 cm	
	about 30 cm	
	more than 30 cm	

2 Draw lines to match the items with the estimates.

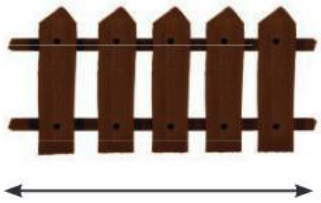
less than 30 cm	about 30 cm	more than 30 cm



Extended practice

1 Would you measure these items in metres or centimetres?

a



m	cm

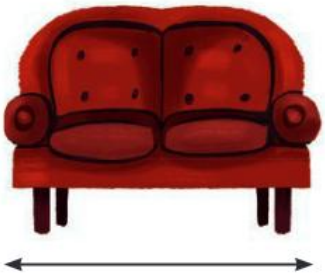
b

m	cm

c

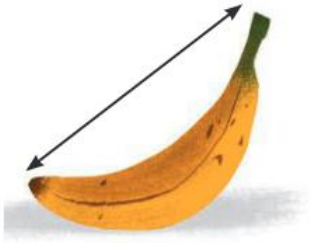
m	cm

d



m	cm

e



m	cm

f

m	cm

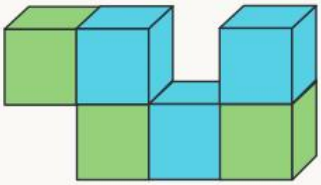
2 Which of these items do you estimate is the longest?

3 Which is the shortest?

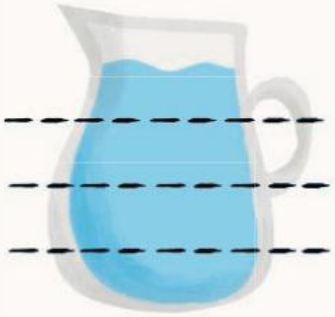
4 How long might the couch be?

5 How long might the banana be?

The volume of this object is 6 blocks.



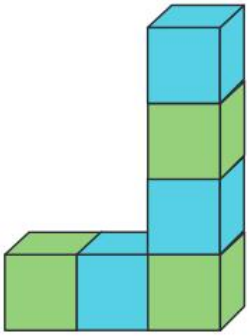
The capacity of this jug is 4 cups.



Guided practice

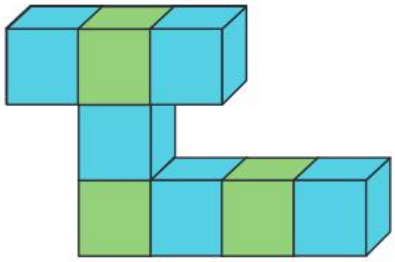
1 What is the volume of each object?

a



☐ blocks

b



☐ blocks

2 Tick to estimate the capacity of each container.

Volume is how much space an object takes up. Capacity is how much a container holds.

a

☐ more than 2 coffee cups

☐ less than 2 coffee cups

b

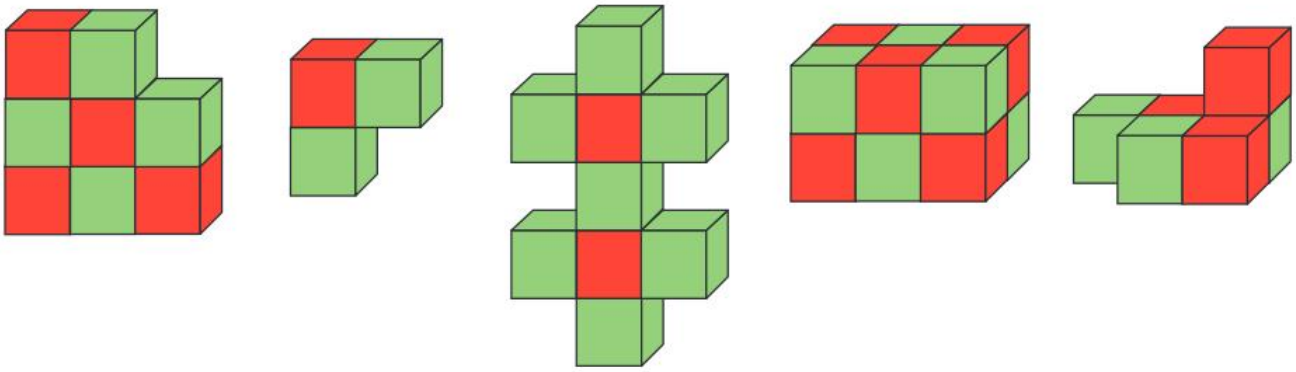
☐ more than 2 coffee cups

☐ less than 2 coffee cups

Independent practice

1

A B C D E



a Write the letters to order by volume.

Smallest volume ☐ ☐ ☐ ☐ ☐ Largest volume

b Which objects have a bigger volume than E? ☐

c Which objects have a smaller volume than C? ☐

2

a Which container has the biggest capacity? ☐

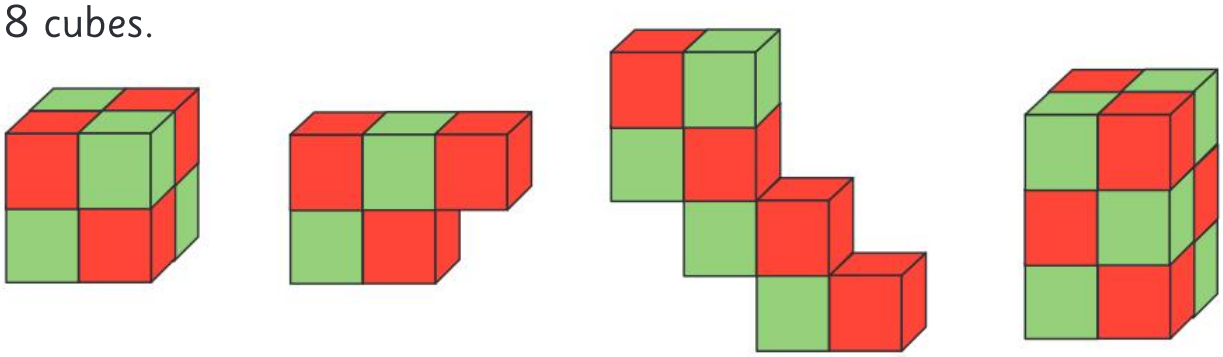
b Which container has the smallest capacity? ☐

c Which containers hold more than D? ☐

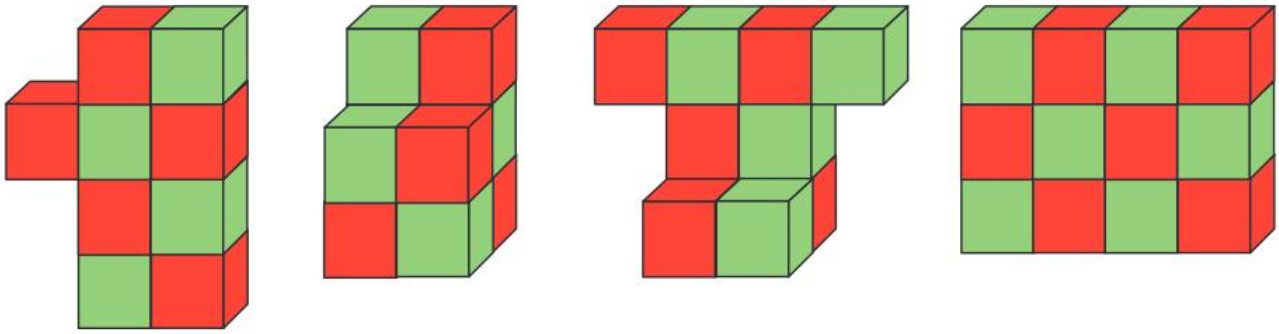
d Which containers hold less than B? ☐

3 Circle the objects with a volume of:

a 8 cubes.



b 10 cubes.

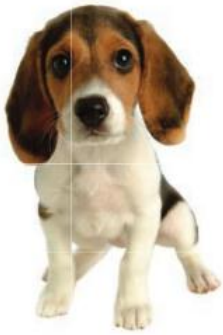


4 Number the items in each group 1, 2, 3 from smallest to largest capacity.

a

b

How could I measure the capacity of a container?



Extended practice

1 Find 1 jug and 4 smaller containers.

a Estimate how many of each container will fill the jug.

b Check and record the results.

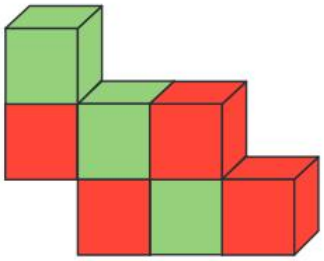
Container	Estimate	Capacity

2 **a** Build 3 different models using 8 blocks.

b Draw your models.

3 Select whether each picture is showing capacity or volume.

a



Capacity / Volume is 7 blocks.

b

Capacity / Volume is 3 cups.

heavier lighter

The dog has a greater mass than the teddy.

equal

The apple and the pear have the same mass.

Guided practice

I wonder if bigger objects are always heavier.

1 Circle the **heavier** object.

a

b

c

2 Circle the object with the **smaller** mass.

a

b

c

Independent practice

1 Order by mass.

A

B

C

D

E

Smallest mass ☐ ☐ ☐ ☐ ☐ Largest mass

2 Draw the objects at the correct end of the balance scale.

a

b

c

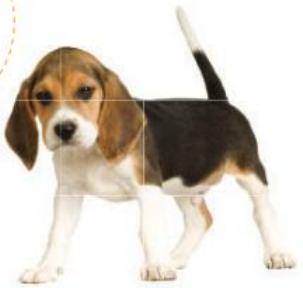
d

3 Choose 3 pairs of objects.

a Record the objects in the table.

b Estimate which item in the pair is heavier.

c Use a balance scale to check. Record the answer.



Item 1	Item 2	I estimate this item will be heavier:	The item with the greater mass was:

4 Get a balance scale and a large handful of counters.

a Choose objects that you think will have lighter, heavier and about the same mass as the counters.

b Check with the balance scale.

c Record the results.

	Result
I think this item will be lighter.	
I think this item will be heavier.	
I think this item will be about the same.	

Extended practice

1

a Which item is the heaviest?

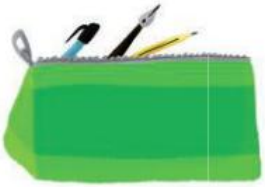
b Which two items have the same mass?

c Which item is the lightest?

d Do the shoes or the book have a greater mass?

2 Use a balance scale to find items that balance:

a your pencil case.



b a ruler.

c a book.

d a pencil.

2 o'clock

quarter past 2

half past 2

quarter to 3

Guided practice

Why do we say "quarter past" and "quarter to"?

1 What number is the minute hand pointing to at:

a

5 o'clock?

b

quarter to 6?

c

quarter past 11?

d

half past 8?

2 Draw a line to match the clocks to the times.

a

quarter to 11

b

half past 4

c

9 o'clock

d

quarter past 6

Independent practice

1 Draw in the minute hands.

a half past 3

b quarter past 1

c 7 o'clock

d quarter past 12

e quarter to 7

f half past 6

2 Draw in the hour hands.

a quarter past 3

b 8 o'clock

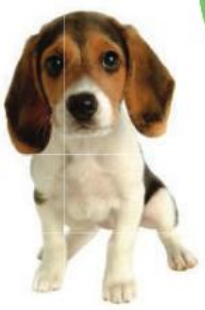
c quarter to 10

d half past 5

e quarter to 9

f 12 o'clock

Why do you think it is called the "hour hand"?



3 Draw the times on the clocks.

a quarter to 5

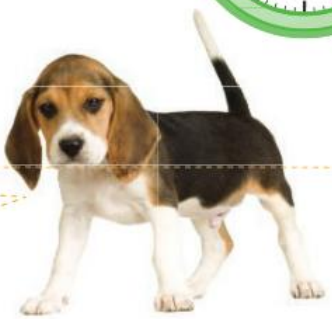
b quarter past 8

c half past 1

d quarter past 10

e 6 o'clock

f half past 11



What's another way of saying "half past"?

4 Write in the times.

a

b

c

d

e

f

Extended practice

1 What time will it be in:

a 1 hour? ☐

b half an hour? ☐

c quarter of an hour? ☐

d 2 hours? ☐

2 Fill in the missing pieces.

a

2:15

☐

b

☐ : ☐

3 o'clock

c

3:45

quarter to ☐

d

12:00

☐

e

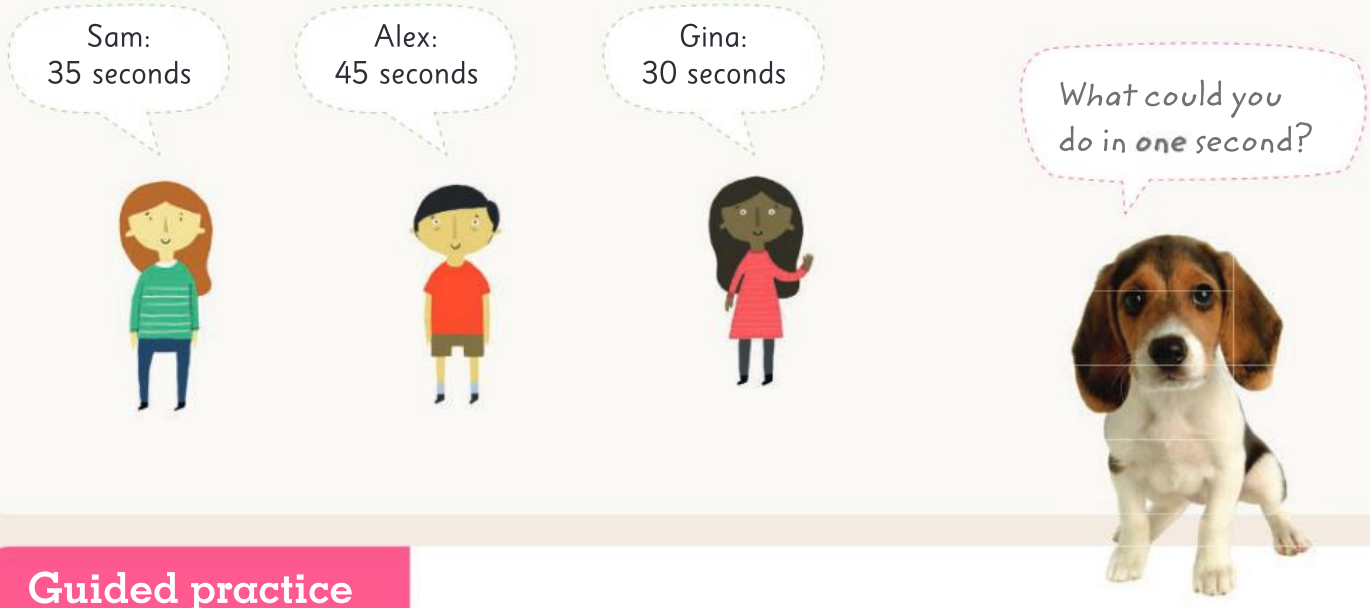
☐ : 15

quarter past 7

f

☐ : ☐

How long does it take to write the alphabet?



Guided practice

1 Look at the picture above.

a Who was the quickest?

b Who took the longest?

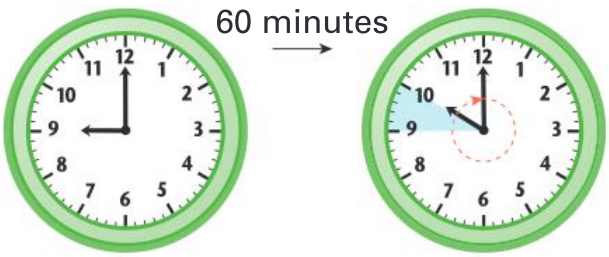
c Who was five seconds slower than Gina?

2 There are 60 seconds in 1 minute. It takes 1 minute for the second hand to go right round the clock.

How many minutes in:

a 120 seconds? **b** 180 seconds?

3 There are 60 minutes in 1 hour. It takes 1 hour for the minute hand to go right round the clock.



How many minutes in:

a 2 hours?

b half an hour?

Independent practice

1 There are 24 hours in a day.

a 2 days = ☐☐ hours

b If you sleep 10 hours in one day, how many hours are you awake? ☐☐

2 There are 7 days in a week.

a 14 days = ☐☐ weeks

b 4 weeks = ☐☐ days

c 21 days = ☐☐ weeks

d 10 weeks = ☐☐ days

February is the only month with exactly four weeks, except in a leap year when it has an extra day!

3 A month is about 4 weeks.

a 2 months = about ☐☐ weeks

b March has ☐ weeks and ☐☐ days.

4 There are 12 months in a year.
There are 52 weeks in a year.

a 48 months = ☐ years

b 3 years = ☐☐ months

c 104 weeks = ☐ years

Your birthday occurs every 12 months, or 52 weeks.

5 Draw lines to match the times to the events.

Time	Event
A few seconds	Sleeping at night
A few minutes	A football season
A few hours	Eating a sandwich
A few days	Becoming a top athlete
A few weeks	Writing your name
A few months	Reading a chapter book
A few years	The school summer holidays







6 What takes a few minutes to do at school? Draw and write it.

Extended practice

You will need a stopwatch for the activities on this page.

1 When the second hand moves from one number to the next on a clock, 5 seconds have passed.

Skip count to find the number of seconds that have passed from the top number to:

a number 2.

b number 4.

c the bottom number.

d number 10.

2 With a partner, try to guess when 10 seconds has passed by following the steps below.

- Close your eyes.
- Using a stopwatch, your partner will tell you when to start counting.
- Count 10 seconds in your mind.
- Raise your hand when you have finished counting to 10.

a Did you guess 10 seconds?

b Try again. Were you better this time?

3 With a partner, time each other writing the alphabet by following the steps below.

- Using a stopwatch, your partner will tell you when to start counting.
- Neatly write the alphabet.
- Raise your hand when you have finished.
- Your partner will tell you how many seconds it took.
- Swap roles with your partner and repeat.

How many seconds did it take you?

Southern hemisphere seasons:

summer	autumn	winter	spring
			
December	March	June	September
January	April	July	October
February	May	August	November

Northern hemisphere seasons:

summer	autumn	winter	spring
			
June	September	December	March
July	October	January	April
August	November	February	May

Guided practice

1 a How many months are in a year?

b How many seasons are in a year?

c How many months are in a season?

Which hemisphere do you live in? What are the names of the seasons where you live? When do they occur?

Independent practice

1 **a** Write the months of the year in order.

b Write the season each month is in for both the northern and southern hemispheres.

Month	Seasons in the southern hemisphere	Seasons in the northern hemisphere
January		

2 **a** Write down the birthdays of 10 people in your class.

Name	Birthday

b Write the 10 birthdays in the order they occur in the year.

c Write the season each birthday is in.

Name	Birthday	Season

Extended practice

1 In the south of Australia, some Aboriginal people have 6 seasons.

Aboriginal season	High summer	Late summer	Early winter	Deep winter	Early spring	True spring
Months	November December January	February March	March April May	May June July	July August	September October November

a Which of the 4 seasons is not in the Aboriginal season names?

b Which seasons are the shortest?

c How many months are in deep winter?

d Is each Aboriginal season described above in summer, winter, autumn or spring?

Aboriginal season	**Summer, winter, autumn or spring?**
High summer	
Late summer	
Early winter	
Deep winter	
Early spring	
True spring	

January						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
	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			

The first day of January was a Monday.

The first Sunday in January was the 7th.

The last day of January was a Wednesday.

What do people use calendars for?

Guided practice

1

February						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
		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					

a What is the first day of February? ____

b What date is the first Sunday in February? ____

c What is the last day in February? ____

2

November						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
					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

a How many Sundays are in November? ____

b How many Saturdays? ____

c What day is the 13th of November? ____

d What date is the last day in November? ____

Independent practice

1

JANUARY

Sun	Mon	Tues	Wed	Thur	Fri	Sat
	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			

FEBRUARY

Sun	Mon	Tues	Wed	Thur	Fri	Sat
				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			

MARCH

Sun	Mon	Tues	Wed	Thur	Fri	Sat
				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

APRIL

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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					

MAY

Sun	Mon	Tues	Wed	Thur	Fri	Sat
		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		

JUNE

Sun	Mon	Tues	Wed	Thur	Fri	Sat
					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

JULY

Sun	Mon	Tues	Wed	Thur	Fri	Sat
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				

AUGUST

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			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	

SEPTEMBER

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						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						

OCTOBER

Sun	Mon	Tues	Wed	Thur	Fri	Sat
	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			

NOVEMBER

Sun	Mon	Tues	Wed	Thur	Fri	Sat
				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	

DECEMBER

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						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					

a How many days are in each month?

Month	Days

b On this calendar, which months have 5 Sundays?

c On this calendar, which months start on a Thursday?

2

May						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
			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	

a If today is the 4th, what will be the day and date in 2 weeks?

b What day is 9 days after the 13th of May?

c Which days are there 5 of in the month?

d If you went on holidays on the 3rd of May for 11 days, on which day would you get back?

e How many days is it from the 17th to the 23rd of May?

f Which month comes after May?

g Which month comes before May?

Extended practice

1

Month:						
Sun	Mon	Tues	Wed	Thur	Fri	Sat

a Fill in the name of the current month.

b Fill in the dates on the correct days.

c What day does the month start on?

d How many days are in the month?

2 This calendar shows one month of the year.

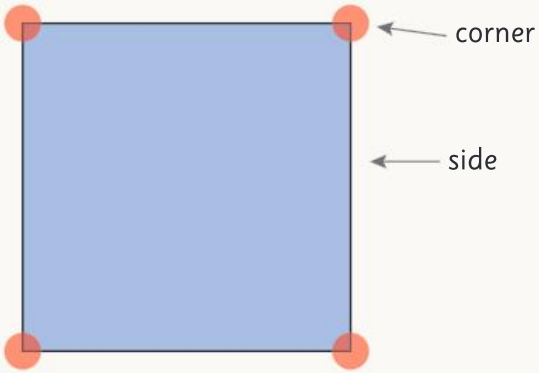
Sun	Mon	Tues	Wed	Thur	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

a Could it be February?

b Which months could it be?

c How many full weeks are there?

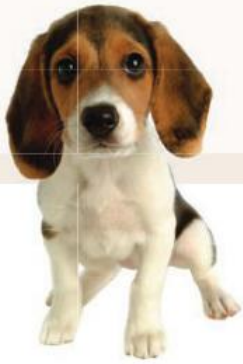
d What date is the third Thursday of the month?



The shape has 4 corners and 4 sides.

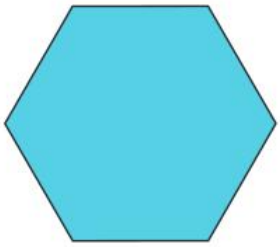
The sides are straight lines.

How else could you describe this shape?



Guided practice

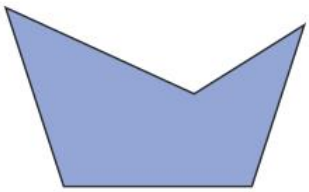
1 A hexagon has:



a ☐ corners

b ☐ sides

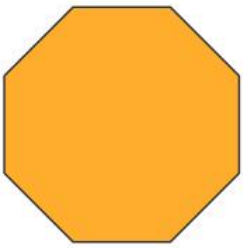
2 A pentagon has:



a ☐ corners

b ☐ sides

3 An octagon has:



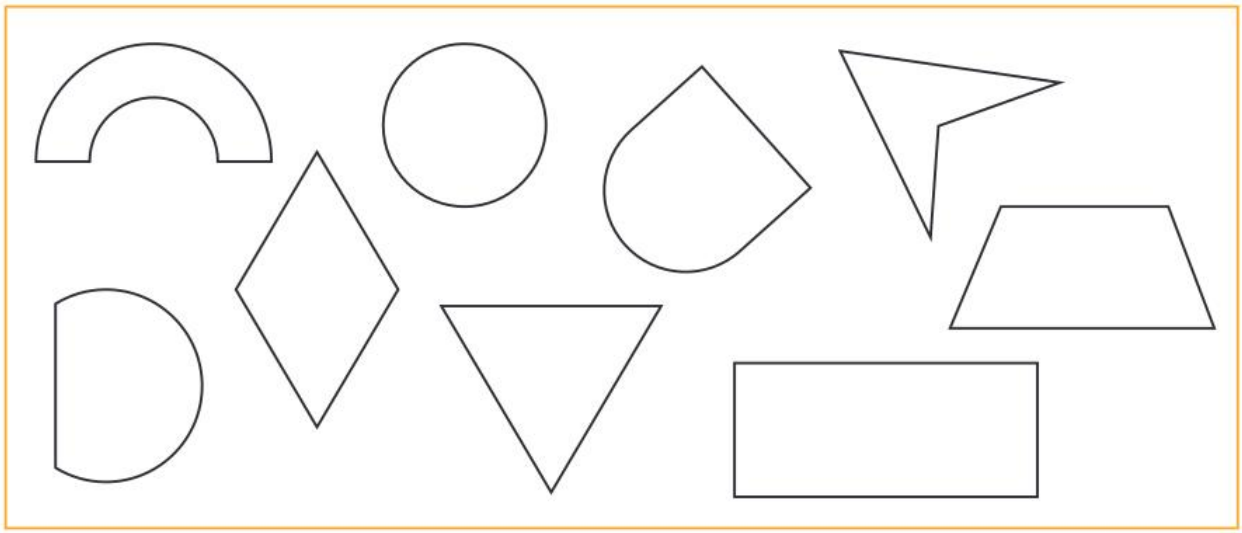
a ☐ corners

b ☐ sides

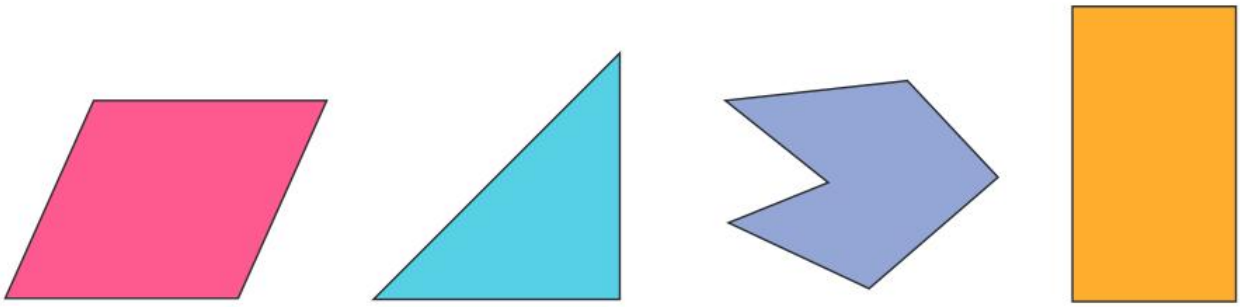
Independent practice

1 **a** Colour the shapes with 4 corners and 4 straight sides blue.

b Colour the shapes with curved sides pink.



2 Match the shapes to their names and descriptions.



rectangle	hexagon	rhombus	triangle
6 sides and 6 corners	4 sides all the same length	4 corners, opposite sides are the same length	3 straight sides

3 Draw a shape with:

a 3 sides and 3 corners.

b no corners.

c at least 2 straight sides and 1 curved side.

d 5 corners and 5 sides.

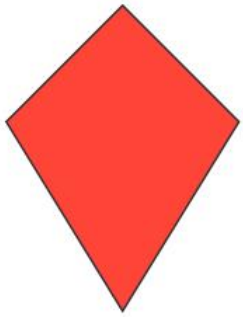
e 4 straight sides with 2 sides the same length.

f 4 straight sides of different lengths.

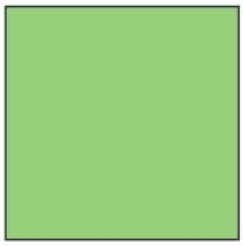
Extended practice

1 Name each shape.

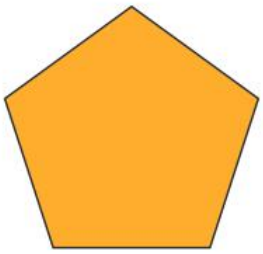
a



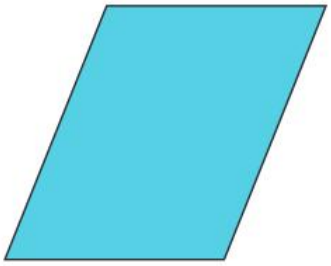
b



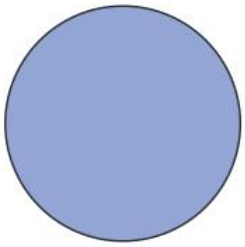
c



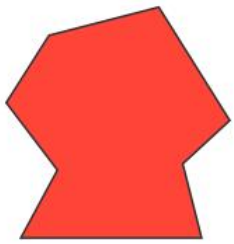
d



e

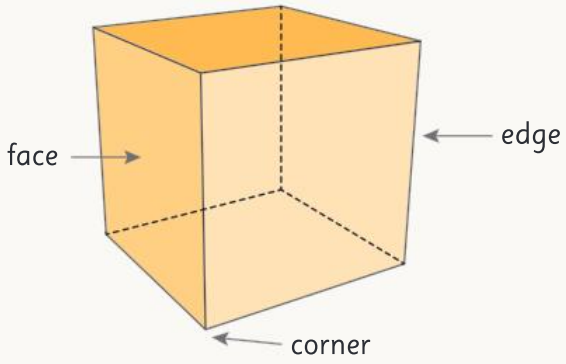


f



2 Which of the shapes from question 1 have ...

4 corners?	5 corners?	8 corners?	no corners?



A cube has:

- 6 faces
- 12 edges
- 8 corners.

Faces of 3D shapes can be different 2D shapes, such as circles, triangles or squares.

Guided practice

1

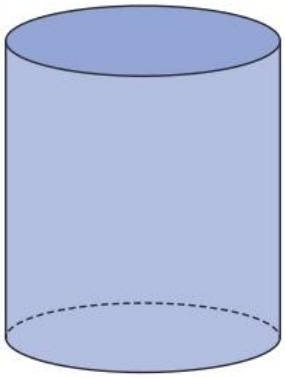
A rectangular prism has:

a ☐ faces

b ☐ edges

c ☐ corners.

2



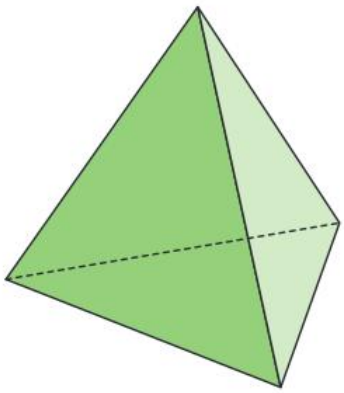
A cylinder has:

a ☐ faces

b ☐ edges

c ☐ corners.

3



A triangular pyramid has:

a ☐ faces

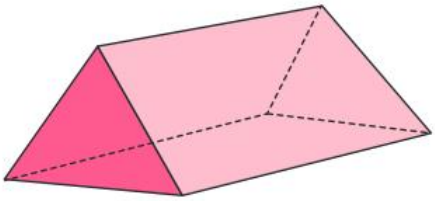
b ☐ edges

c ☐ corners.

Independent practice

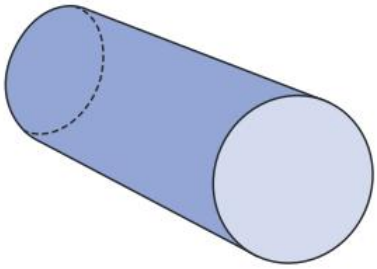
1 How many of each 2D shape do you need to make the 3D shape?

a



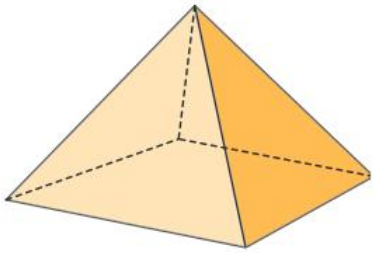
☐ triangles ☐ rectangles

b



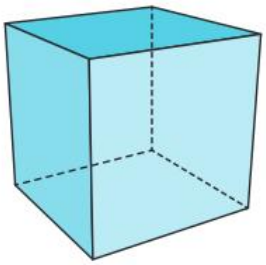
☐ circles ☐ rectangles

c



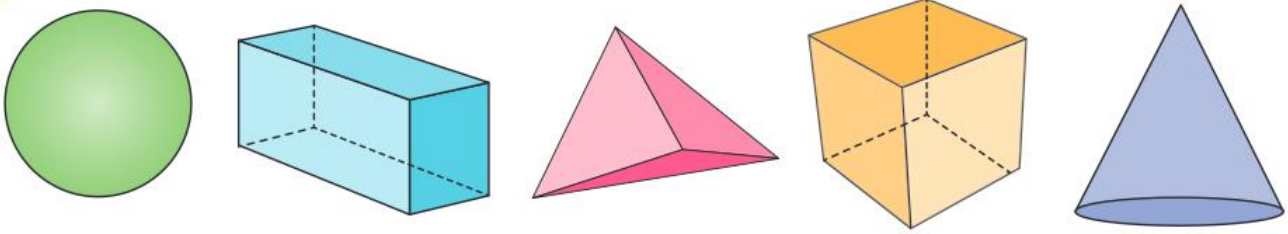
☐ squares ☐ triangles

d



☐ squares ☐ circles

2



Write the letter of the 3D shapes with ...

a at least one curved face? ☐

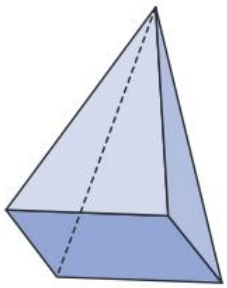
b only one corner? ☐

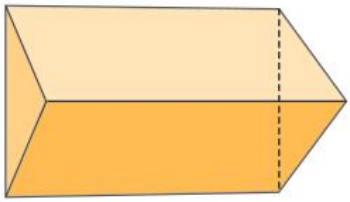
c more than 5 edges? ☐

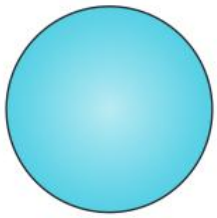
d faces that are all the same shape? ☐

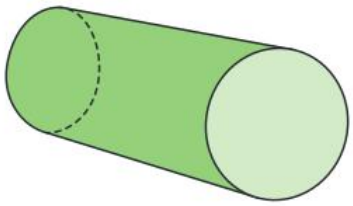
e at least one triangular face? ☐

3 Draw lines to match the 3D shapes with their names and descriptions.









sphere	square pyramid	cylinder	triangular prism
6 corners and 9 edges	1 curved face	3 faces and 2 edges	5 corners, 1 square face and 4 triangular faces

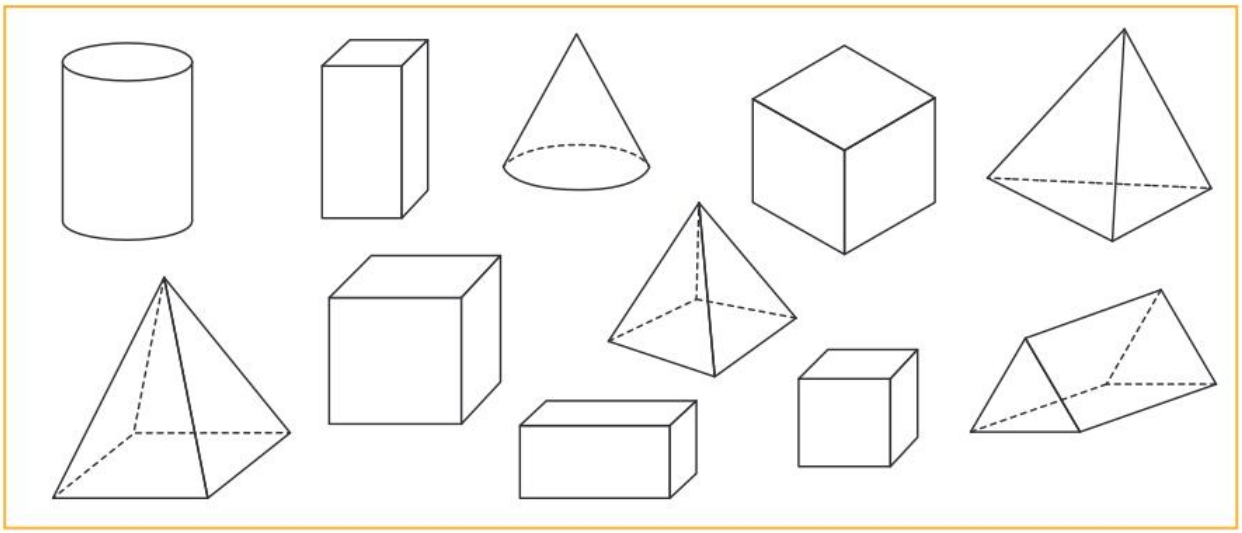
A prism has two parallel bases that are the same shape, and the other faces are rectangles.

4

a Colour the cubes blue.

b Colour the other prisms green.

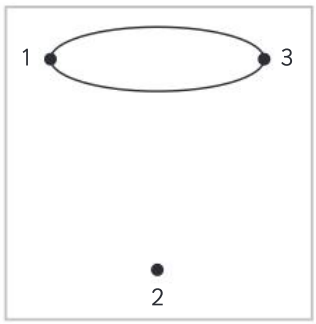
c Colour the pyramids red.



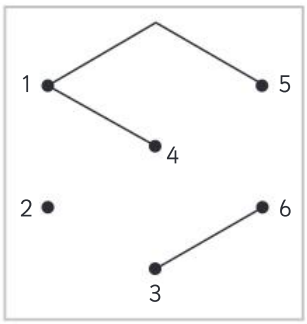
Extended practice

1 Join the dots to make 3D shapes.

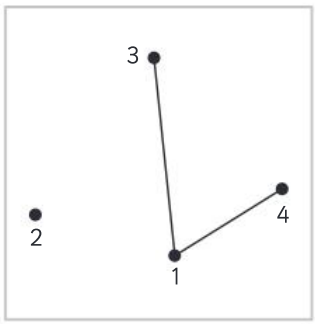
a



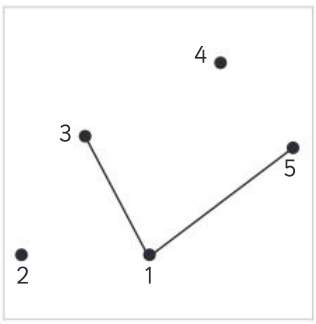
b



c



d



2 Name each 3D shape from question 1.

3 Who am I?

a My faces are rectangles.

I have 8 corners.

I am not a cube.

I am a _____ .

Draw

b I have 2 edges but no corners.

I have 3 faces.

I am a _____ .

Draw

The dog is to the right of the clock.

The photo is on the middle shelf.

The train is below the dictionary.

The clock is above the photo and between the dog and the dinosaur.

What other words can you use to describe where something is?

Guided practice

1

a What is above the picnic?

b What is between the slide and the bin?

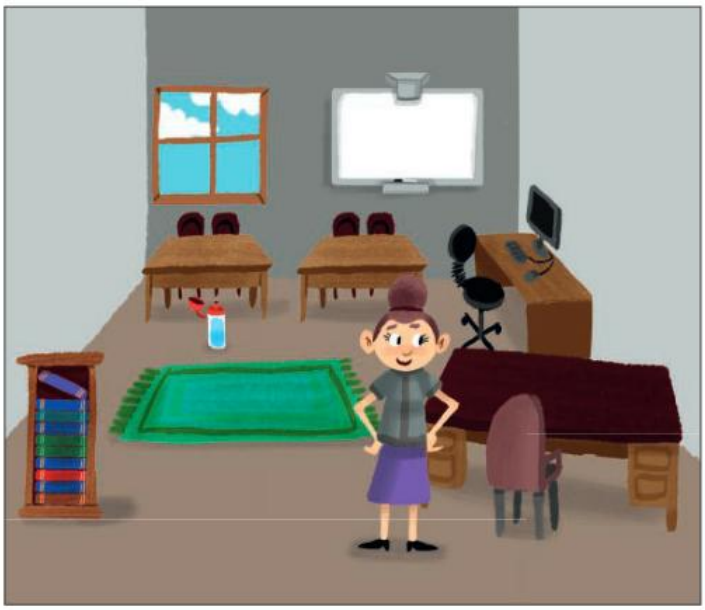
c Where is the picnic basket?

d What is to the right of the dog?

e What is on the slide?

Independent practice

1 Where is ...



a the computer?

b the whiteboard?

c the teacher?

d the water bottle?

2

a Draw a clock on the shelf.

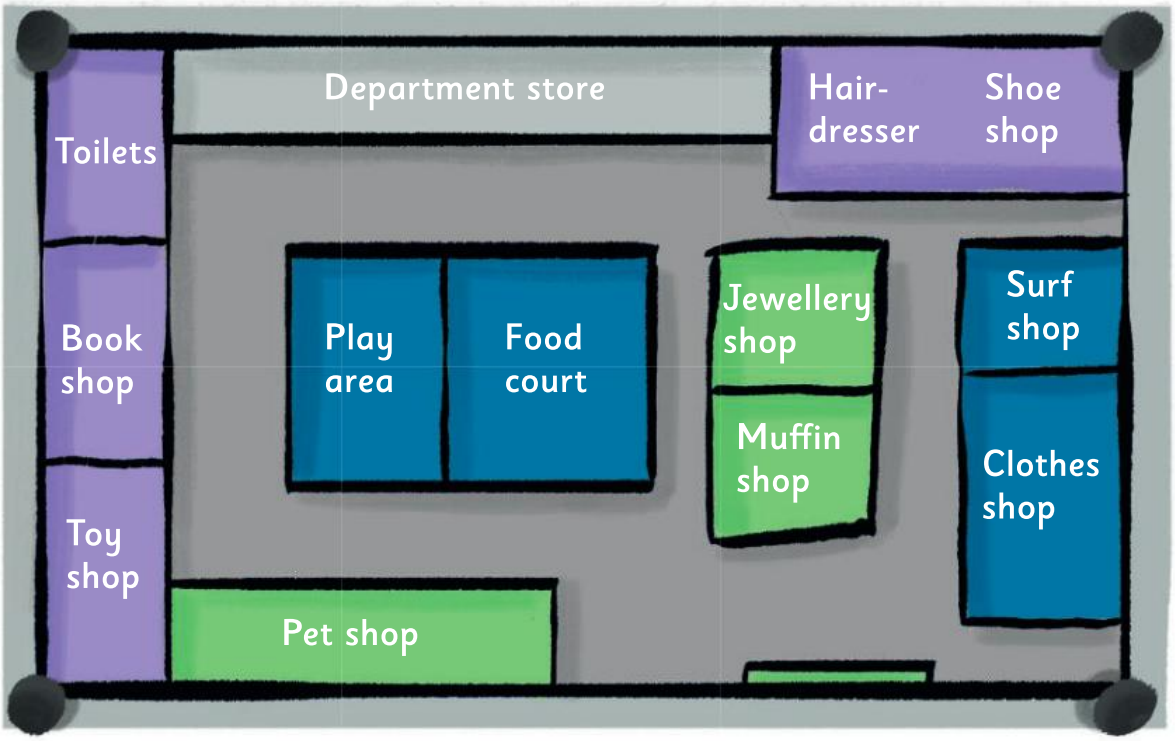
b Draw a mat in front of the door.

c Draw a chair next to the bed.

d Draw a desk in the top left corner.

e Draw a bookcase in the bottom right corner.

f Draw a TV to the left of the bookcase.



Why do shopping centres have maps?

3 Fill in the gaps.

a The shoe shop is _____ the hairdresser.

b The book shop is _____ the toy shop and the toilets.

c The food court is _____ the department store.

d The play area is _____ the food court.

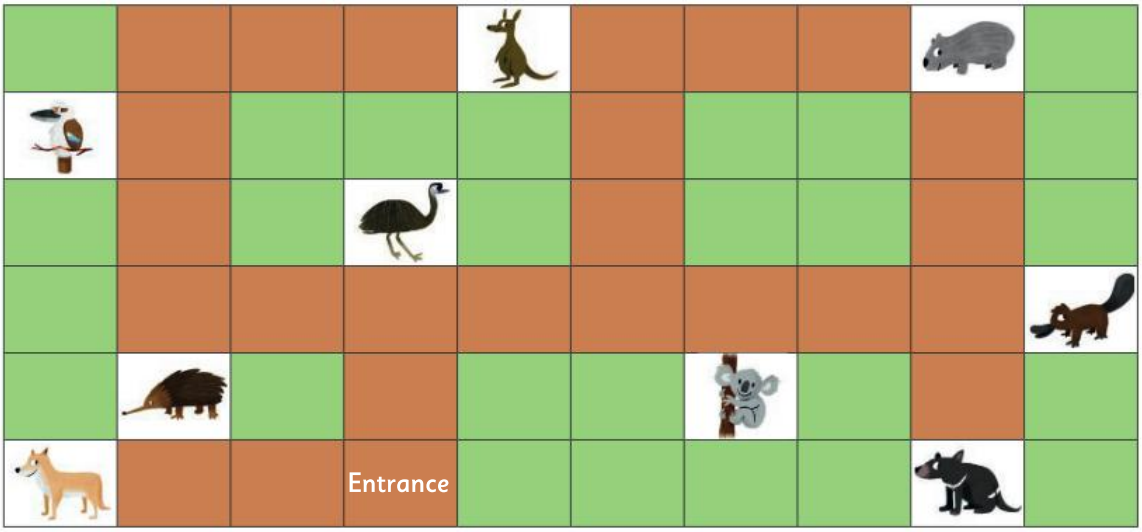
4

a What would you go past to get from the pet shop to the department store?

_____

b Which way would you turn to get from the surf shop to the muffin shop? _____

Extended practice



1 Where are you?

a Start at the dingo. Travel 3 squares to the right. Turn left and travel 2 squares.

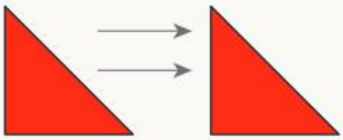
b Start at the entrance. Walk 2 squares straight ahead. Turn right. Walk 3 more squares.

2 Write directions to walk along the path from:

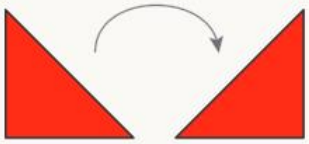
a the entrance to the platypus.

b the koala to the kookaburra.

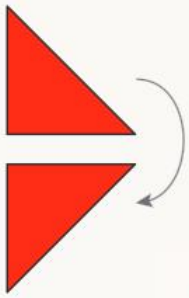
c the echidna to the Tasmanian devil.



slide



horizontal flip



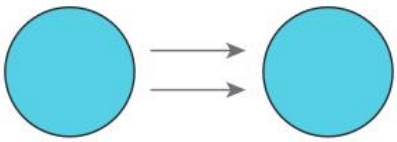
vertical flip

Guided practice

How does a slide change a shape? What about a flip?

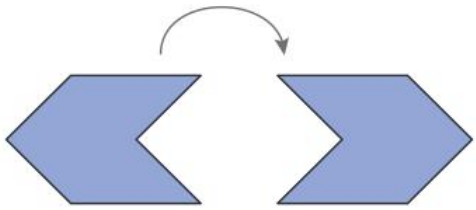
1 Slide or flip?

a



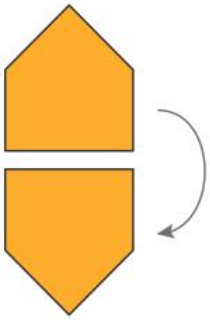
Slide	Flip

b



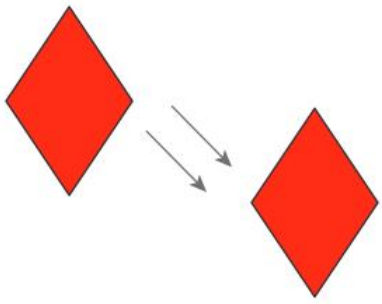
Slide	Flip

c



Slide	Flip

d

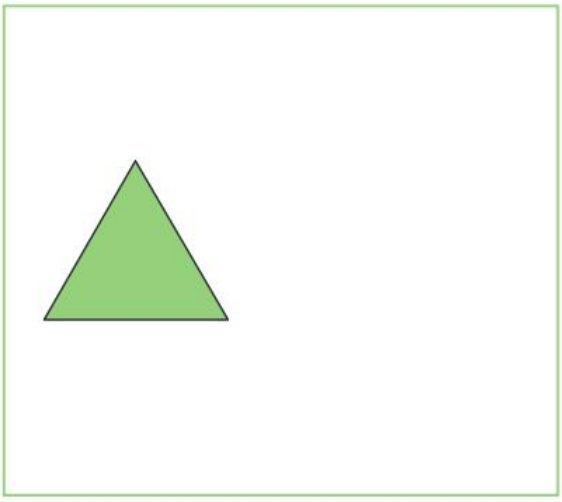


Slide	Flip

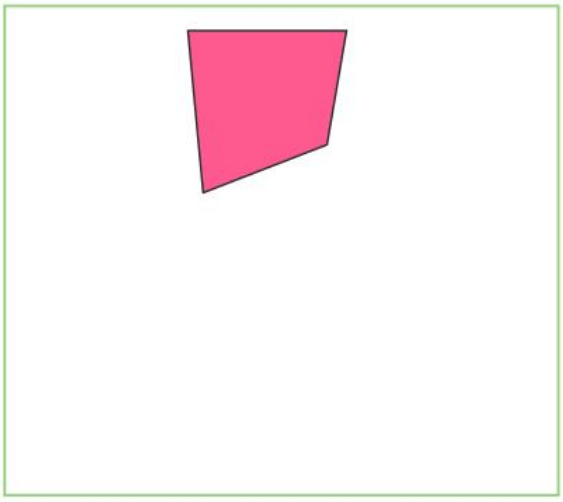
Independent practice

1 Draw what happens if you ...

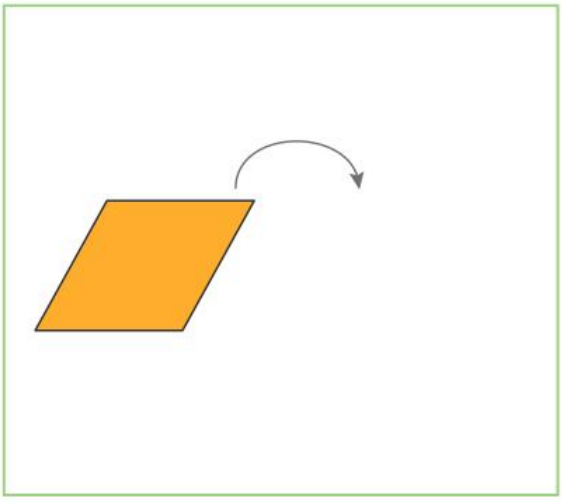
a slide the shape to the right.



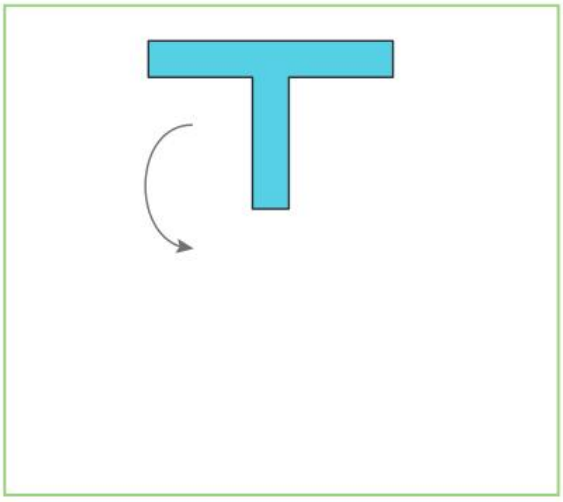
b slide the shape down.



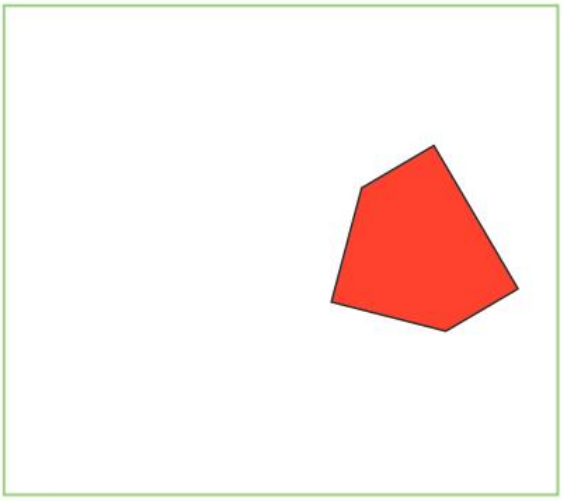
c flip the shape horizontally.



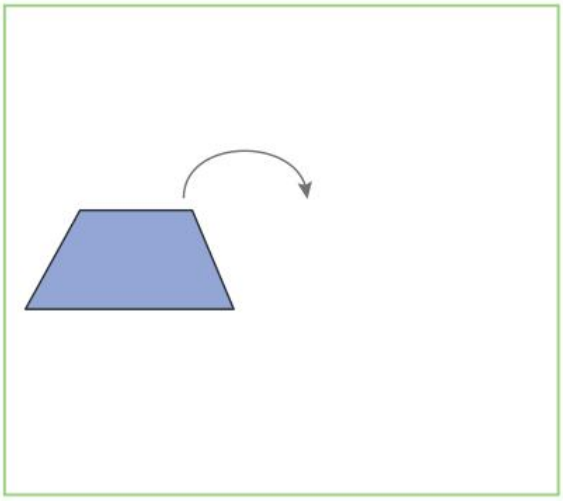
d flip the shape vertically.



e slide the shape to the left.



f flip the shape horizontally.



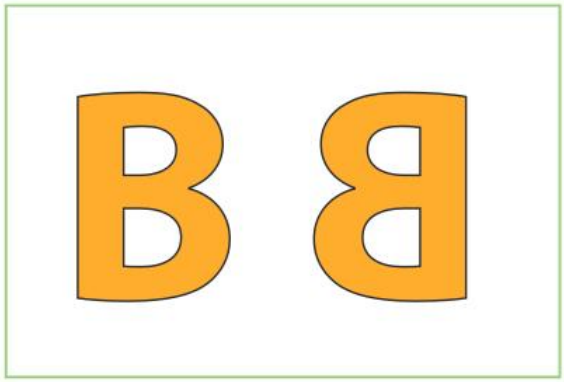
2 Write *slide*, *flip* or *either*.

Some shapes look the same when they are flipped.

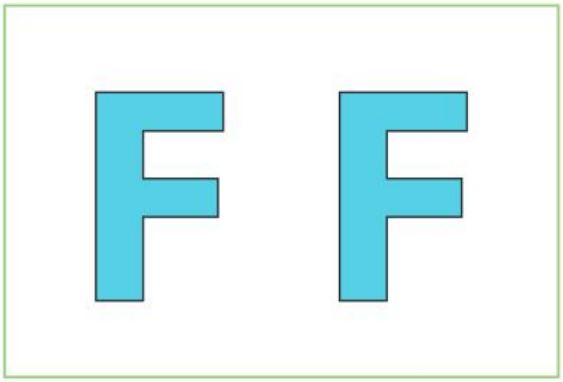
a

b

c



d



e

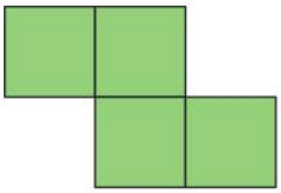
f

Extended practice

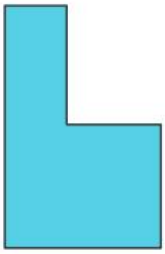
1 Slide then flip each shape.

a

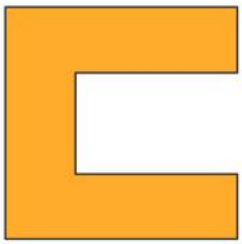
Slide Flip



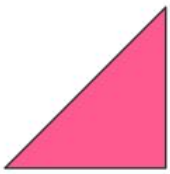
b



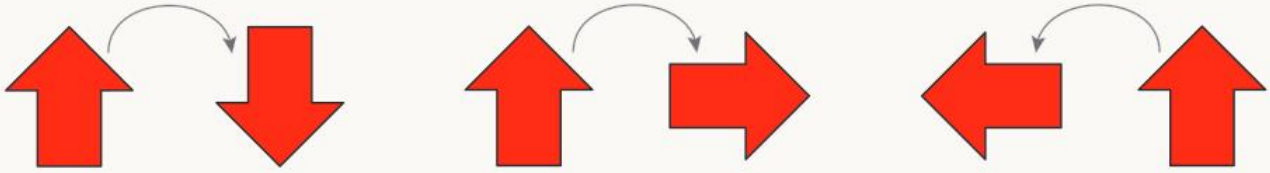
c



d



e



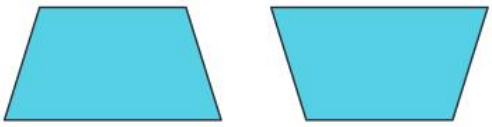
half turn | quarter turn to the right | quarter turn to the left

Guided practice

When we turn something around to the right, this is also known as clockwise as it's the same direction that the hands go around a clock.

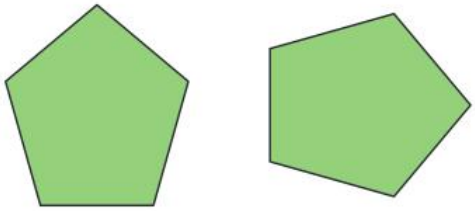
1 Half turn or quarter turn?

a



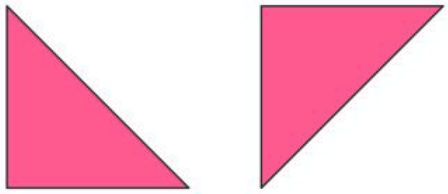
Half turn	Quarter turn

b



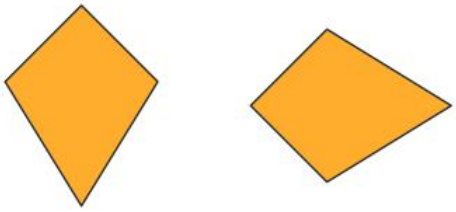
Half turn	Quarter turn

c



Half turn	Quarter turn

d

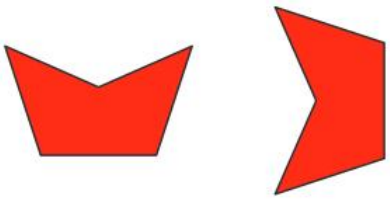


Half turn	Quarter turn

e

Half turn	Quarter turn

f



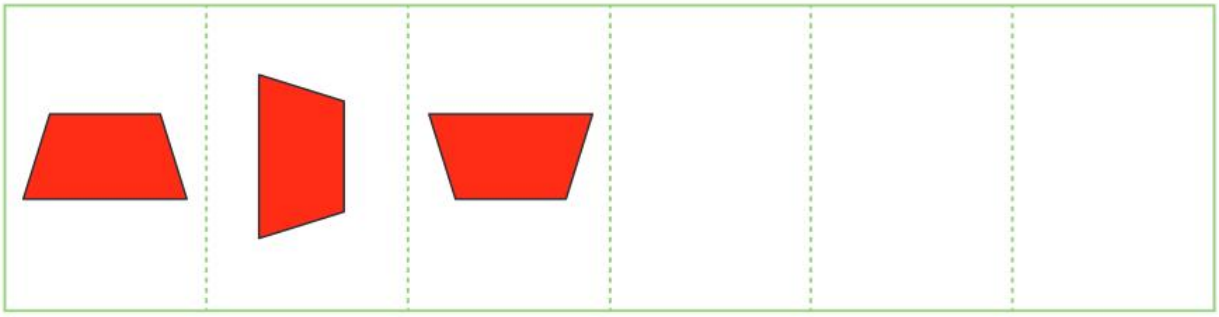
Half turn	Quarter turn

Independent practice

1 Decide whether the pattern is showing half turns or quarter turns, then continue the pattern.

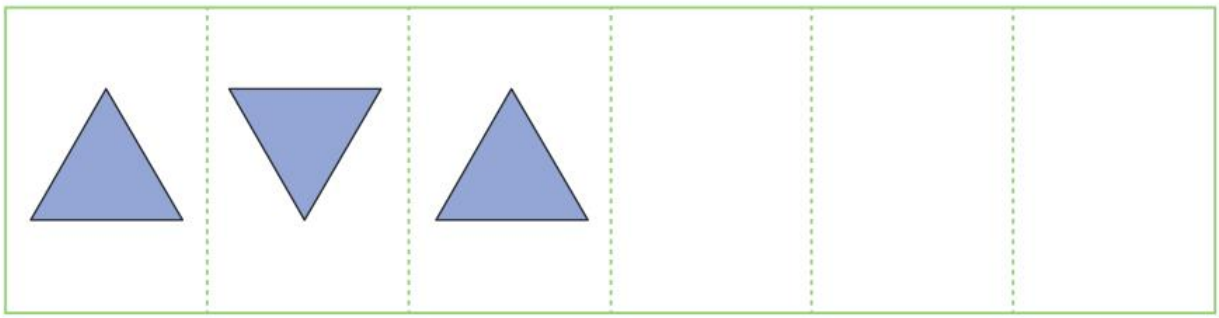
a

Half turn	Quarter turn



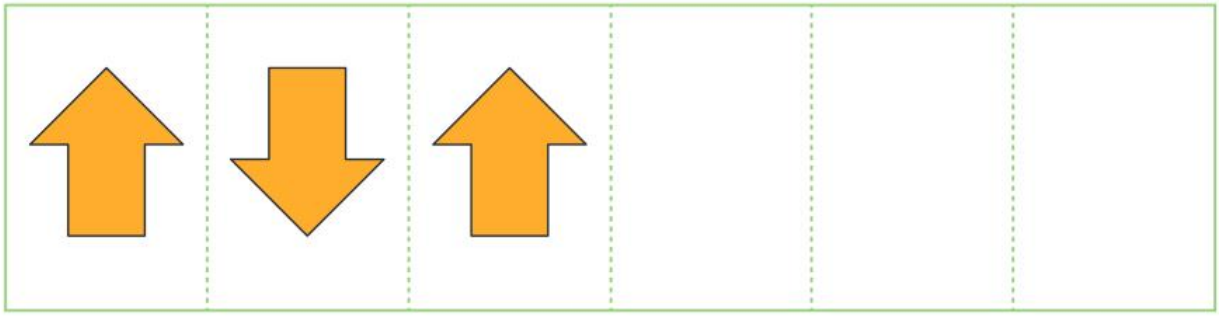
b

Half turn	Quarter turn



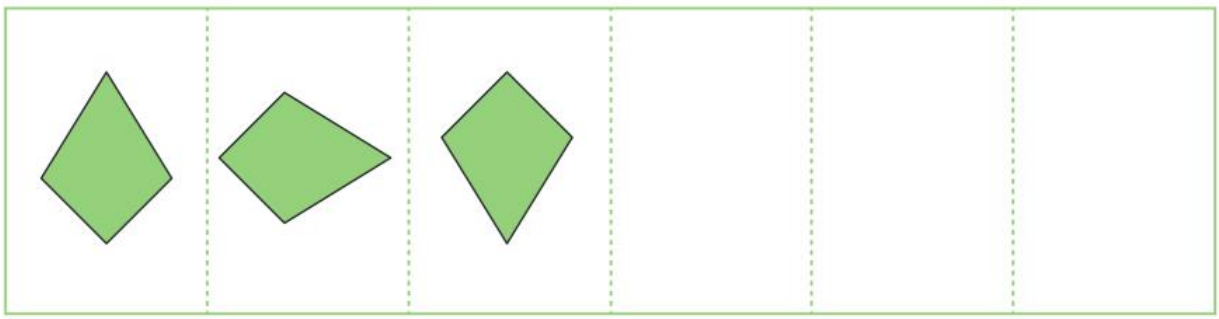
c

Half turn	Quarter turn



d

Half turn	Quarter turn

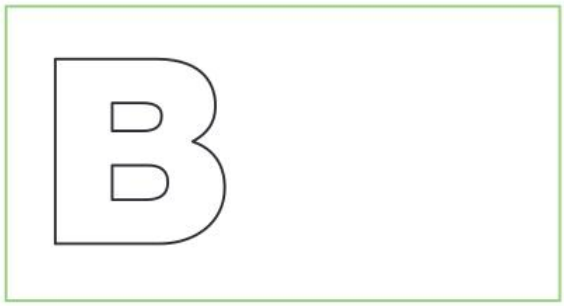


2 Draw what happens if you do a ...

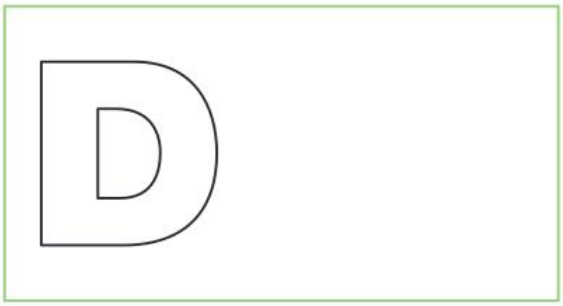
a half turn.

b quarter turn to the left.

c quarter turn to the right.

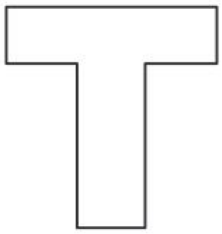


d half turn.



3 Draw the shapes after a:

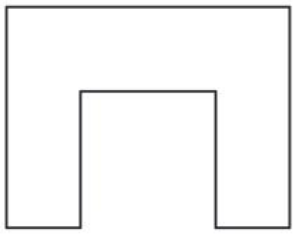
a



half turn

quarter turn

b

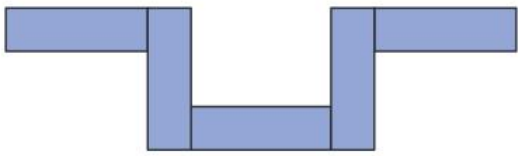


half turn

quarter turn

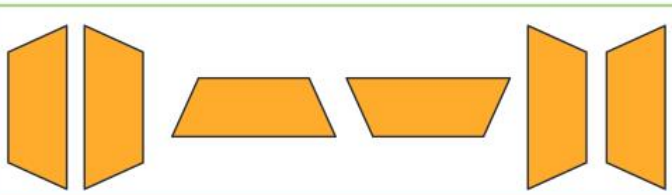
Extended practice

1 **a** Describe the turn used to make the pattern.



b Continue the pattern.

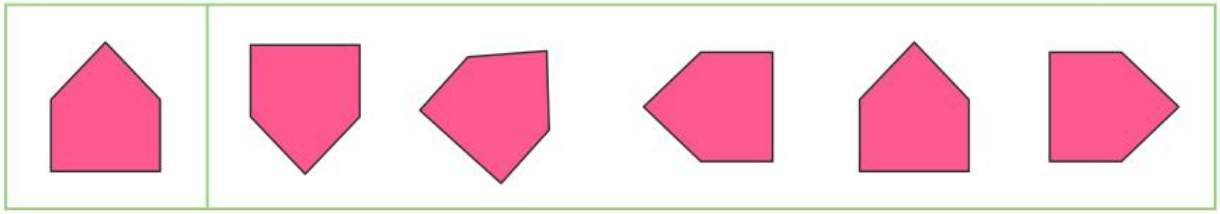
2 **a** Describe the turns used to make the pattern.



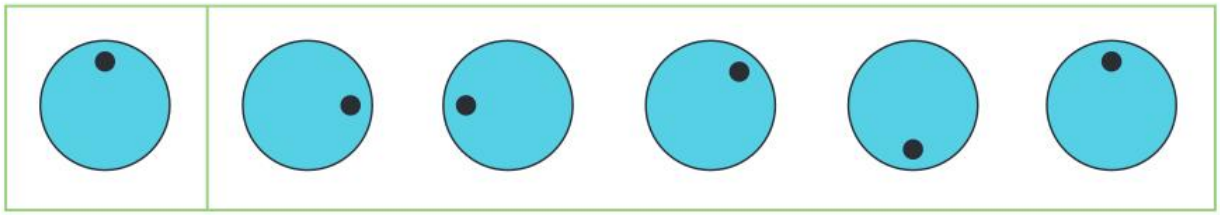
b Continue the pattern.

3 Circle the shapes that show a quarter turn.

a



b



What did you have for dinner?

Dinner	Students
Chicken 	Caleb, Serena, Miles
Pizza 	Ava, Zac, Josh, Emily, Tayla, Hannah, Sophia, Joseph, Jessie, Caitlin, Casey
Pasta 	Riley, Ethan, Toni, Kyle, Matt, Demi, Mason, Darlean

Dinner	Number of students	Total
Chicken 	✓✓✓	3
Pizza 	✓✓✓✓ ✓✓✓✓ ✓✓✓	11
Pasta 	✓✓✓✓ ✓✓✓✓	8

Guided practice

1 Use the information below to complete the table on page 118.

Ice-cream flavour	Students
Vanilla	James, Brittany, Rhys, Georgia, Natalie, Erica, Marco, Ramiz, Olivia, Alicia, Jesse, Mia, Chris, Katie, Emett, Tony
Chocolate	Dylan, Sam, Zoe, Claudia, William, Mason, Violet, Jensen, Laney, Emily, Riley, Felix, Ben, Emma, Matt, Imogen, Steph, Rachael
Mint	Andrew, Kyle, Alex, Penny, Jack, Brenton, Jarrod, Amy, Nathan, Rachael, Casey, McKenzie
Strawberry	Amber, Scarlet, Joey, Kristian, Luke, Bryce, Hannah, Grace

Ice-cream flavour	Number of student (ticks)	Total (number)
Vanilla		
Chocolate		
Mint		
Strawberry		

2 Write a question to match the data.

Independent practice

1

Do you have a brother?
no, no, yes, no, yes, yes, yes, no, no, yes, no, no, yes, yes, no, yes, yes, yes

Count and record

Do you have a brother?	
Yes	No

2 What pet do you have?

Cat	✓✓✓✓✓
Dog	✓✓✓✓✓✓✓✓✓✓
Reptile	✓✓
Other	✓✓✓✓✓
None	✓✓✓

a Count and record.

What pet do you have?	
Cat	
Dog	
Reptile	
Other	
None	

b How many students were asked? ☐☐

3 Collect data from 12 students in your class.

Do you have a sister?

Yes	No

Which way is easier to record the data? Why?

4 Record the favourite sport of 12 people in your class.

Sport	Students
Football	
Rugby	
Netball	
Cricket	
Basketball	
Other	

5 What question did you ask to get the data in question 4?

6 Which sport was the:

a most popular?

b least popular?

Extended practice

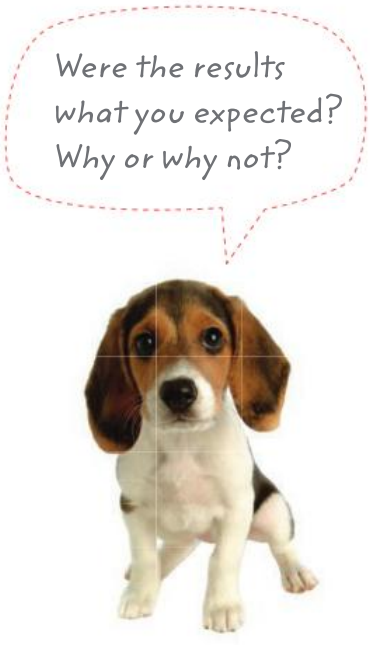
1 Write a yes/no question to ask your classmates.

2 Ask 12 people and record their answers.

Name	Results

3 Record the results another way.

Yes	No



Fruit	Vegetables
12	7

Why do some of the tally marks have a diagonal line across them?

Guided practice

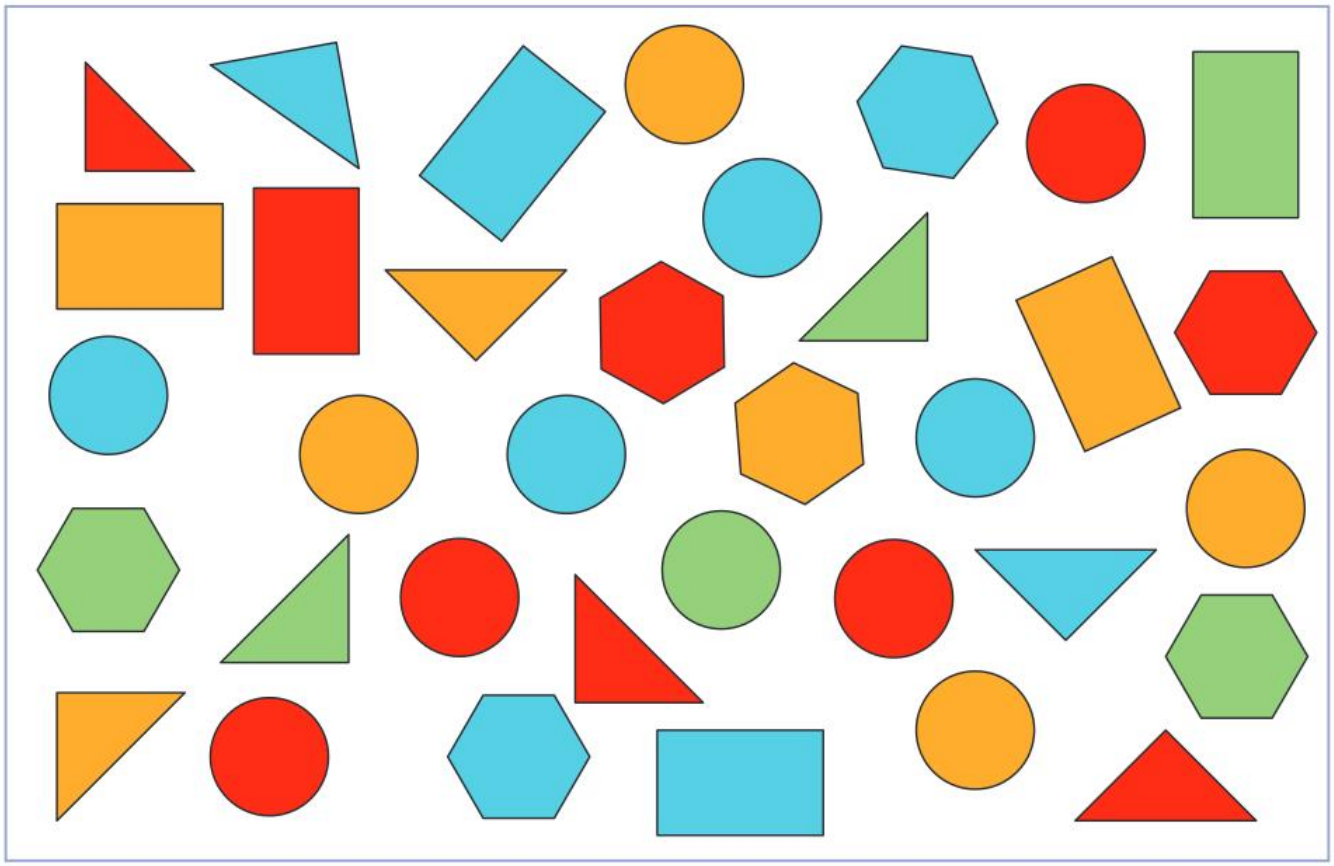
1 Count the tally marks.

	Favourite drinks			
	Milk	Water	Orange juice	Soft drink
	|||	𝍸 |||	𝍸 𝍸 𝍸	𝍸 𝍸 𝍸 ||
Total				

2 Use tally marks to record the colours.

	Red	Blue	Green
Total			

Independent practice



1 **a** Choose a way to sort the shapes into 4 different groups. Record your categories in the table.

	Categories:			
Total				

b Use tally marks to count the items in each of your categories.

c Total your tally marks.

d Which category had the most items in it?

2

a Choose 4 sports that are popular in your class and record them in the table.

Sports:				
Tally				
Totals				

b Survey at least 10 people in your class and keep a tally of their answers.

c Total the tallies.

Don't forget to group your tally marks in fives to make them easy to count.

3 Answer these questions about your results.

a Which sport was the most popular?

b Which sport was the least popular?

c What other sports could you have included?

Extended practice

1

a List 3 different ways you could sort the animals.

b Choose one way to sort the data, and then create a table and make a tally for each category.

c Record the total for each category.

What did you do on Saturday afternoon?

Three people went to the movies.

Seven people played sport.

Three more people went shopping than read.

Sport was the most popular activity.

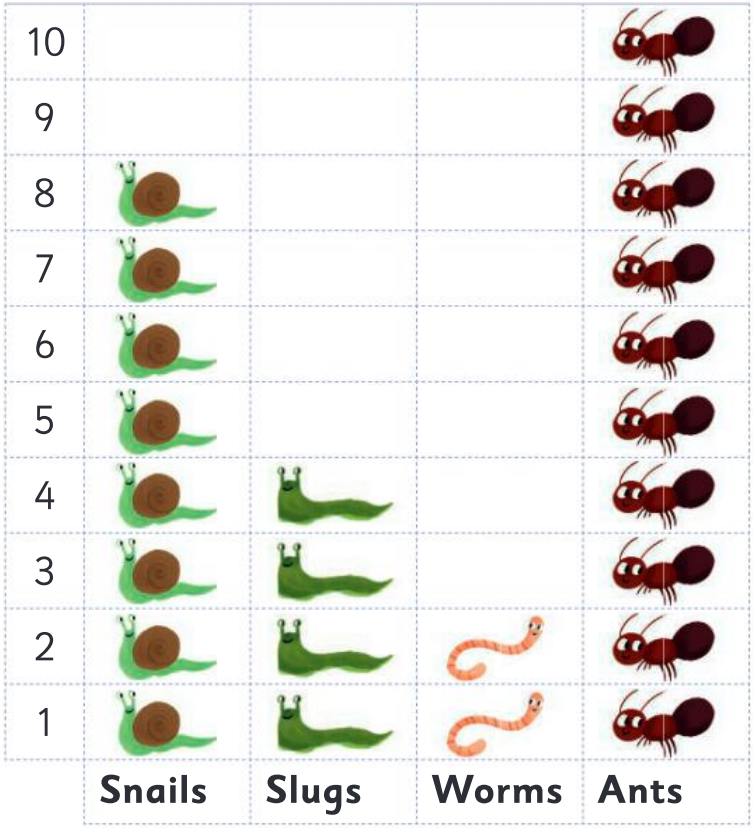
Seventeen people were surveyed.

Guided practice

How can you tell how many people were surveyed altogether?

1 Answer the questions about the graph.

Bugs in the school garden



a Which bug was there the most of?

b The least?

c How many more snails than slugs were found?

d How many bugs were found in total?

Independent practice

1

a Use the data in the table to complete the pictograph.

5						
4						
3						
2						
1						
	Tim	**Devon**	**Mai**	**Rex**	**Tina**	**Poh**

Number of hours watching TV last night					
Tim	**Devon**	**Mai**	**Rex**	**Tina**	**Poh**
2	4	0	2	5	1

b Which 2 people watched the same amount of TV last night?

c Who watched the most?

d Who watched the least?

2 **Hair colour in a Year 2 class**

Hair colour	Tally	Total
Brown	𝍸 |	
Blond	||||	
Black	𝍸 |||	
Red	||	

a Record the totals in the table.

b Finish the pictograph.

8				
7				
6				
5				
4				
3				
2				
1				
	Brown			

3

a Ask 10 students in your class if they take swimming lessons. Record the results in a list (yes/no).

b Make a tally table using the results.

Answer	Tally	Total

Which method of displaying the data do you find the easiest to understand?

c Use ticks to show the results.

	1	2	3	4	5	6	7	8	9	10
Yes										
No										

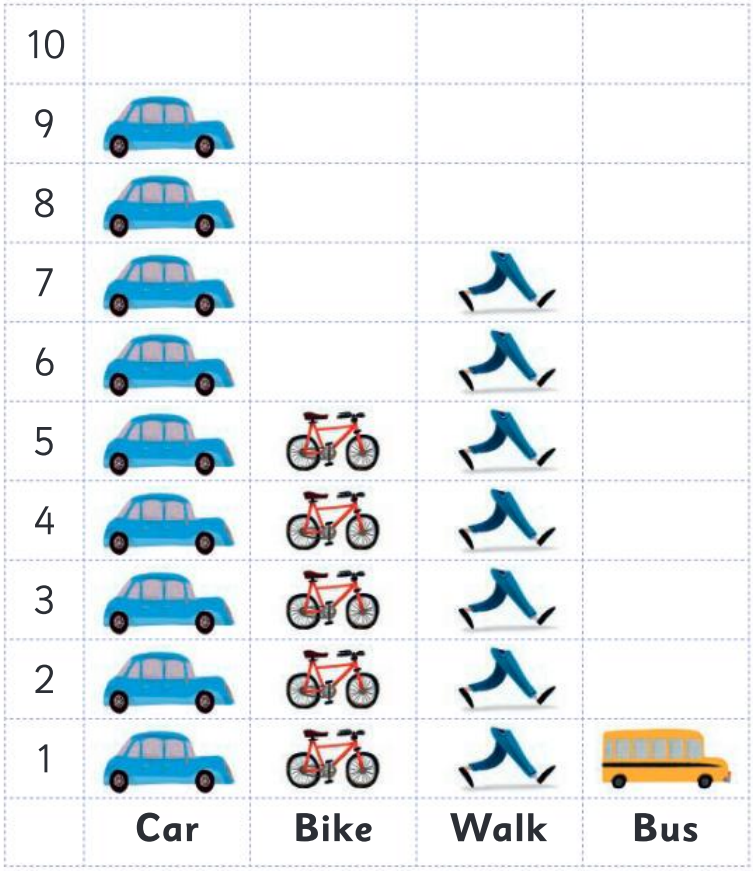
d Write one statement about the results.

Extended practice

1

a Make a table using the data in the graph.

How I get to school



Transport	Tally	Total

b How many people ride their bikes? ☐

c Do more people walk or catch the bus? ☐

d How many more people walk than ride bikes? ☐

e Write a question of your own about the data.

An elephant will fly a helicopter over the school.

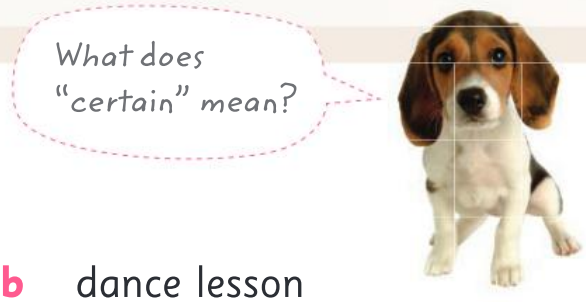
A pop star will visit today.

You will eat lunch today.

You will do mathematics today.

Impossible | Less likely | Most likely | Certain

Guided practice



1 Most likely or less likely today?

a sport lesson

Most likely	Less likely

b dance lesson

Most likely	Less likely

2 Certain or impossible today?

a wearing shoes

Certain	Impossible

b the school day will end

Certain	Impossible

Independent practice

1 Match the words to the situations.

Impossible	Less likely	Most likely	Certain

a It will rain today.

b It will be cold today.

c It will get dark tonight.

d You will go shopping today.

e You will have pizza for dinner.

f There is a live dinosaur in the playground.

2 Draw a line to show how likely each event is.

Impossible | Less likely | Most likely | Certain

a

You will drink water today.

b

You will have a birthday this year.

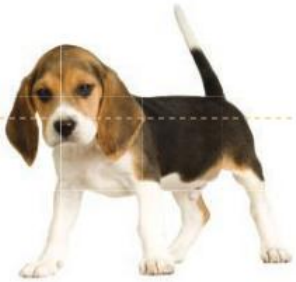
c

You will travel in a plane today.

d

You will drive a train today.

Would everyone be likely to drink water today?



3 Suggest an event that is:

a impossible.

b less likely.

c most likely.

d certain.

Extended practice

1 Describe the chances of pulling out a:

a red teddy.

b blue teddy.

c yellow teddy.

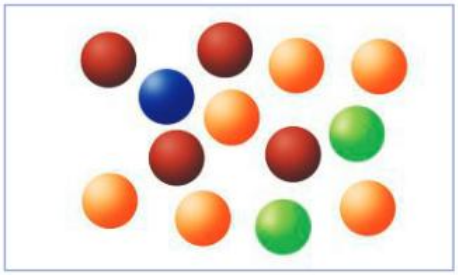
2 Match the descriptions to the boxes.

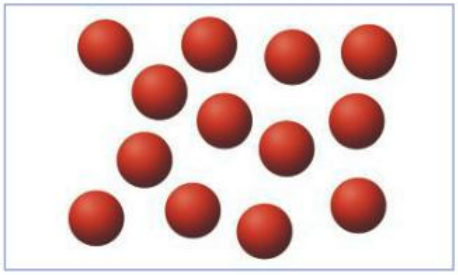
a certain to pick a red ball

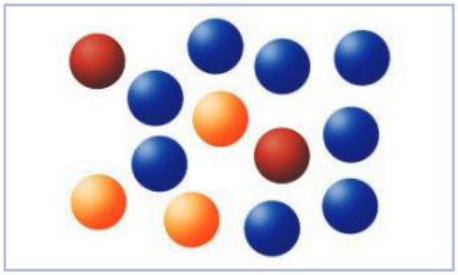
b impossible to pick a red ball

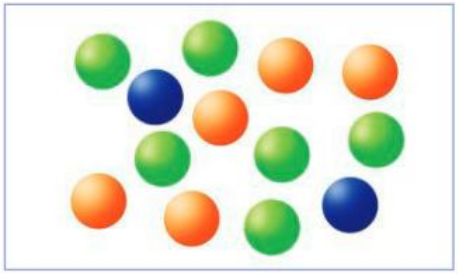
c less likely to pick a green ball

d most likely to pick a blue ball









GLOSSARY

addition The joining or adding of two numbers together to find the total. Also known as *adding*, *plus* and *sum*.

Example:

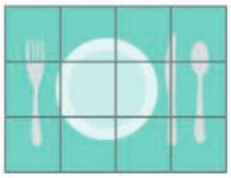
★★★ + ★★ = ★★★★★

3 and 2 is 5

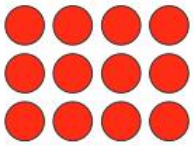
anticlockwise Moving in the opposite direction to the hands on a clock.

area The size of an object's surface.

Example:
It takes 12 tiles to cover this placemat.

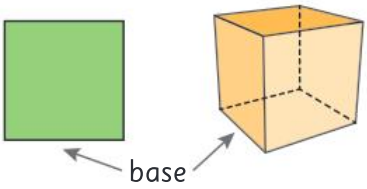


array An arrangement of items into even columns and rows that make them easier to count.



balance scale Equipment that balances items of equal mass – used to compare the mass of different items. Also called pan balance or equal arm balance.

base The bottom edge of a 2D shape or the bottom face of a 3D shape.



calendar A chart or table showing the days, dates, weeks and months in a year.

Month → January 2017 ← Year

Day →

Date →

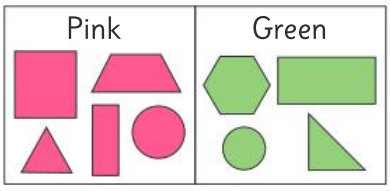
Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

capacity The amount that a container can hold.

Example:
The jug has a capacity of 4 cups.

4 cups
3 cups
2 cups
1 cup

category A group of people or things sharing the same characteristics.



centimetre A unit for measuring the length of smaller items.

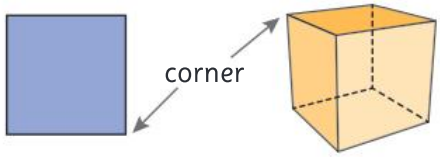
Example: Length is 15 cm.

circle A 2D shape with a continuous curved line that is always the same distance from the centre point.

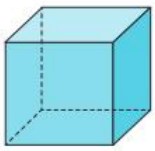
clockwise Moving in the same direction as the hands on a clock.

cone A 3D shape with a circular base that tapers to a point.

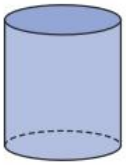
corner The point where two edges of a shape or object meet.



cube A rectangular prism where all 8 faces are squares of equal size.



cylinder A 3D shape with 2 parallel circular bases and one curved surface.

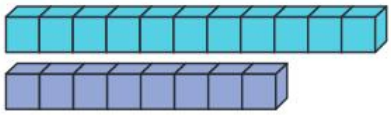


data Information gathered through methods such as questioning, surveys or observation.

day A period of time that lasts 24 hours.

difference (between) A form of subtraction or take away.

Example: The difference between 11 and 8 is 3.



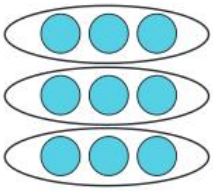
digit The single numerals from 0 to 9. They can be combined to make larger numbers.

Example: 24 is a 2-digit number.

378 is a 3-digit number.

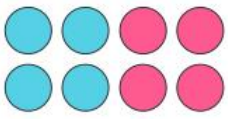
division/dividing Sharing into equal groups.

Example: 9 divided by 3 is 3



double/doubles Adding two identical numbers or multiplying a number by 2.

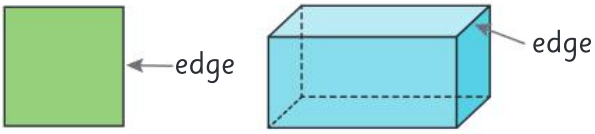
Example: 4 + 4 = 8 2 x 4 = 8



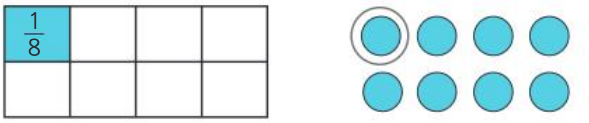
duration How long something lasts.

Example: The school week lasts for 5 days.

edge The side of a shape or the line where two faces of an object meet.



eighth One part of a whole or group divided into eight equal parts.



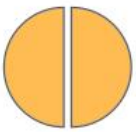
Eighth of a whole

Eighth of a group

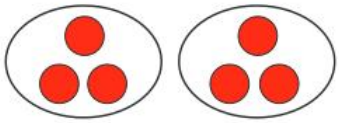
equal Having the same number or value.

Example:

Equal size

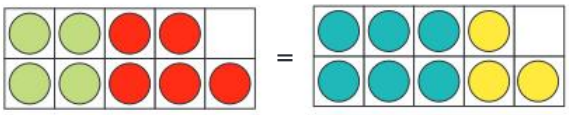


Equal numbers



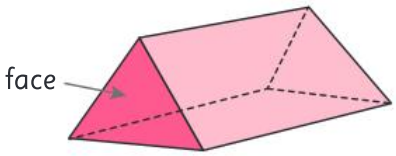
equation A written mathematical problem where both sides are equal.

Example: 4 + 5 = 6 + 3

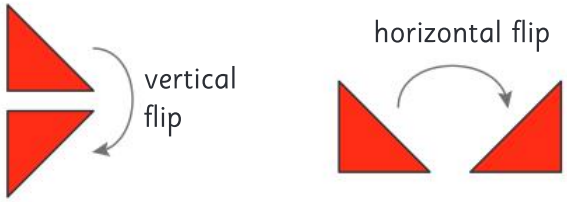


estimate A thinking guess.

face The flat surface of a 3D shape.



flip To turn a shape over horizontally or vertically. Also known as reflection.



fraction An equal part of a whole or group.

Example: One out of two parts or $\frac{1}{2}$ is shaded.

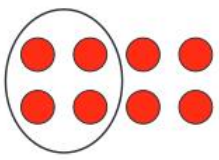
friendly numbers Numbers that are easier to add to or subtract from.

Example: 10, 20 or 100

half One part of a whole or group divided into two equal parts. Also used in time for 30 minutes.

Example:

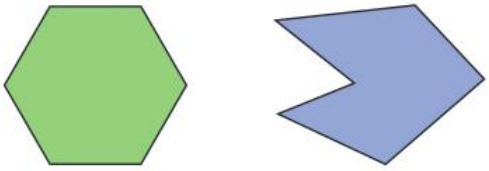
Half of a whole



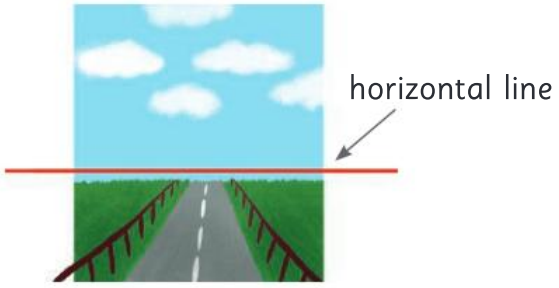
Half of a group

Half past 4

hexagon A 2D shape with 6 sides.

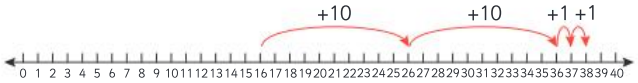


horizontal Parallel with the horizon or going straight across.



jump strategy A way to solve number problems that uses place value to "jump" along a number line by hundreds, tens and ones.

Example: 16 + 22 = 38

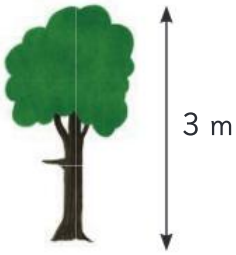


length How long an object is from end to end.

Example: This poster is 3 pens long.

mass How heavy an object is.

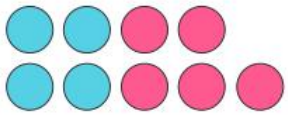
metre A unit for measuring the length of larger objects.



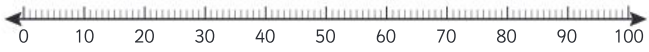
month The time it takes the moon to orbit the Earth. There are 12 months in a year.

near doubles A way to add two nearly identical numbers by using known doubles facts.

Example: 4 + 5 = 4 + 4 + 1 = 9



number line A line on which numbers can be placed to show their order in our number system or to help with calculations.



number sentence A way to record calculations using numbers and mathematical symbols.

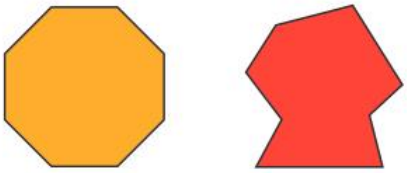
Example: 23 + 7 = 30

numeral A figure or symbol used to represent a number.

Example:

1 – one 2 – two 3 – three

octagon A 2D shape with 8 sides.



ordinal numbers Numbers that show the order or position of something in relation to others.

pair Two items that go together.

Example: Pairs that make 4

Pair of socks

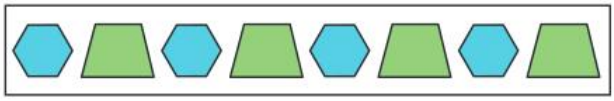
parallel lines Straight lines that are the same distance apart and so will never cross.

partitioning Dividing or separating an amount into parts.

Example: Some of the ways 10 can be partitioned are:

pattern A repeating design or sequence of numbers.

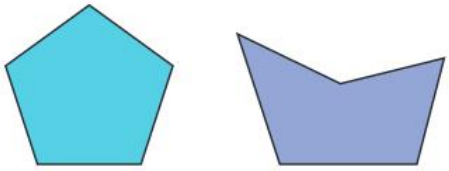
Example: Shape pattern



Number pattern

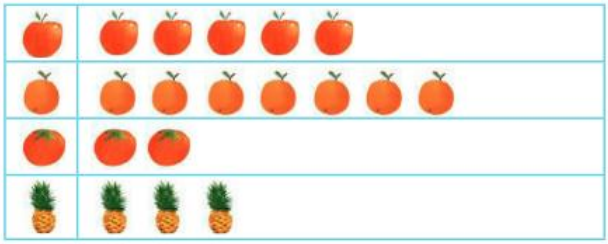
2, 4, 6, 8, 10, 12

pentagon A 2D shape with 5 sides.



pictograph A way of representing data using pictures to make it easy to understand.

Example: Favourite juices in our class



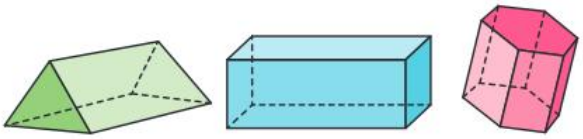
place value The value of a digit depending on its place in a number.

Hundreds	Tens	Ones
		8
	8	6
8	6	3

position Where something is in relation to other items.

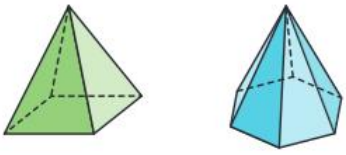
Example: The boy is under the tree that is next to the house.

prism A 3D shape with parallel bases of the same shape and rectangular side faces.



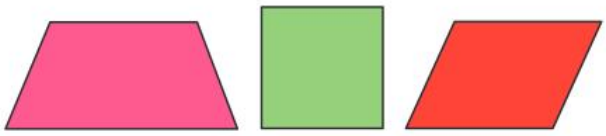
triangular prism | rectangular prism | hexagonal prism

pyramid A 3D shape with a 2D shape as a base and triangular faces meeting at a point.



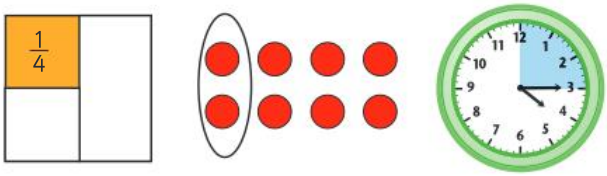
square pyramid | hexagonal pyramid

quadrilateral Any 2D shape with four sides.



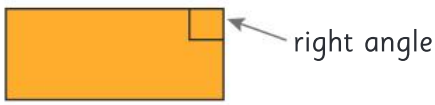
quarter One part of a whole or group divided into four equal parts. Also used in time for 15 minutes.

Example:

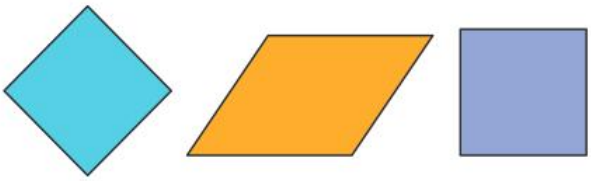


Quarter of a whole | Quarter of a group | Quarter past 4

rectangle A 2D shape with four sides and four right angles. The opposite sides are parallel and equal in length.



rhombus A 2D shape with four sides, all of the same length and opposite sides parallel.

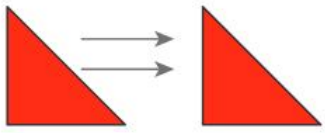


skip counting Counting forwards or backwards by the same number each time.

Example: Skip counting by 5s: 5, 10, 15, 20, 25, 30

Skip counting by 2s: 1, 3, 5, 7, 9, 11, 13

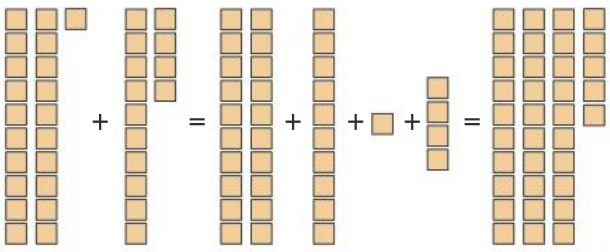
slide To move a shape to a new position without flipping or turning it. Also known as *translate*.



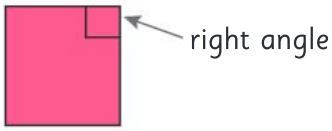
sphere A 3D shape that is perfectly round.

split strategy A way to solve number problems that involves splitting numbers up using place value to make them easier to work with.

Example: 21 + 14 = 35



square A 2D shape with four sides of equal length and four right angles.
A square is a type of rectangle.



strategy A way to solve a problem. In mathematics you can often use more than one strategy to get the right answer.

Example: 32 + 27 = 59

Jump strategy

Split strategy

30 + 2 + 20 + 7 = 30 + 20 + 2 + 7 = 59

subtraction The taking away of one number from another number. Also known as *subtracting*, *take away*, *difference between* and *minus*.

Example: 5 take away 2 is 3

survey A way of collecting data or information by asking questions.

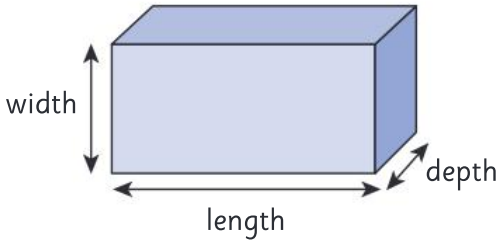
Strongly agree	☐
Agree	☑
Disagree	☐
Strongly disagree	☐

table A way to organise information that uses columns and rows.

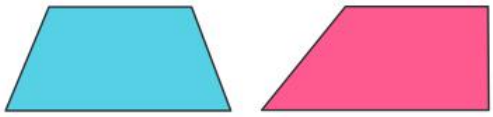
Flavour	Number of people
Chocolate	12
Vanilla	7
Strawberry	8

tally marks A way of keeping count that uses single lines with every fifth line crossed to make a group.

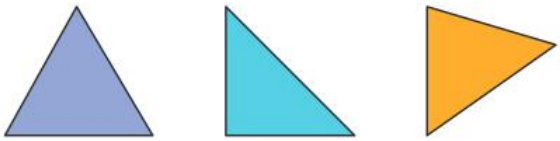
three-dimensional or 3D A shape that has three dimensions – length, width and depth. 3D shapes are not flat.



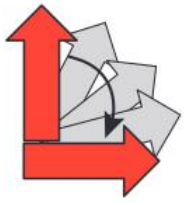
trapezium A 2D shape with four sides and only one set of parallel lines.



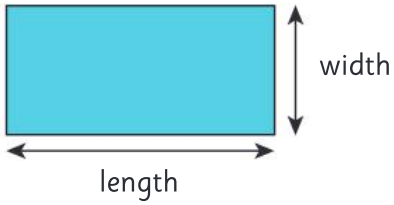
triangle A 2D shape with three sides.



turn Rotate around a point.

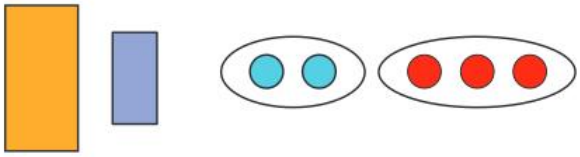


two-dimensional or 2D A flat shape that has two dimensions – length and width.



unequal Not having the same size or value.

Example:



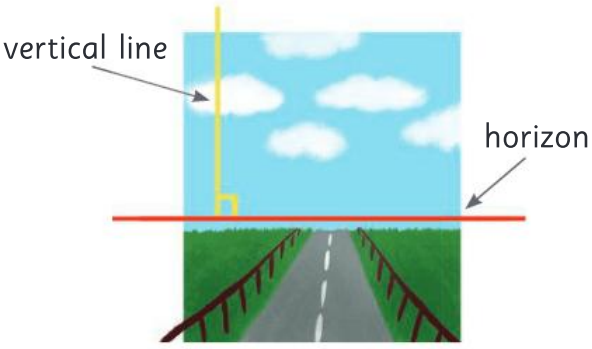
Unequal size Unequal numbers

value How much something is worth.

Example:

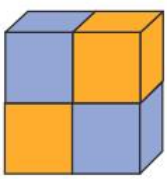
This coin is worth 5c. This coin is worth $1.

vertical At a right angle to the horizon or straight up and down.



volume How much space an object takes up.

Example: This object has a volume of 4 cubes.



week A period of time that lasts 7 days.

whole All of an item or group.

Example:

A whole shape A whole group

width How wide an object is from one side to the other.

Example: This poster is 2 pens wide.

year The time it takes the Earth to orbit the Sun, which is approximately 365 days.

ANSWERS

UNIT 1: Topic 1

Guided practice

1 a 10 b 24 c 100 d 135

2 a 263 b 425 c 617

Independent practice

1 3 hundreds, 5 tens, 4 ones

2 2 hundreds, 0 tens, 6 ones

3 4 hundreds, 2 tens, 3 ones

4 a 4 tens 8 hundreds

b 7 ones 3 hundreds

c 4 hundreds 1 ten 3 ones

d 0 tens 5 hundreds 8 ones

5 Teacher to check. Teacher: Look for answers that show students' ability to correctly interpret and represent hundreds, tens and ones with base 10 materials, an abacus or any other simplified means that doesn't involve drawing each separate one.

Extended practice

1 a 863 b 368 c 638

d 38, 36, 86, 83, 68, 63

2 Teacher to check. Teacher: Look for answers that show students' ability to manipulate their chosen digits to make the biggest and smallest 3-digit numbers possible.

3 a 11 b 141, 207, 297, 279

UNIT 1: Topic 2

Guided practice

1 a 8 + 9 = 8 + 8 + 1 = 16 + 1 = 17

b 10 + 13 = 10 + 10 + 3 = 20 + 3 = 23

c 15 + 17 = 15 + 15 + 2 = 30 + 2 = 32

d 12 + 13 = 12 + 12 + 1 = 24 + 1 = 25

e 14 + 15 = 14 + 14 + 1 = 28 + 1 = 29

Independent practice

1 a 7 + 7 = 14 b 11 + 11 = 22

c 16 + 16 = 32 d 20 + 20 = 40

e 25 + 25 = 50 f 50 + 50 = 100

2 a 7 + 9 = 7 + 7 + 2 = 14 + 2 = 16

b 11 + 13 = 11 + 11 + 2 = 22 + 2 = 24

c 16 + 17 = 16 + 16 + 1 = 32 + 1 = 33

d 20 + 23 = 20 + 20 + 3 = 40 + 3 = 43

e 25 + 27 = 25 + 25 + 2 = 50 + 2 = 52

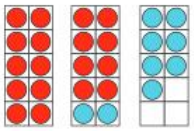
Guided practice

1 a 17 + 6 = 17 + 3 + 3
= 20 + 3
= 23

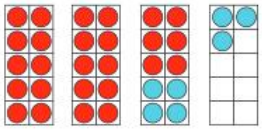
b 29 + 8 = 29 + 1 + 7
= 30 + 7
= 37

c 38 + 5 = 38 + 2 + 3
= 40 + 3
= 43

Independent practice

1 a 

18 + 9 = 18 + 2 + 7
= 20 + 7
= 27

b 

26 + 7 = 26 + 4 + 3
= 30 + 3
= 33

2 a 25 + 8 = 25 + 5 + 3
= 30 + 3
= 33

b 37 + 6 = 37 + 3 + 3
= 40 + 3
= 43

Extended practice

1 a 42 b 53 c 63 d 82

e 101 f 112

2 a 37 b 44 c 52 d 66

e 72 f 85

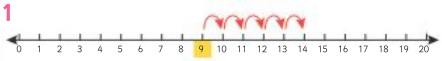
3 a 46 Getting to a 10

b 81 Near doubles

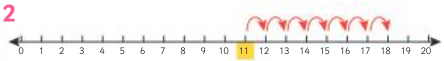
c 202 Near doubles

UNIT 1: Topic 3

Guided practice

1 

9 + 5 = 14

2 

11 + 7 = 18

3 

6 + 18 = 24

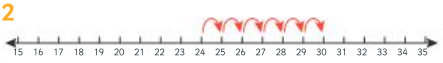
4 

23 + 5 = 28

Independent practice

1 

19 + 8 = 27

2 

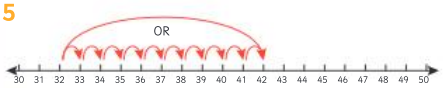
24 + 6 = 30

3 

7 + 14 = 21

4 

5 + 21 = 26

5 

32 + 10 = 42

Extended practice

1 Teacher to check. Teacher: Look for answers that show students' ability to accurately space their numbers and correctly represent the addition sum.

a 14 + 5 = 19 b 21 + 6 = 27

c 32 + 7 = 39

2 Teacher to check. Teacher: Look for answers that show students' ability to understand that they can partition numbers into 10s to add more easily or who use skip counting in their jumps rather than making steps of 1.

a 23 + 12 = 35 b 35 + 24 = 59

Guided practice

1 5 + 4 = 4 + 5 = 9

2 7 + 2 + 4 = 7 + 4 + 2 = 13

3 4 + 6 + 5 = 4 + 5 + 6 OR 6 + 5 + 4 = 15

Independent practice

1 Teacher to check. Teacher: Look for answers that show students' ability to correctly represent each part of the equation and who can move the numbers around to make new equations.

a Possible combinations: 7 + 1 + 5, 5 + 1 + 7, 5 + 7 + 1, 1 + 5 + 7, 1 + 7 + 5 = 13

b Possible combinations: 2 + 4 + 9, 4 + 9 + 2, 4 + 2 + 9, 9 + 4 + 2, 9 + 2 + 4 = 15

c Possible combinations: 8 + 7 + 1, 7 + 8 + 1, 7 + 1 + 8, 1 + 8 + 7, 1 + 7 + 8 = 16

2 a Possible combinations: 5 + 3 + 6, 6 + 5 + 3, 6 + 3 + 5, 3 + 5 + 6, 3 + 6 + 5 = 14

b Possible combinations: 4 + 5 + 7, 5 + 7 + 4, 5 + 4 + 7, 7 + 4 + 5, 7 + 5 + 4 = 16

c Possible combinations: 1 + 4 + 9, 4 + 9 + 1, 4 + 1 + 9, 9 + 4 + 1, 9 + 1 + 4 = 14

d Possible combinations: 7 + 9 + 8, 9 + 8 + 7, 9 + 7 + 8, 8 + 9 + 7, 8 + 7 + 9 = 24

Extended practice

1 a 8 + 5 + 7 = 5 + 8 + 7 = 20

b 6 + 9 + 4 = 4 + 9 + 6 = 19

c 8 + 3 + 4 = 4 + 3 + 8 OR 4 + 8 + 3 = 15

d 22 = 9 + 7 + 6 = 6 + 7 + 9

e 19 = 8 + 4 + 7 = 7 + 8 + 4

2 Teacher to check. Teacher: Look for answers that show students' ability to make three different combinations that add up to the correct total.

UNIT 1: Topic 4

Guided practice

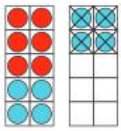
Subtract by getting to a 10

1 a 13 – 4 = 13 – 3 – 1
= 10 – 1
= 9

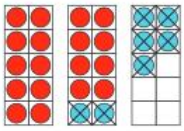
b 21 – 5 = 21 – 1 – 4
= 20 – 4
= 16

c 32 – 5 = 32 – 2 – 3
= 30 – 3
= 27

Independent practice

1 a 

14 – 8 = 14 – 4 – 4
= 10 – 4
= 6

b 

25 – 7 = 25 – 5 – 2
= 20 – 2
= 18

2 a 35 – 8 = 35 – 5 – 3
= 30 – 3
= 27

b 34 – 7 = 34 – 4 – 3
= 30 – 3
= 27

Guided practice

1 a Count up from 5 to 10
5 + 5 = 10

Count up from 10 to 13
10 + 3 = 13

The difference between 13 and 5 is 5 + 3 OR 8.
So 13 – 5 = 8

b Count up from 19 to 20
19 + 1 = 20

Count up from 20 to 24
20 + 4 = 24

The difference between 19 and 24 is 1 + 4 OR 5.
So 24 – 19 = 5

Independent practice

1 a 14 – 8
Count up from 8 to 10
8 + 2 = 10

Count up from 10 to 14
10 + 4 = 14

The difference between 14 and 8 is 2 + 4 OR 6.
So 14 – 8 = 6

b 23 – 17
17 + 3 = 20
20 + 3 = 23
So 23 – 17 = 6

2 a 16 – 9 = 7

b 25 – 19 = 6

Extended practice

1 a 12 – 4 = 8 b 15 – 8 = 7
c 21 – 9 = 12 d 32 – 6 = 26
e 46 – 7 = 39 f 53 – 5 = 48

2 a 18 – 7 = 11 b 22 – 15 = 7
c 35 – 23 = 12 d 38 – 27 = 11
e 43 – 36 = 7 f 48 – 29 = 19

3 a 28 – 16 = 12 Counting up
b 34 – 8 = 26 Getting to a 10
c 41 – 34 = 7 Counting up

UNIT 1: Topic 5

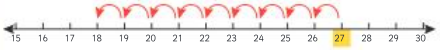
Guided practice

1 14 – 6 = 8

2 18 – 7 = 11

3 23 – 8 = 15

4 27 – 9 = 18

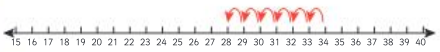


Independent practice

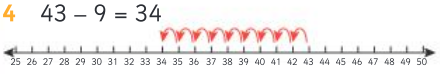
1 28 – 7 = 21

2 25 – 8 = 17

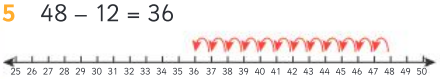
3 34 – 6 = 28



4 43 – 9 = 34



5 48 – 12 = 36



Extended practice

1 Teachers to check number lines. Teachers: Look for answers that show students' ability to accurately space their numbers and correctly represent

the subtraction sum. Students may also use skip counting or partitioning to show the steps taken to get the answer.

a 19 – 4 = 15 **b** 28 – 8 = 20
c 33 – 7 = 26 **d** 36 – 14 = 22

2 **a** 37 – 4 – 5 = 28

b 41 – 7 – 6 = 28

Guided practice

1 **a** 16 – 10 = 6 16 – 6 = 10
b (answers can be in any order)
19 – 4 = 15 19 – 15 = 4
c 20 – 9 = 11 20 – 11 = 9
d (answers can be in any order)
23 – 7 = 16 23 – 16 = 7

Independent practice

1 **a** 13 + 5 = 18 18 – 5 = 13
5 + 13 = 18 18 – 13 = 5
b 16 + 8 = 24 24 – 8 = 16
8 + 16 = 24 24 – 16 = 8
c 25 + 7 = 32 32 – 7 = 25
7 + 25 = 32 32 – 25 = 7

2 **a** 14 – 8 = 6 OR 14 – 6 = 8
b 26 – 16 = 10 OR 26 – 10 = 16
c 25 – 12 = 13 OR 25 – 13 = 12
d 38 – 11 = 27 OR 38 – 27 = 11

Extended practice

1 **a** 11 + 7 = 18 18 – 7 = 11
7 + 11 = 18 18 – 11 = 7
b 15 + 19 = 34 34 – 15 = 19
19 + 15 = 34 34 – 19 = 15

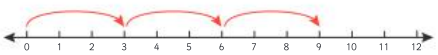
2 Teacher to check. Teacher: Look for answers that show students' ability to correctly represent the equation on the number line using single steps, skip counting or partitioning.

a 24 – 5 = 19 19 + 5 = 24
b 35 – 12 = 23 23 + 12 = 35
OR 12 + 23 = 35

UNIT 1: Topic 6

Guided practice

1 3 + 3 + 3 = 3 × 3 = 9



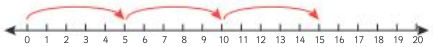
2 5 + 5 + 5 + 5 + 5 = 5 × 5 = 25

3 3 + 3 + 3 + 3 + 3 = 15
5 threes are 15
5 × 3 = 15

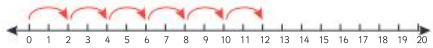
4 5 + 5 + 5 + 5 + 5 + 5 = 30
6 fives are 30
6 × 5 = 30

Independent practice

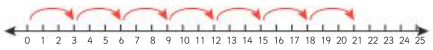
1 2 × 10 = 20
2 8 × 2 = 16
3 5 × 4 = 20
4 3 × 5 = 15



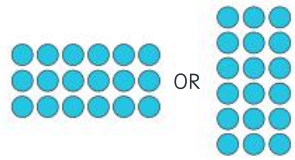
5 6 × 2 = 12



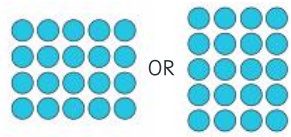
6 7 × 3 = 21



7 4 × 3 = 12 or 3 × 4 = 12
8 4 × 4 = 16
9 10 × 3 = 30 or 3 × 10 = 30
10 3 × 6 = 18



11 4 × 5 = 20



Extended practice

1 14: No 18: Yes 20: No
23: No 21: Yes 30: Yes

2 20
Teacher to check. Teacher: Look for answers that show ability to use repeated addition or multiplication knowledge to work out the correct answer.

3 Teacher to check. Teacher: Look for answers that show ability to understand that arrays have the same number of items in each row and in each column, and check that arrays match equations.

UNIT 1: Topic 7

Guided practice

1 **a** 12 divided by 4 is 3 12 ÷ 4 = 3
b 15 divided by 3 is 5 15 ÷ 3 = 5

2 **a** Unequal **b** Equal

Independent practice

1 **a**

9 – 3 = 6 6 – 3 = 3 3 – 3 = 0
9 divided by 3 = 3 9 ÷ 3 = 3

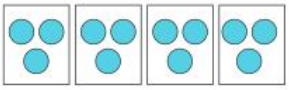
b

12 – 2 = 10 10 – 2 = 8 8 – 2 = 6
6 – 2 = 4 4 – 2 = 2 2 – 2 = 0
12 divided by 6 = 2 12 ÷ 6 = 2

c

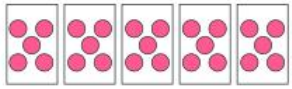
10 – 5 = 5 5 – 5 = 0
10 divided by 2 = 5 10 ÷ 2 = 5

2 **a**



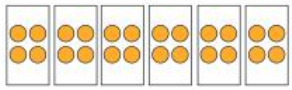
12 ÷ 4 = 3

b



25 ÷ 5 = 5

c



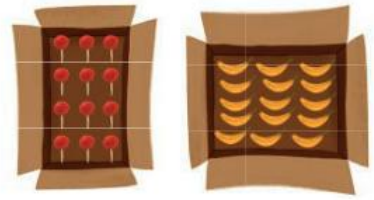
24 ÷ 6 = 4

3 **a** 9 ÷ 3 = 3
b 20 ÷ 4 = 5

Extended practice

1 Teacher to check. Teacher: Look for answers that show students' ability to match their diagrams to the equations successfully.
The possibilities are 16 ÷ 1 = 16, 16 ÷ 2 = 8, 16 ÷ 4 = 4, 16 ÷ 8 = 2 or 16 ÷ 16 = 1.

2 How many rows of students in a class of:
12? 3 20? 5 28? 7

3 

UNIT 1: Topic 8

Guided practice

1 a 8 + 5 = 13 or 5 + 8 = 13
b 7 + 6 = 13 or 6 + 7 = 13

2 a 15 – 7 = 8
b 18 – 9 = 9

3 a 7 + 6 = 13
b 8 + 5 = 13
c 15 – 7 = 8
d 5 + 8 = 13
e 18 – 9 = 9
f 15 – 8 = 7

Independent practice

1 7 + 7 + 1= 14 + 1 = 15

2 a 9 + 1 + 5 = 10 + 5 = 15
b 17 – 7 – 1 = 10 – 1 = 9

3 & 4 Teachers may wish to photocopy the tables and have students fill in the addition and subtraction facts that they know first, followed by practice sessions. This will hopefully lead to complete retention of all the necessary addition and subtraction facts.

5 Look for students who use estimation strategies to find the most likely answers.
a 96
b 42
c 74
d 38

6 Answers may vary. Students could share their ideas with each other. Likely responses are:
a Jasmin added instead of subtracting. Correct answer: 8.
b Jasmin should have used a strategy of doubling plus 1. Correct answer: 29.
c Jasmin took away a 10 as well as 8. Correct answer: 37.

Extended practice

1 a Tilly
b Look for students who use estimation strategies to explain why Tilly has more (almost 100 compared to Billy's 80).

2 Answers will vary.

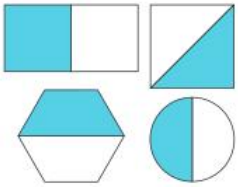
3 a 360
b 663 = egg
c 338 = bee
d Answers will vary. Possible responses include:
638 = beg, 818 = bib, 618 = big, 808 = bob, 608 = bog, 733 = eel, 336 = gee, 771 = ill, 805 = sob.

UNIT 2: Topic 1

Guided practice

1 The whole pizza and the whole apple should have a square drawn around them.

2 The pizza slice and the half apple should have a circle drawn around them.

3 

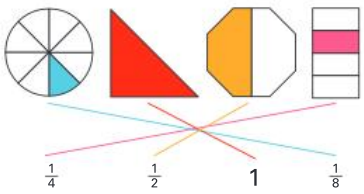
Independent practice

1 a $\frac{1}{4}$ b $\frac{1}{2}$ c $\frac{1}{8}$ d $\frac{1}{4}$

2 a $\frac{1}{8}$ b $\frac{1}{2}$ c $\frac{1}{4}$

3 $\frac{1}{2}$ 4 $\frac{1}{8}$

5 a $\frac{1}{2}$ There are 2 pieces.
b $\frac{1}{4}$ There are 4 pieces.
c $\frac{1}{8}$ There are 8 pieces.

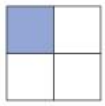
6 

7 a c b a c d

Extended practice

1 The following figures should be circled: c and e

2 a–c Teacher to check: some combination of the following:


3 Teacher to check. Look for answers that show students' ability to equally divide the shapes and correctly identify the fraction required. Students may draw lines on the shapes to help them find the required fractions. Sample answers:
a 
b 
c 

UNIT 2: Topic 2

Guided practice

1 a 4 items should be coloured in.
b 5 items should be coloured in.

2 a 1 item should be coloured in.
b 3 items should be coloured in.

3 a 1 item should be coloured in.
b 2 items should be coloured in.

Independent practice

1 a $\frac{1}{4}$ b $\frac{1}{2}$ c $\frac{1}{8}$ d $\frac{1}{2}$

2 a $\frac{1}{8}$ b $\frac{1}{2}$ c $\frac{1}{4}$

3 a 2 items should be circled.
$\frac{1}{2}$ of 4 is 2.
b 2 items should be circled.
$\frac{1}{4}$ of 8 is 2.
c 2 items should be circled.
$\frac{1}{8}$ of 16 is 2.
d 3 items should be circled.
$\frac{1}{4}$ of 12 is 3.

4 a 12 items should be coloured red.
b 6 items should be coloured blue.
c 3 items should be coloured green.

Extended practice

1 a $\frac{1}{2}$ of 20 b $\frac{1}{8}$ of 24 c $\frac{1}{2}$ of 16

2 a $\frac{1}{4}$ b $\frac{1}{2}$ c $\frac{1}{8}$

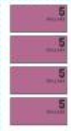
UNIT 3: Topic 1

Guided practice

1

How many of these ...	... do you need to make this?	Draw the answer	Write the answer
			5c + 5c = 10c
			50c + 50c + 50c + 50c = $2 OR 4 × 50c = $2
			20c + 20c + 20c + 20c + 20c = $1 OR 5 x 20c = $1

2

How many of these ...	... do you need to make this?	Draw the answer	Write the answer
			$10 + $10 + $10 + $10 + $10 = $50 OR 5 x $10 = $50
			$50 + $50 = $100 OR 2 x $50 = $100
			$5 + $5 + $5 + $5 = $20 OR 4 x $5 = $20

Independent practice

1 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to circle coins that correctly make the designated total and demonstrate that they have a strong grasp of counting with money.

2 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to circle notes that correctly make the designated total and demonstrate that they have a strong grasp of counting with money.

3 **a** $2.70 or two dollars and seventy cents

b $105 or one hundred and five dollars

c $21.65 or twenty-one dollars and sixty-five cents

d $35 or thirty-five dollars

4 **a** $55 **b** $20

c $30.45 **d** $23.40

Order from smallest to largest: b, d, c, a

Extended practice

1 Teacher to check. Teacher: Look for answers that show students' ability to accurately make the given total each time and to use different combinations of numbers.

2 **a** Possible answers are:
20c; 10c and 10c; 10c, 5c and 5c; 5c, 5c, 5c and 5c

b Possible answers are:
20c and 5c; 5c, 5c, 5c, 5c and 5c; 10c, 10c and 5c; 10c, 5c, 5c and 5c

UNIT 3: Topic 2

Guided practice

1 50c **2** 30c **3** 35c

4 70c **5** $1.50 **6** 70c

Independent practice

1 Students may draw, write or use equations to show their answers.

a 8 × 5c coins

b 4 × 10c coins

c 2 × 20c coins

2 Students may draw, write or use equations to show their answers.

a 10 × $10 notes

b 5 × $20 notes

c 2 × $50 notes

3 Teacher to check. Teacher: Look for answers that show students' ability to group coins of the same denomination and use skip counting to find the total, or to group coins in easier-to-count groupings, such as $1.

a 50c **b** $1.20 **c** $12

Extended practice

1 **a** $2, $1 and 50c
Number of coins: 3

b 3 × $2, 50c, 20c, 10c and 5c
Number of coins: 7

2 **a** $55

b **i** $35 **ii** $10 **iii** $23

3 **a** $75.95

b **i** $55.95 **ii** $30.95 **iii** $43.95

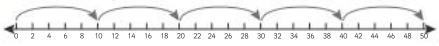
UNIT 4: Topic 1

Guided practice

1 **a** 0, 2, 4, 6, 8 OR 2, 4, 6, 8, 0

b 0, 3, 6, 9, 2, 5, 8, 1, 4, 7 OR 3, 6, 9, 2, 5, 8, 1, 4, 7, 0

c 0



Independent practice

1 **a** and **c**

4	8	12	16	20	24	28	32	36	40

b 4

2 **a** and **c**

80	75	70	65	60	55	50	45	40	35

b 5

3 **a**

10	20	30	40	50	60	70	80	90	100

b

50	48	46	44	42	40	38	36	34	32

c

4	9	14	19	24	29	34	39	44	49

d

30	27	24	21	18	15	12	9	6	3

4 Teacher to check. Look for students who have followed the numbers in the correct sequence.

5 **a**, **b** and **c**

0	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	

6 10s

7 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

8 30, 60, 90

Extended practice

1 **a** and **c**

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

b 3, 8, 3, 8

d 2, 5, 8, 1, 4, 7, 0 3, 6, 9

2 **a** 5s **b** 2s **c** 10s

3 **a** 7, 17, 27, 37, 47, 57, 67 OR 67, 57, 47, 37, 27, 17, 7

b 10s

UNIT 4: Topic 2

Guided practice

1 **a** 3 + 4 = 7 **b** 8 – 3 = 5

c 9 + 5 = 14

Independent practice

1 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to accurately depict the number sentence in a drawing, using the correct number of items and identifying the operation required.

Number sentences

a 15 – 6 = 9

b 9 – 4 = 5 OR 4 + 5 = 9

c 13 – 7 = 6

d 10 + 6 = 16

2 Teacher to check. Teacher: Look for answers that show students' ability to correctly identify the operation required and to think of situations that logically demonstrate the operations. Also check for appropriate language to match addition and subtraction.

3 **a** addition **b** addition

c subtraction

Extended practice

1 **a** Teacher to check. Teacher: Look for answers that show students' ability to interpret the picture as subtraction and write an appropriate story.

10 – 2 = 8

b Teacher to check. Teacher: Look for answers that show students' ability to accurately interpret the picture mathematically – for example, by adding the girls and the boys or the students with and without hats – and to choose the correct operation based on their interpretation.

c Teacher to check. Teacher: Look for answers that show students' ability to interpret the picture as addition and to write an appropriate story with three addends.

4 + 6 + 7 = 17

UNIT 5: Topic 1

Guided practice

1 **a** Teacher to check: approx. 2 hand spans

b Teacher to check: approx. 8 hand spans

c Teacher to check: approx. 12 hand spans

2 **a** 12 sticky notes

b Students' own answer – approx. 120 sticky notes

c Teacher to check. Teacher: Look for answers that show students' ability to accurately measure the area of their chosen item without leaving spaces or overlapping the sticky notes.

Independent practice

1 Teacher to check. Teacher: Look for answers that show students' ability to choose appropriate uniform units of length. Also check that students are matching one end of their measurement unit with the next without any gaps to ensure accurate measurement and that they line up their measuring tool with the edge of the item being measured.

2 Teacher to check. Teacher: Look for answers that show students' ability to choose an appropriate smaller uniform unit to measure the length of the items and to accurately measure using their chosen unit.

3 match, car, eraser, pencil

4 Teacher to check. Teacher: Look for answers that show students' ability to choose appropriate uniform units of area that will completely cover surfaces without gaps. Also check that students are not overlapping the units when they are measuring area.

5 **a** 9 squares **b** 6 squares

c 7 squares **d** 10 squares

e 7 squares

6 Figure with area of 10 squares is the largest and should be circled.

Extended practice

1 Teacher to check. Teacher: Look for answers that show students' ability to understand the difference between length and area and to choose appropriate units to measure both. Also check the accuracy of students' measurements.

2 The vertical rectangle should be circled.

3 The vertical rectangle should have a tick on it.

4 The third rectangle should have a star on it.

UNIT 5: Topic 2

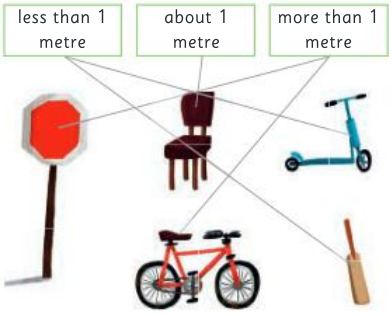
Guided practice

1 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to correctly use a ruler starting at 0 and to record reasonable measurements in metres for the given items.

Independent practice

1 Teacher to check. Teacher: Look for answers that show students' ability to make a reasonable estimate of lengths in comparison to a metre, and to then accurately measure their chosen items to check their answers.

2



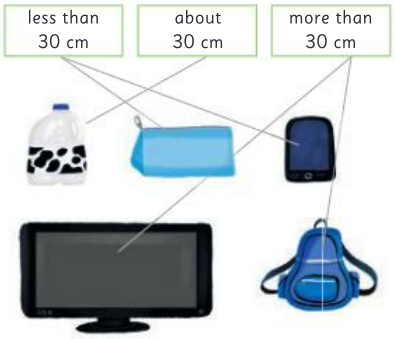
Guided practice

1 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to correctly use a ruler starting at 0 and to record reasonable measurements in centimetres for the given items.

Independent practice

1 Teacher to check. Teacher: Look for answers that show students' ability to make a reasonable estimate of lengths in comparison to 30 centimetres, and then accurately measure their chosen items to check their answers.

2



Extended practice

1 **a** m **b** cm **c** m
d m **e** cm **f** cm

2 swimming pool

3 glass

4 about 2 metres

5 about 20 centimetres

UNIT 5: Topic 3

Guided practice

1 **a** 6 blocks **b** 8 blocks

2 **a** more than 2 coffee cups
b less than 2 coffee cups

Independent practice

1 **a** B, E, A, C, D
b A, C and D
c A, B and E

2 **a** C **b** E
c B and C **d** A, D and E

3 **a** First and third objects should be circled.
b Second and third objects should be circled.

4 **a** 1, 2, 3 **b** 3, 1, 2

Extended practice

1 **a** and **b** Teacher to check. Teacher: Look for answers that show students' ability to make reasonable estimates of capacity and to accurately measure and record the capacity of their chosen containers.

2 **a** and **b** Teacher to check. Teacher: Look for answers that show students' ability to correctly model an object with a volume of 8 blocks. Accuracy of drawing is difficult, so ensure students are able to explain their drawings to you.

3 **a** volume **b** capacity

UNIT 5: Topic 4

Guided practice

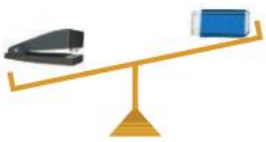
1 The following objects should be circled:
a birthday cake **b** shoes
c bottle

2 The following objects should be circled:
a mouse **b** car **c** pencil

Independent practice

1 B, C, A, E, D

2 **a**



b

c

d

3 **a–c** Teacher to check. Teacher: Look for answers that show students' ability to accurately estimate the relative mass of the items in their pairs and use a balance scale correctly to check their answers.

4 **a–c** Teacher to check. Teacher: Look for answers that show students' ability to make reasonable guesses to identify items with similar, greater and lesser masses than their counters, and to use informal uniform units accurately to check their answers.

Extended practice

1 **a** the book
b the shoes and the football
c the apple
d the book

2 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to accurately use uniform informal units to find the mass of each item, and to correctly use a balance scale.

UNIT 5: Topic 5

Guided practice

1 **a** 12 **b** 9 **c** 3 **d** 6

2 **a** 9 o'clock **b** half past 4

c quarter past 6 **d** quarter to 11

Independent practice

1 **a**

b

c

d

e

f

2 a  b 

c  d 

e  f 

3 a  b 

c  d 

e  f 

4 a half past 4 b quarter to 6
c 11 o'clock d quarter past 9
e half past 12 f quarter past 6

Extended practice

1 a half past 8 b 8 o'clock
c quarter to 8 d half past 9

2 a 
2:15
quarter past 2
OR two fifteen

b 
3 : 00
3 o'clock

c 
3:45
quarter to 4

d 
12:00
12 o'clock

e 
7:15
quarter past 7
or seven fifteen

f 
10:00
10 o'clock

UNIT 5: Topic 6

Guided practice

1 a Gina
b Alex
c Sam

2 a 2 minutes
b 3 minutes

3 a 120 minutes
b 30 minutes

Independent practice

1 a 48 hours
b 14 hours

2 a 2 weeks
b 28 days
c 3 weeks
d 70 days

3 a 8 weeks
b 4 weeks and 3 days

4 a 4 years
b 36 months
c 2 years

5 Students could use this as a group activity and be asked to justify other responses. The most likely answers are below.
a Seconds: Writing your name
b Minutes: Eating a sandwich
c Hours: Sleeping at night
d Days: Reading a chapter book
e Weeks: The school summer holidays
f Months: A football season
g Years: Becoming a top athlete

6 Practical activity. Teacher to check. Look for students who choose an activity that takes the appropriate amount of time.

Extended practice

1 a 10 seconds
b 20 seconds
c 30 seconds
d 50 seconds

2 Practical activity. Students could share their strategies to get better at estimating in seconds.

3 Practical activity.

UNIT 5: Topic 7

Guided practice

1 a 12
b 4
c 3

Independent practice

1

Month	Seasons in the southern hemisphere	Seasons in the northern hemisphere
January	summer	winter
February	summer	winter
March	autumn	spring
April	autumn	spring
May	autumn	spring
June	winter	summer
July	winter	summer
August	winter	summer
September	spring	autumn
October	spring	autumn
November	spring	autumn
December	summer	winter

2 a–c Teacher to check. Teacher: Look for answers that show students' ability to accurately sequence months and to match the months to the correct seasons.

Extended practice

1 a autumn
b late summer and early spring
c 3
d

Aboriginal season	Summer, winter, autumn or spring?
High summer	spring, summer
Late summer	summer, autumn
Early winter	autumn
Deep winter	autumn, winter
Early spring	winter
True spring	spring

UNIT 5: Topic 8

Guided practice

1 a Tuesday b 6th February
c Monday
2 a 4 b 5
c Wednesday d Saturday 30th

Independent practice

1 a

Month	Days
January	31
February	28
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

b April, July, September and December
c February, March, November
2 a Saturday 18th May
b Wednesday 22nd May
c Wednesday, Thursday and Friday
d Tuesday 14th May
e 6
f June
g April

Extended practice

1 a–d Teacher to check. Teacher: Look for answers that show students' ability to correctly identify and write the current month and to accurately label the dates. Also check that students can use the information they have provided to correctly identify the first day of the month and the number of days in the month.
2 a No
b April, June, September or November
c 3
d 17th

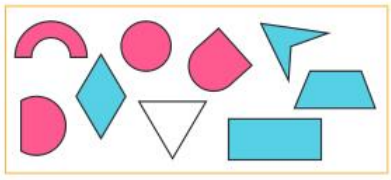
UNIT 6: Topic 1

Guided practice

1 a 6 corners b 6 sides
2 a 5 corners b 5 sides
3 a 8 corners b 8 sides

Independent practice

1 a and b



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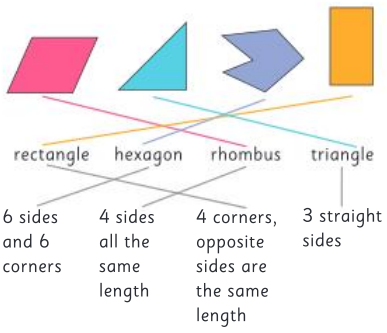


3 Teacher to check. Teacher: Look for answers that show students' ability to use the descriptions to accurately draw a shape that matches the criteria.

Extended practice

1 Note that many shapes have a number of possible classifications.
a kite, quadrilateral
b square, quadrilateral, rhombus, parallelogram, rectangle
c pentagon
d parallelogram, quadrilateral
e circle
f octagon
2

4 corners?	5 corners?	8 corners?	No corners?
kite (or alternative name)	pentagon	octagon	circle
square (or alternative name)			
parallel-ogram (or alternative name)			

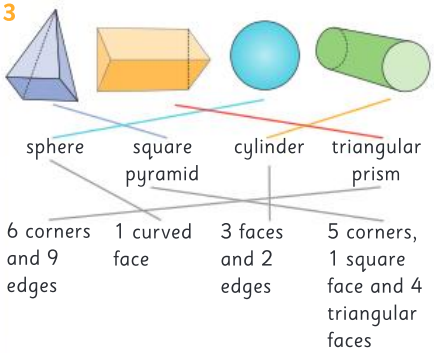
UNIT 6: Topic 2

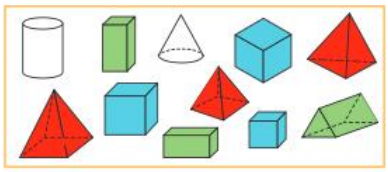
Guided practice

1 a 6 faces b 12 edges
c 8 corners
2 a 3 faces b 2 edges
c 0 corners
3 a 4 faces b 6 edges
c 4 corners

Independent practice

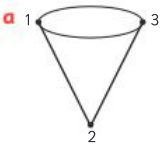
1 a 2 triangles 3 rectangles
b 2 circles 1 rectangle
c 1 square 4 triangles
d 6 squares 0 circles
2 a A, E b E
c B, C, D d C, D e C
3



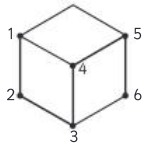
4 

Extended practice

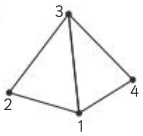
1 and 2

a 

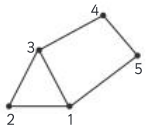
cone

b 

cube

c 

triangular pyramid

d 

triangular prism

3 a rectangular prism

b cylinder

Teacher to check drawings. Teacher: Look for answers that show students' ability to accurately represent the given shapes with the correct shapes in the faces that are visible.

UNIT 7: Topic 1

Guided practice

1 a the tree b the dog

c below the tree OR on the picnic blanket, or similar

d the bin e the cat

Independent practice

1 a–d Teacher to check. Teacher: Look for answers that show students have a strong grasp of the vocabulary of location and are able to accurately identify where each item is in relation to other items in the room.

2 Item placement is approximately as follows:

3 a–d Teacher to check. Teacher: Look for answers that show students' ability to accurately use terms such as "next to", "to the left of", "between" and "opposite".

4 a Either the toy shop, book shop, toilets and play area OR the food court, muffin shop, jewellery store and hairdresser depending on route chosen.

b left

Extended practice

1 a the emu b the koala

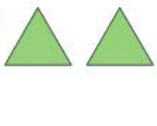
2 Teacher to check. Teacher: Look for answers that show students' ability to use locational language to accurately describe the route and directions that can be followed.

UNIT 7: Topic 2

Guided practice

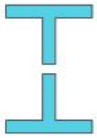
1 a slide b flip c flip d slide

Independent practice

1 a 

b 

c 

d 

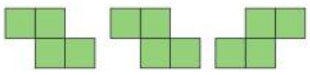
e 

f 

2 a slide b either c flip

d slide e either f flip

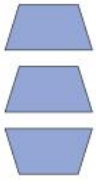
Extended practice

1 a 

b 

c 

d 

e 

UNIT 7: Topic 3

Guided practice

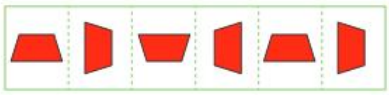
1 a half turn b quarter turn

c quarter turn d quarter turn

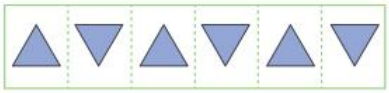
e half turn f quarter turn

Independent practice

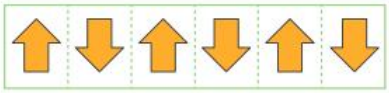
1 a quarter turn



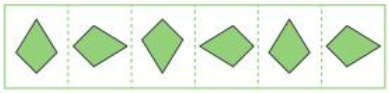
b half turn



c half turn



d quarter turn



2 a 

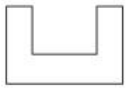
b 

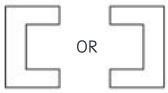
c 

d 

3 a half turn quarter turn

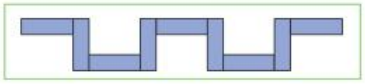
b half turn quarter turn





Extended practice

1 a quarter turn

b 

2 a half turn, then quarter turn to the right

b 

3 a The third and fifth shapes should be circled.

b The first and second shapes should be circled.

UNIT 8: Topic 1

Guided practice

1

Ice-cream flavours	Number of students (ticks)	Total (number)
Vanilla	✓✓✓✓✓✓✓✓ ✓✓✓✓✓✓✓✓	16
Chocolate	✓✓✓✓✓✓✓✓ ✓✓✓✓✓✓✓ ✓✓✓	18
Mint	✓✓✓✓✓✓✓✓ ✓✓✓✓	12
Strawberry	✓✓✓✓✓✓✓✓	8

2 Teacher to check. Teacher: Look for answers that show students' ability to ask an open-ended question that will get the responses listed in the table, for example, "What is your favourite ice-cream flavour?"

Independent practice

1

Do you have a brother?	
Yes	No
10	8

2a

What pet do you have?	
Cat	6
Dog	10
Reptile	2
Other	5
None	3

b 26

3 Teacher to check. Teacher: Look for answers that show students' ability to accurately record 12 answers using either the tick method or by writing down students' names.

4 Teacher to check. Teacher: Look for answers that show students' ability to accurately record 12 answers using an appropriate method.

5 Teacher to check. Look for answers that show students' ability to ask an open-ended question that will get the responses listed in the table – for example, "What is your favourite sport?"

6 a–b Teacher to check. Answers will vary depending on student data. Teacher: Look for answers that show students are able to interpret their data accurately to find the most and least popular sport.

Extended practice

1 Teacher to check. Teacher: Look for answers that show students' ability to choose an appropriate question that can only have "yes" or "no" as the answer.

2 Teacher to check. Teacher: Look for accurate recording of both the question and the results in the table.

3 Teacher to check. Teacher: Look for recording strategies such as ticks or tally marks. Ensure the results match the results that students recorded in question 2.

UNIT 8: Topic 2

Guided practice

1

	Milk	Water	Orange juice	Soft drink
Total	3	8	15	17

2

	Red	Blue	Green
	𝍸 𝍸 ||	𝍸 𝍸 |	𝍸 |||
Total	12	11	8

Independent practice

1 a Teacher to check. Teacher: Look for answers that show students' ability to choose appropriate categories, such as shape or colour, and who can identify variables that match – for example, circles and rectangles for shape and blue and green for colour.

b Teacher to check. Teacher: Look for answers that show students' ability to make an accurate tally and to use tally mark groupings correctly.

c Teacher to check. Teacher: Look for answers that show students' ability to accurately count their tally marks.

d Teacher to check. Teacher: Look for students who are able to draw simple conclusions from their data.

2 a Teacher to check. Teacher: Look for answers that show students' ability to choose appropriate variables that are likely to appeal to the classmates being surveyed – for example, basketball, netball, football, cricket – and who can record the variables in the correct section of the table.

b Teacher to check. Teacher: Look for answers that show students' ability to use tally marks correctly to keep track of responses.

c Teacher to check. Teacher: Look for answers showing totals that match the tally marks they recorded.

3 a and b Teacher to check. Teacher: Look for answers that show students' ability to correctly identify the most and least popular options using the data they collected.

c Teacher to check. Teacher: Look for answers that show students' ability to come up with plausible options that their classmates are likely to choose, such as football or rugby.

Extended practice

1 a Teacher to check. Teacher: Look for answers that show students' ability to identify variables that match the pictures – for example, number of legs, animals that can and cannot fly, colours of animals or animals that live in the water/on land.

b Teacher to check. Teacher: Look for answers that show students' ability to construct a table with the correct number of columns and rows to record their variables and results. Also check that students are able to make an accurate tally that matches the data based on their chosen categories.

c Teacher to check. Teacher: Look for answers that show students' ability to accurately count and record the totals of their tally marks and to write the total in the correct place in their table.

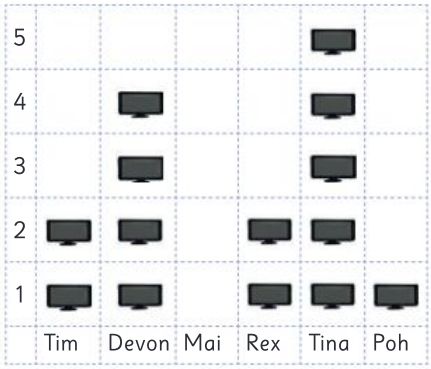
UNIT 8: Topic 3

Guided practice

1 a ants b worms c 4 d 24

Independent practice

1 a



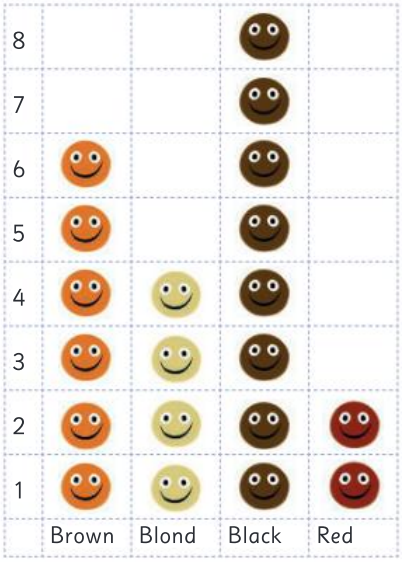
b Tim and Rex c Tina

d Mai

2 a

Hair colour	Tally	Total
Brown	𝍸 |	6
Blond	||||	4
Black	𝍸 |||	8
Red	||	2

b



3 **a** Teacher to check. Teacher: Look for answers that show students' ability to understand how to record data in a list and that have 10 pieces of data recorded.

b Teacher to check. Teacher: Look for answers that show students' ability to correctly label the table, whose tally marks match the data in their list and whose total matches the tally marks.

c Teacher to check. Teacher: Look for answers that show students' ability to match the representations in their pictographs to those in their tally tables.

d Teacher to check. Teacher: Look for answers that show students' ability to make a statement that accurately matches the data, such as identifying the category with the greatest or least number of responses, or comparing the numbers in both categories.

Extended practice

1 a

Transport	Tally	Total
Car	𝍸 ||||	9
Bike	𝍸	5
Walk	𝍸 ||	7
Bus	|	1

b 5 **c** walk **d** 2

e Teacher to check. Teacher: Look for answers that show students' ability to write a question that directly relates to the data, such as how many people use a particular form of transport.

UNIT 9: Topic 1

Guided practice

1 **a** and **b** Teacher to check. Teacher: Look for answers that show students' ability to justify their selections and use the language of chance to describe the probability of each event.

2 **a** certain (unless there are special circumstances where students do not wear shoes all day)

b certain

Independent practice

1 **a**, **b**, **d** and **e** Teacher to check. Teacher: Look for answers that show students' ability to justify their selections using the language of chance.

c certain **f** impossible

2 **a** most likely (for most students)

b certain **c** less likely

d impossible

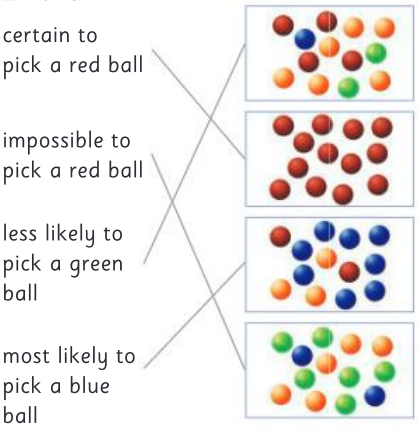
3 **a–d** Teacher to check. Teacher: Look for answers that show students' ability to choose and describe events that accurately match each chance term, and to demonstrate that they understand the nuances between related terms, such as "certain" and "most likely".

Extended practice

1 **a** most likely **b** less likely

c impossible

2 **a–d**



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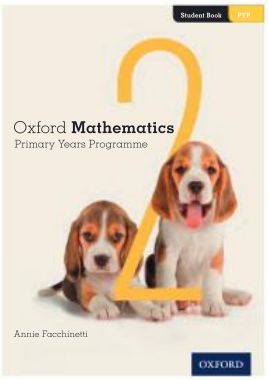

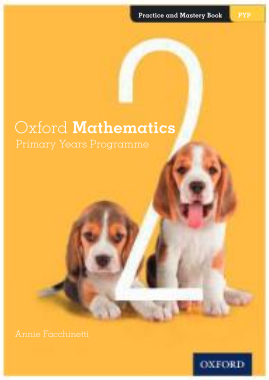

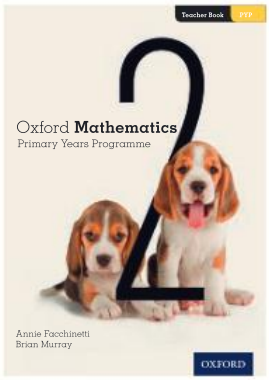

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