



**OXFORD**  
UNIVERSITY PRESS

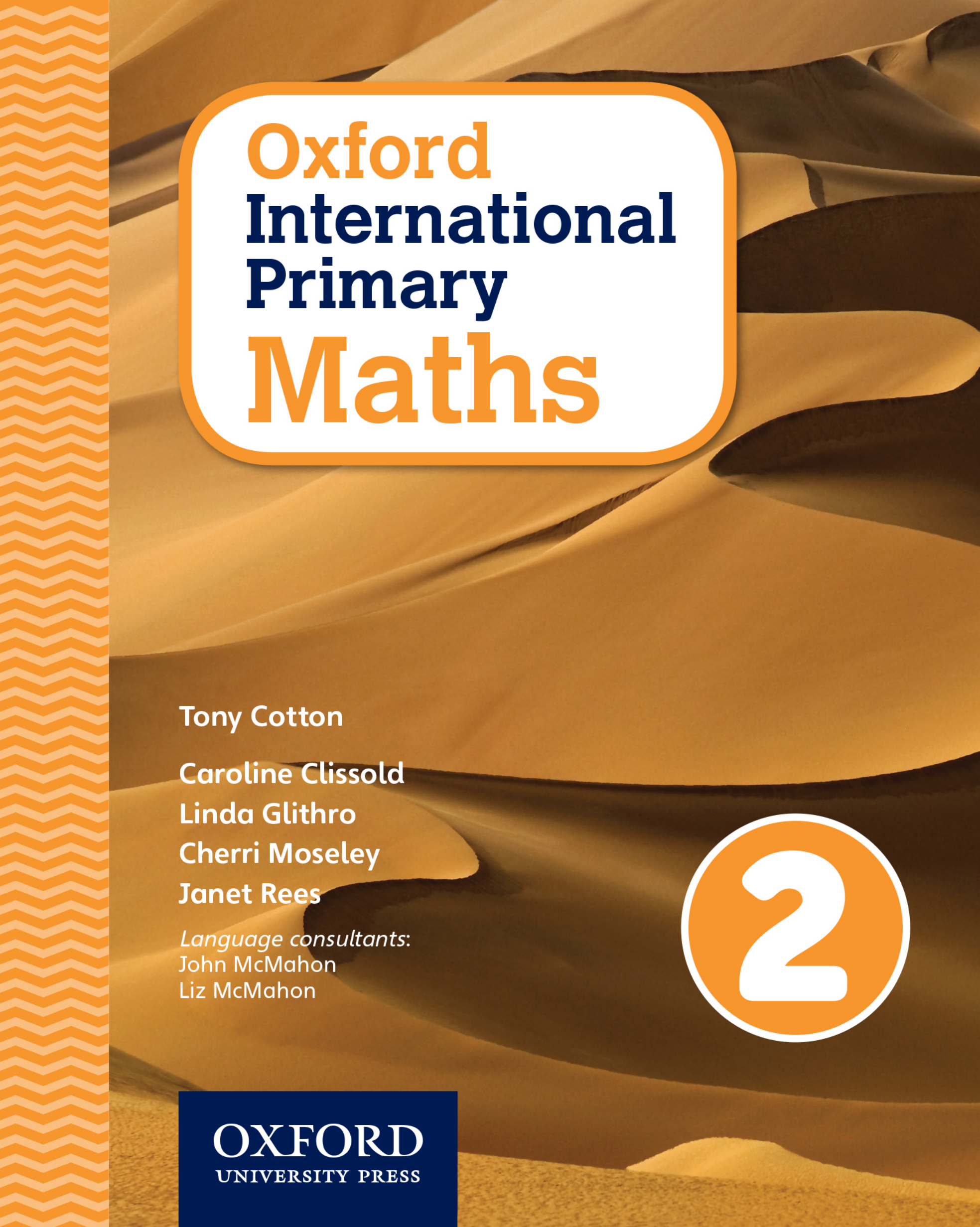


# Oxford International Primary Maths

2

Enhanced e-book





**Oxford**  
**International**  
**Primary**  
**Maths**

Tony Cotton

Caroline Clissold

Linda Glithro

Cherri Moseley

Janet Rees

*Language consultants:*

John McMahon

Liz McMahon

**2**

**OXFORD**  
UNIVERSITY PRESS

**OXFORD**  
UNIVERSITY PRESS

Great Clarendon Street, Oxford, OX2 6DP, United Kingdom

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford is a registered trade mark of Oxford University Press in the UK and in certain other countries

© Cherri Moseley 2016

The moral rights of the authors have been asserted

First published in 2016

This digital publication is protected by international copyright laws. No part of this digital publication may be reproduced, modified, adapted, stored in a retrieval system, or transmitted, in any form or by any means, to any other person or company without the prior permission in writing of Oxford University Press, or as expressly permitted by law. Enquiries concerning reproduction outside the scope of the above should be sent to the ELT Rights Department, Oxford University Press, at the address above

You must not modify, adapt, copy, store, transfer or circulate the contents of this publication under any other branding or as part of any other product. You may not print out material for any commercial purpose or resale.

Any websites referred to in this publication are in the public domain and their addresses are provided by Oxford University Press for information only. Oxford University Press disclaims all and any responsibility for the content of such websites

e-Book Edition

978 0 19 841334 9 e-Book

978 0 19 841340 0 e-Book (In-App)

### **Acknowledgements**

The publishers would like to thank the following for permissions to use their photographs:

Cover photo: Denis Burdin/Shutterstock, P1: MIXA/Getty Images, P11a: Vitalinka/Shutterstock, P11b: Keith Levit/Shutterstock, P11c: David Steele/Shutterstock, P11d: Alexandra G1/Fotolia, P11e: Barragan/Shutterstock, P11f: iStock.com, P11g: Nagib/Shutterstock, P123: Masterfile, P159a: Matteo Festi/Shutterstock, P159b: Fotolia, P159c: Nidal Yunus, P159d: Matthew Andrews/Dreamstime.com, P159e: Dimitar Bosakov/Shutterstock, P159f: Michael Nivelet/Shutterstock, P159g: Bobby Scrivener/Shutterstock.

Although we have made every effort to trace and contact all copyright holders before publication this has not been possible in all cases. If notified, the publisher will rectify any errors or omissions at the earliest opportunity.

Links to third party websites are provided by Oxford in good faith and for information only. Oxford disclaims any responsibility for the materials contained in any third party website referenced in this work.

The questions, example answers, marks awarded and comments that appear in this book were written by the author(s). In examination, the way marks would be awarded to answers like these may be different.

# Contents

<b>Unit 1</b>	<b>Tens and Ones</b>	<b>I</b>	<b>Unit 4</b>	<b>Calculating – Addition and Subtraction</b>	<b>33</b>
	Engage			Engage	
	<b>1A</b> Counting in tens and ones	2		<b>4A</b> One more, one less; ten more, ten less	34
	<b>1B</b> Digit values	5		<b>4B</b> Adding small numbers	38
	<b>1C</b> Estimating and counting	7		<b>4C</b> Add and subtract a single-digit number	40
	Connect	9		<b>4D</b> Adding two 2-digit numbers	43
	Review	10		<b>4E</b> Finding the difference	46
				<b>4F</b> Missing numbers	49
<b>Unit 2</b>	<b>Number Patterns and Properties</b>	<b>II</b>		Connect	53
	Engage			Review	54
	<b>2A</b> Odd and even	12	<b>Unit 5</b>	<b>Number Families</b>	<b>55</b>
	<b>2B</b> Doubles	14		Engage	
	<b>2C</b> Ordering and between	16		<b>5A</b> Fact families for number pairs to 20	56
	<b>2D</b> Less than, greater than	18		<b>5B</b> Fact families for multiples of 10 to 100	58
	<b>2E</b> Ordinal numbers	20		Connect	60
	Connect	22		Review	61
	Review	23	<b>Unit 6</b>	<b>Multiplication and Division</b>	<b>63</b>
<b>Unit 3</b>	<b>Number Pairs</b>	<b>25</b>		Engage	
	Engage			<b>6A</b> Twos	64
	<b>3A</b> Pairs for 10 and rounding	26		<b>6B</b> Fives and tens	67
	<b>3B</b> Pairs for 20 and 100	28		<b>6C</b> Threes and fours	71
	Connect and Review	30		<b>6D</b> Arrays	74
	Review	32		<b>6E</b> Division as grouping	77
				<b>6F</b> Remainders	81
				Connect	85
				Review	86

<b>Unit 7</b>	<b>Parts of a Whole</b>	<b>89</b>	<b>Unit 10</b>	<b>Geometry</b>	<b>149</b>
	Engage			Engage	
	<b>7A</b> Half of a shape	90		<b>10A</b> Turns and right angles	150
	<b>7B</b> Half of an amount	92		<b>10B</b> Travelling	153
	<b>7C</b> Quarter and three-quarters of a shape	95		Connect	156
	<b>7D</b> Quarter of an amount	98		Review	157
	Connect	102	<b>Unit 11</b>	<b>Time</b>	<b>159</b>
	Review	103		Engage	
<b>Unit 8</b>	<b>Shapes Everywhere</b>	<b>105</b>		<b>11A</b> Seconds and minutes	160
	Engage			<b>11B</b> Half past	163
	<b>8A</b> 2D shapes	106		<b>11C</b> Days of the week	166
	<b>8B</b> 3D shapes	109		<b>11D</b> Months of the year	169
	<b>8C</b> Sorting shapes using a Venn diagram	112		Connect	173
	<b>8D</b> Sorting shapes using a Carroll diagram	114		Review	174
	<b>8E</b> Reflective symmetry 1	116	<b>Unit 12</b>	<b>Handling Data</b>	<b>175</b>
	<b>8F</b> Reflective symmetry 2	118		Engage	
	Connect	120		<b>12A</b> Block graphs and pictograms	176
	Review	121		<b>12B</b> Sorting using Carroll diagrams	180
<b>Unit 9</b>	<b>Measurements</b>	<b>123</b>		<b>12C</b> Sorting using Venn diagrams	182
	Engage			Connect	184
	<b>9A</b> Measuring in centimetres	124		Review	185
	<b>9B</b> String measures	128	<b>Glossary</b>		<b>187</b>
	<b>9C</b> Metre measures	131			
	<b>9D</b> Liquid measures	134			
	<b>9E</b> Sweet cake weights	138			
	<b>9F</b> Money	142			
	Connect	146			
	Review	148			



# 1 Tens and Ones

## Engage

I think there are at least 100.

How many newspapers in this pile?

I guess there are 50 newspapers.

There are seven days in a week. How many newspapers do we buy in a week?



# Advice sheet

For best marking, we advise that:

- all numbers must be input as digits
- all results must include a unit of measure, if required. They will be marked incorrect if it is not part of the answer, e.g. 16cm
- drawings are created with the use of a stylus pen, where possible
- a slash (/) rather than division symbol ( $\div$ ) is used, where applicable.

# 1A Counting in tens and ones

## Discover

Counting in ones

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

Counting in tens

Fill in the missing numbers. Complete each sentence using the words *on*  $\longrightarrow$  or *back*  $\longleftarrow$  in the first blank and *ones* or *tens* in the second blank. Always start counting at the first number. The first one has been done for you.

3    4    5    6    7    8

This is counting  $\longrightarrow$  on in ones.

15    16        18    19    20

This is counting \_\_\_\_\_ in \_\_\_\_\_.

   25    24            21

This is counting \_\_\_\_\_ in \_\_\_\_\_.

17 27  47  67

This is counting \_\_\_\_\_ in \_\_\_\_\_.

50 40 30

This is counting \_\_\_\_\_ in \_\_\_\_\_.

79 69  49 39

This is counting \_\_\_\_\_ in \_\_\_\_\_.

46 45 44 43

This is counting \_\_\_\_\_ in \_\_\_\_\_.

12 22

This is counting \_\_\_\_\_ in \_\_\_\_\_.

73 63 53

This is counting \_\_\_\_\_ in \_\_\_\_\_.

32  34  36 37

This is counting \_\_\_\_\_ in \_\_\_\_\_.

# 1A Counting in tens and ones

## Explore

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

Colour in 54, 62 and 12 in the same colour on the 100 square. Here is how two students counted from 54 to 62 in ones then back from 62 to 12 in tens.

Start at , count on in ones to  then count

back in tens to .

Colour in these numbers on the 100 square.

Complete each sentence using the three numbers and the words **on** or **back** and **ones** or **tens** in each space.

Start at , count \_\_\_\_\_ in \_\_\_\_\_ to  then

count \_\_\_\_\_ in \_\_\_\_\_ to .

Using the same set of numbers, find a different way to complete the sentence.

# 1B Digit values

## Discover

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

Which place value cards do you need to make these numbers? The first one is done for you.

62	→		and			71	→		and	
95	→		and			24	→		and	
37	→		and			89	→		and	

Colour in these numbers on the 100 square. From a set of place value cards, take out all the cards used above.

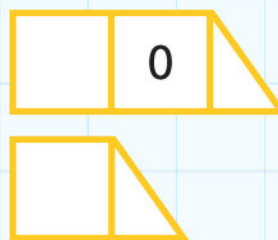
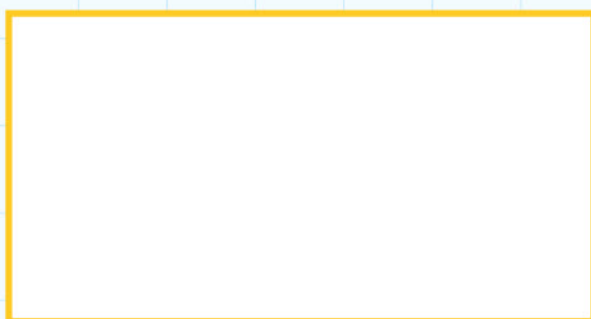
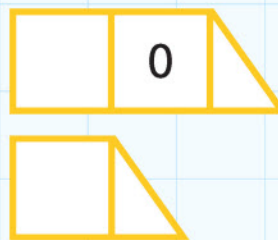
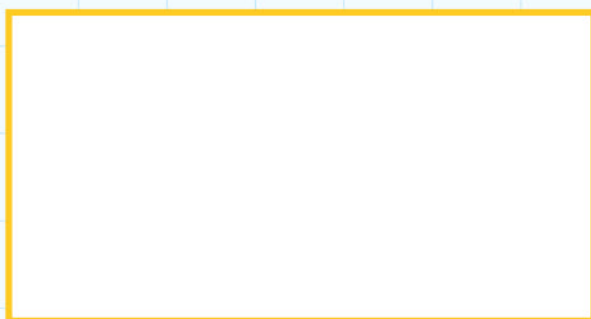
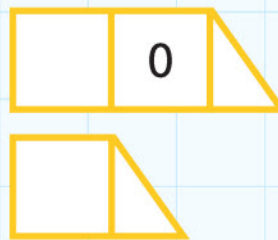
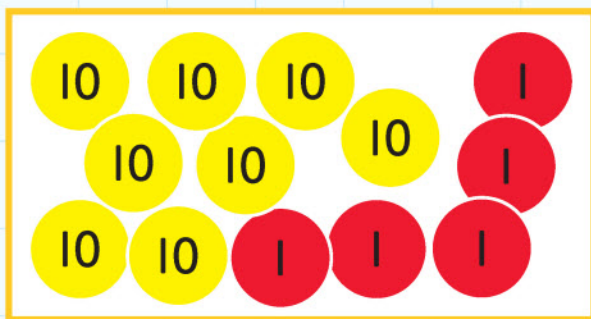
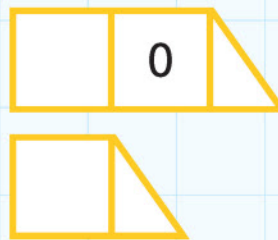
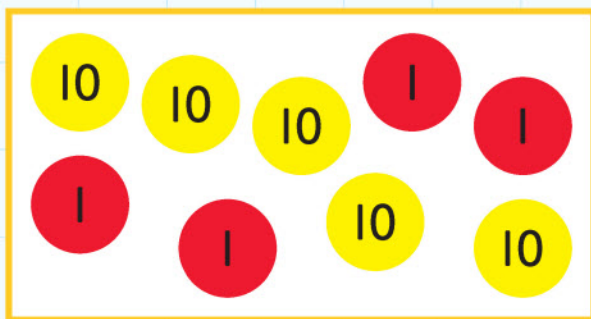
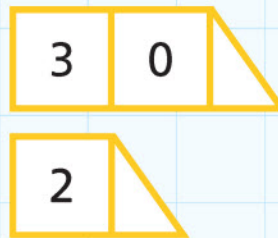
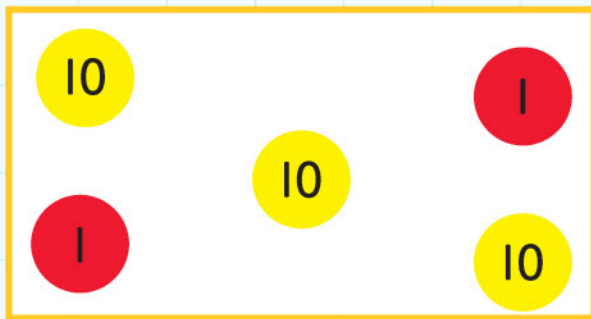
Which numbers are left? \_\_\_\_\_

Make as many different 2-digit numbers as you can using the cards that are left.

# 1B Digit values

## Explore

Complete the value of each set of place value counters.  
The first one has been done for you.



# 1C Estimating and counting

## Discover

Your teacher will give you some bags of objects. Estimate how many objects are in each bag. Tip out the bag and count the objects. Label each bag so you know which objects you counted.



Estimate

25

Count

32



Estimate

Count



Estimate

Count



Estimate

Count



Estimate

Count

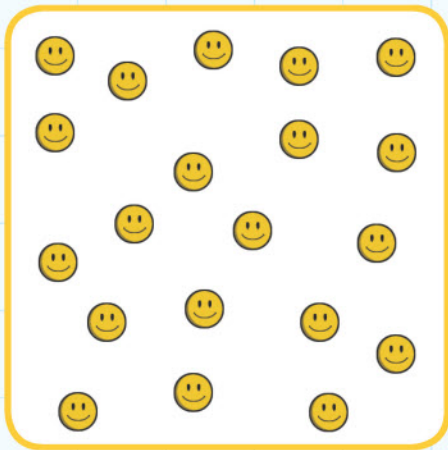


Estimate

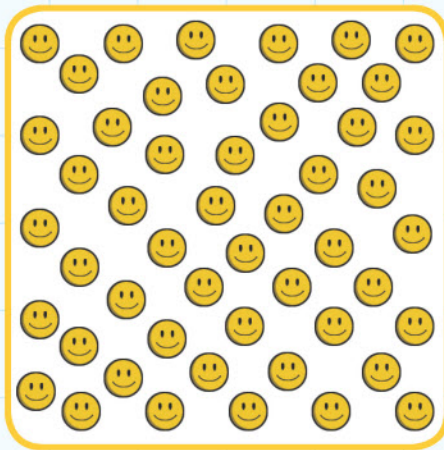
Count

# 1C Estimating and counting

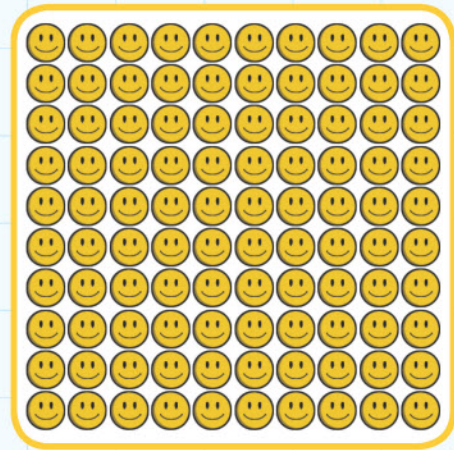
## Explore



20

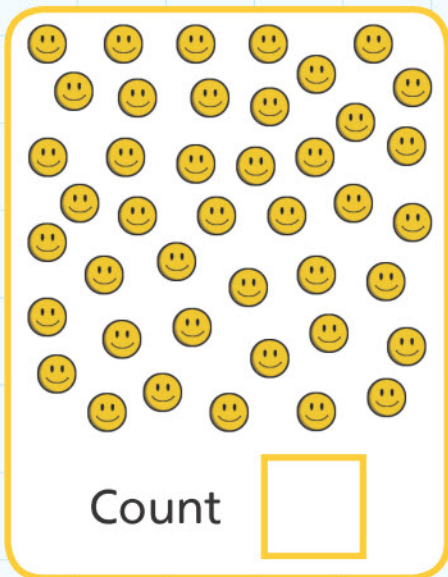


50

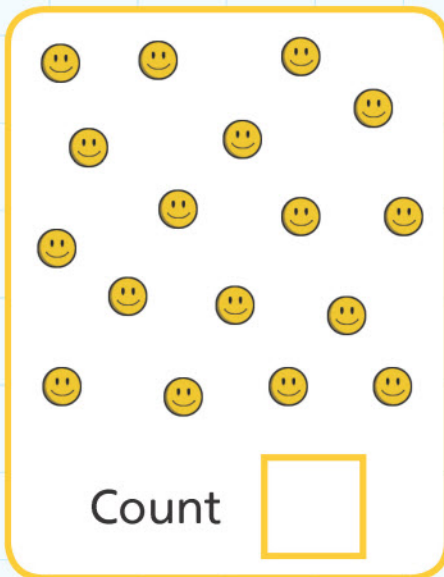


100

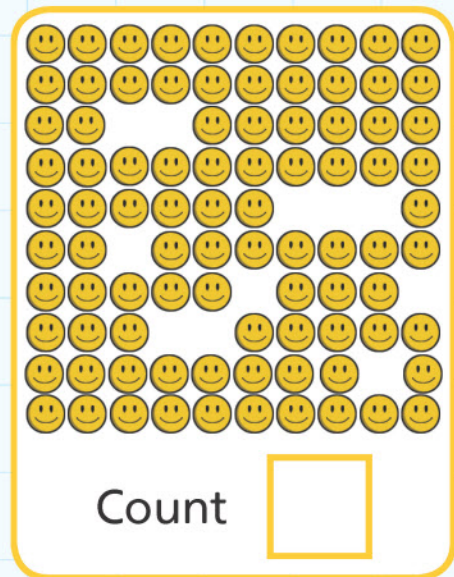
Circle your estimate.



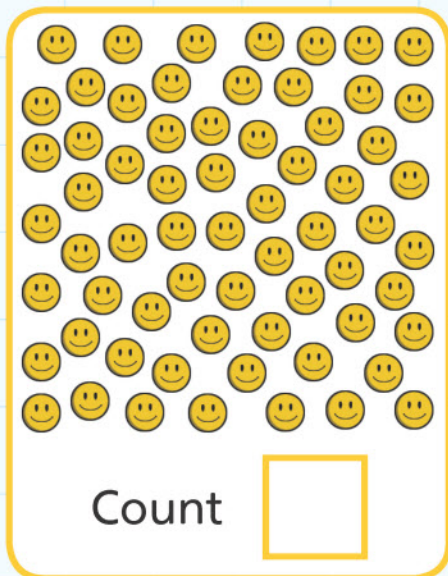
20      50      100



20      50      100



20      50      100



20      50      100



20      50      100

# 1 Tens and ones

## Connect

You have a bag of 9 counters, a mixture of yellow counters with a value of 10 and red counters with a value of 1.



Which numbers could you make with your place value counters? You do not have to use all the counters when you make a number.

Colour the numbers you can make on the 100 square.

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

Which numbers was it **not** possible to make?

Tell a friend why you cannot make these numbers.

I can't make \_\_\_\_\_ because \_\_\_\_\_.

# 1 Tens and ones

## Review

Use the clues to help you find the numbers.

I have 2 tens and 4 ones. I am

I have 6 tens and 8 ones. I am

I have 3 ones and 7 tens. I am

I have 9 ones and 5 tens. I am

Draw the matching counters for each number.



26

43

# 2 Number Patterns and Properties

## Engage

What do you know about numbers?



5 is special because we have 5 fingers on each hand.

12 is special because there are 12 months in a year.

I think every number is special!



4 is special because so many animals have 4 legs.



All numbers are special because they help you count.



Can you think of at least three reasons why each of these numbers are special?



Choose a number. Explain why it is special to you.

## 2A Odd and even

### Discover

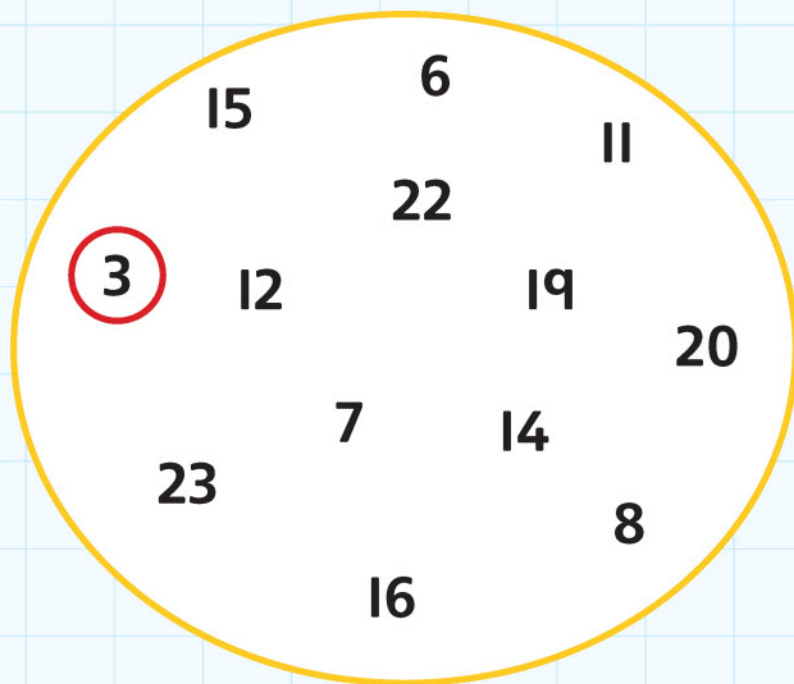
Write odd or even at the top of each column.  
Complete the table.

1	2
3	4
5	

11	12

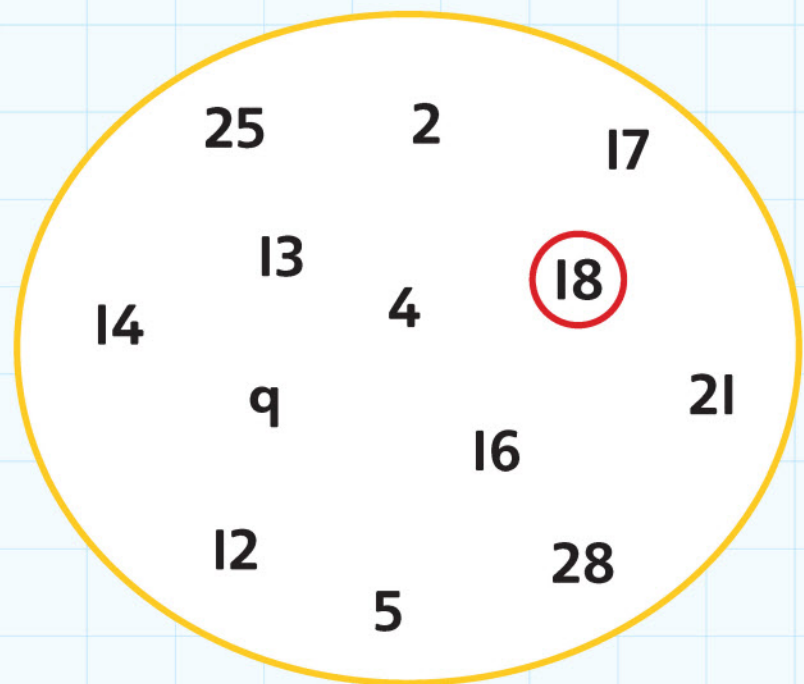
Circle the odd numbers.

One has been done for you.



Circle the even numbers.

One has been done for you.



12

Complete the sentences using the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 once each.

All even numbers end in \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.

All odd numbers end in \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ or \_\_\_\_\_.

## 2A Odd and even

### Explore

Write at least three more numbers in each box.

	less than 12	not less than 12
3		17
odd		
10		28
not odd		

Circle the correct answer. The first one is done for you.

There are five odd numbers between 0 and 10.       True       False

There are four odd numbers between 6 and 12.       True       False

All numbers with 8 ones are odd.       True       False

All numbers with 3 ones are odd.       True       False

There are four even numbers between 0 and 10.       True       False

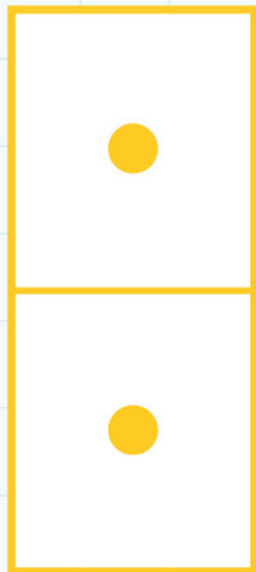
Write the biggest odd number you know. \_\_\_\_\_

Write the biggest even number you know. \_\_\_\_\_

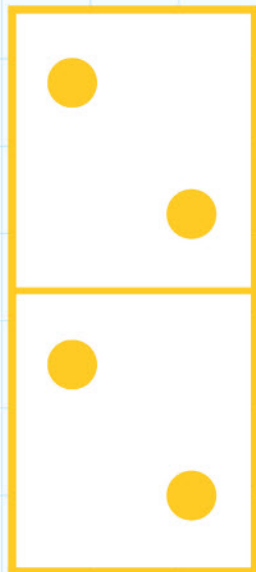
# 2B Doubles

## Discover

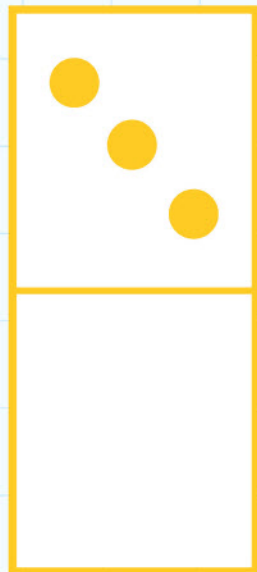
Complete the dominoes and work out the doubles.



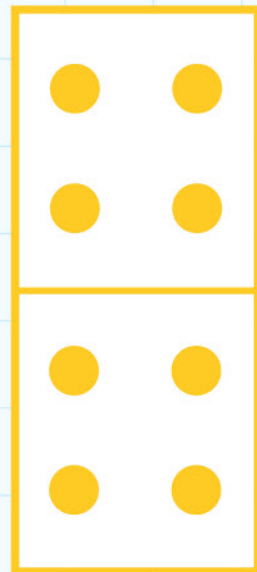
Double 1



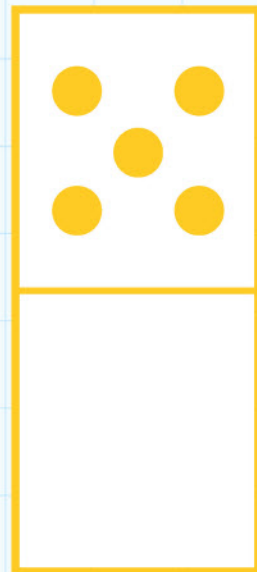
Double 2



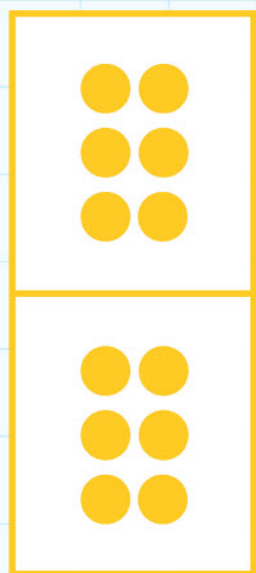
Double 3



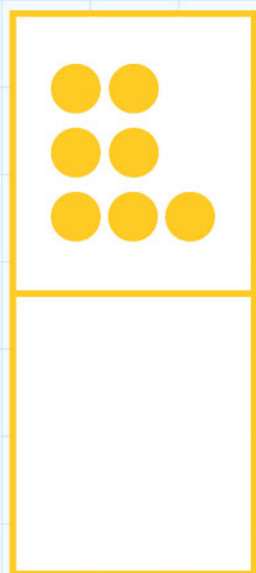
Double 4



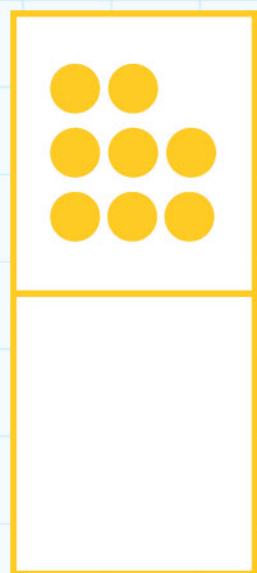
Double 5



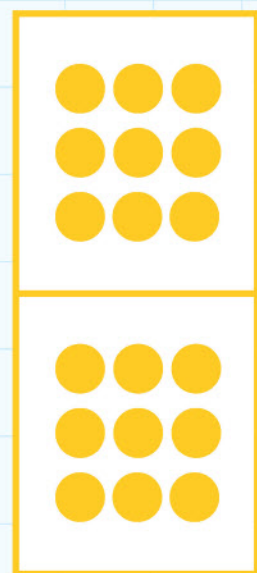
Double 6



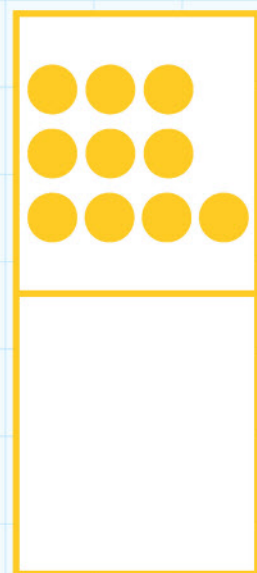
Double 7



Double 8



Double 9



Double 10

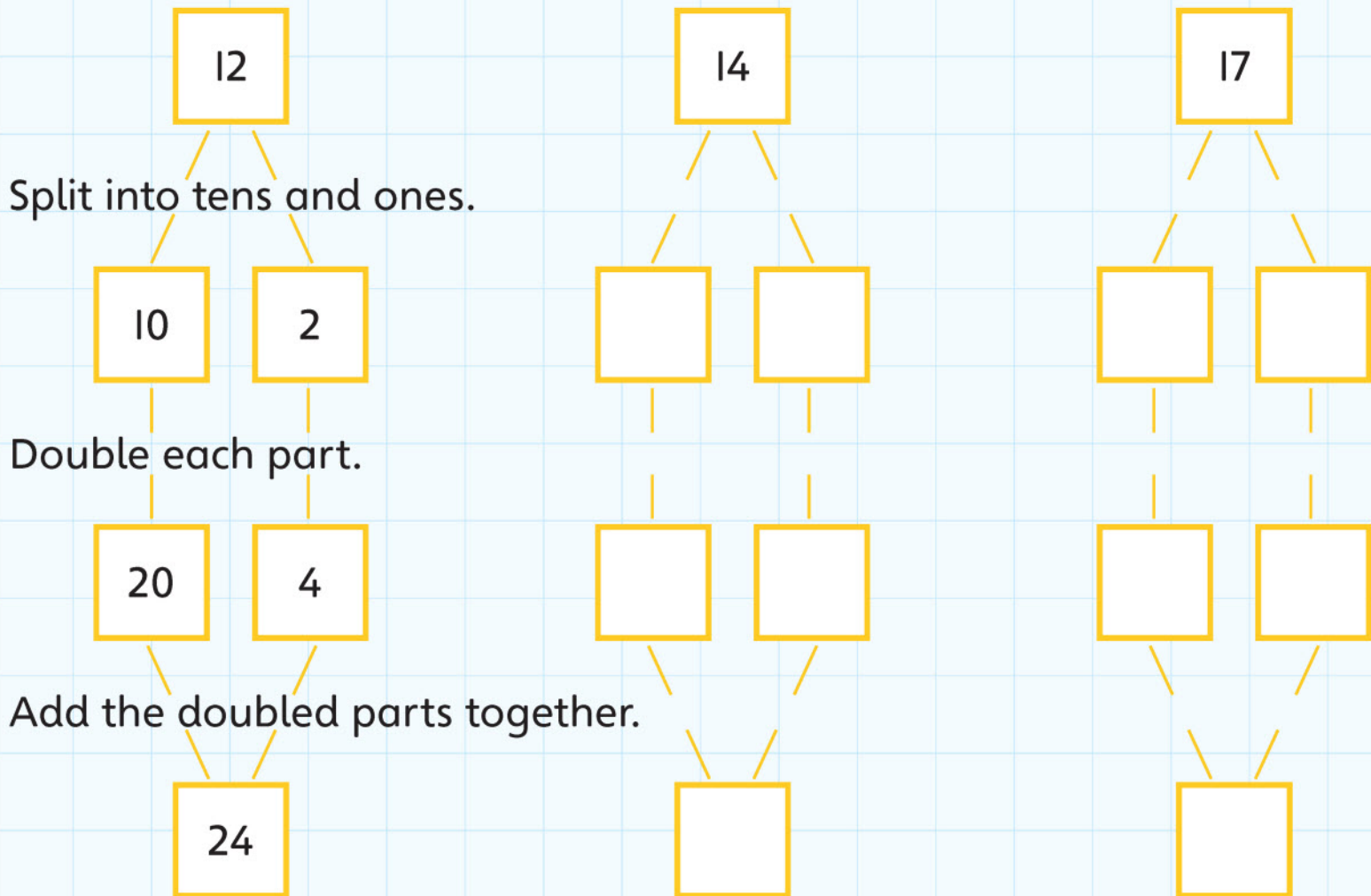
Complete the sentence with the word **odd** or **even**.

Doubles of the numbers 1 to 10 are all \_\_\_\_\_ numbers.

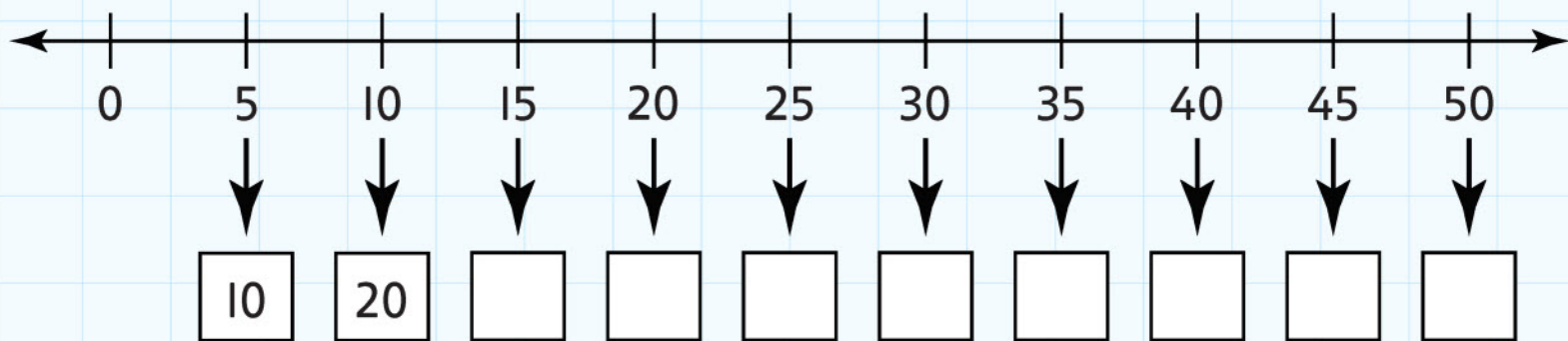
# 2B Doubles

## Explore

Use the doubles you already know to work out these doubles.



Now work out the doubles for each of these numbers.



Complete this sentence using 0 or 5.

When you double a number with 5 or 0 ones,  
its double always has \_\_\_\_\_ ones.

# 2C Ordering and between

## Discover

Write a number that is between each pair of tens numbers.

0	→		between
10	→		
20	→		
30	→		
40	→		
50	→		
60	→		
70	→		
80	→		
90	→		
100	→		

**Between** means more than one number but less than another.

Write one or two numbers between.  
The first one has been done for you.

15	16	17
----	----	----

34		36
----	--	----

9		11
---	--	----

12		18
----	--	----

39		43
----	--	----

28		30
----	--	----

60			70
----	--	--	----

40		50
----	--	----

10			20
----	--	--	----

## 2C Ordering and between

### Explore

Cross out the numbers you have made on this square.

Colour in the numbers between the numbers that you crossed out.  
Use a different colour for each set of numbers.

Write the colour you used for each set inside the number square.

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

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

I coloured the numbers between \_\_\_\_\_ and \_\_\_\_\_

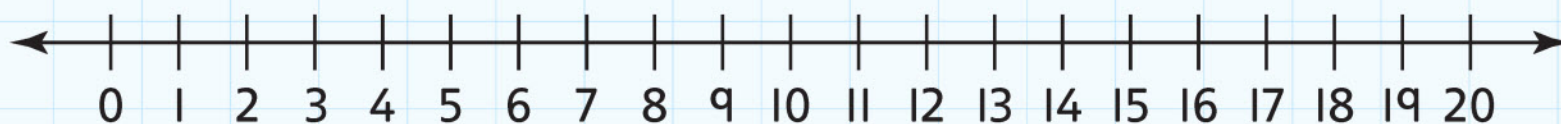
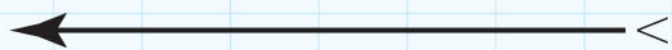
# 2D Less than, greater than

## Discover

Look at number 8.

$$4 < 8$$

This means that 4 is less than 8

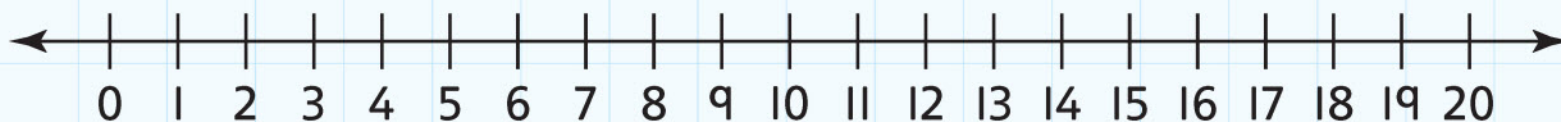


$$16 > 8$$

This means that 16 is greater than 8

$<$   
is less than

$>$   
is greater than



We use the signs  $<$  and  $>$  to compare numbers.

Complete these sentences using a number or  $<$  or  $>$ .

Use the number line to help you.

9  $<$

15  $>$

10  14

18  12

6  2

11  19

17  13

16  $<$

$>$  10

# 2D Less than, greater than

## Explore

Use place value cards to make nine 2-digit numbers.  
Put the numbers in order, from smallest to largest.  
Write your numbers in the grid.

Here is an example of a completed grid.

14	23	38	41	56	62	75	89	97
----	----	----	----	----	----	----	----	----

--	--	--	--	--	--	--	--	--

$<$   
is less than

$>$   
is greater than

Write some number sentences to compare your numbers.

$<$

$>$

$<$

$>$

$<$

$>$

$<$

$>$

$<$

$>$

$<$

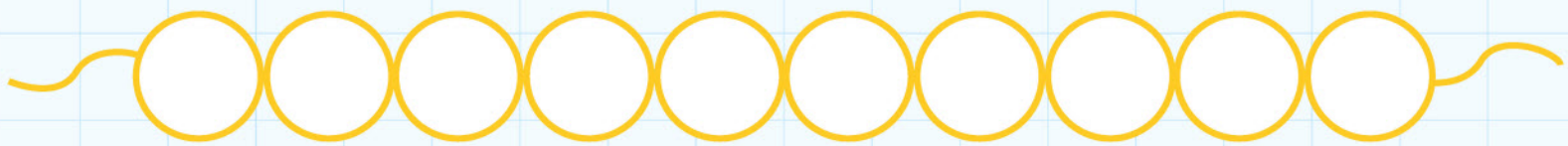
$>$

## 2E Ordinal numbers

### Discover

1	first	1st
2	second	2nd
3	third	3rd
4	four <u>th</u>	4th
5	fif <u>th</u>	5th

6	six <u>th</u>	6th
7	seven <u>th</u>	7th
8	eight <u>th</u>	8th
9	nin <u>th</u>	9th
10	ten <u>th</u>	10th



Colour the 1st bead red.

Colour the 2nd bead blue.

Colour the 5th bead red.

Colour the 3rd bead red.

Continue the pattern.

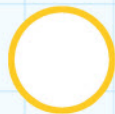
Colour the 6th bead blue.

Colour the 8th bead yellow.

Colour the 4th bead yellow.

Colour the 7th bead red.

What colour is the 12th bead?



What colour is the 15th bead?



What colour is the 16th bead?



What colour is the 19th bead?



Answer the following questions.

20

What is the 4th letter of your name? \_\_\_\_\_

What is the 3rd odd number? \_\_\_\_\_

What is the next number after 20? \_\_\_\_\_

# 2E Ordinal numbers

## Explore

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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				

Answer these questions and complete these sentences about the calendar.

The first day of the month is a

\_\_\_\_\_.

The first Friday of the month is the

\_\_\_\_\_.

Which day of the week is the 11th? \_\_\_\_\_

Which day of the week is the 6th? \_\_\_\_\_

Which day of the week is the 16th? \_\_\_\_\_

Which day of the week is the 2nd? \_\_\_\_\_

h	f	e	n
t	a	l	p
u	s	w	i
y	d	o	r

Use these clues to find the words

1st letter on the 4th line.

3rd letter on the 1st line.

2nd letter on the 3rd line.

\_\_\_\_\_

1st letter on the 2nd line.

3rd letter on the 3rd line.

3rd letter on the 4th line.

\_\_\_\_\_

1st letter on the 2nd line.

4th letter on the 4th line.

1st letter on the 3rd line.

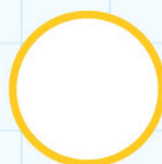
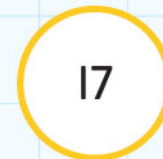
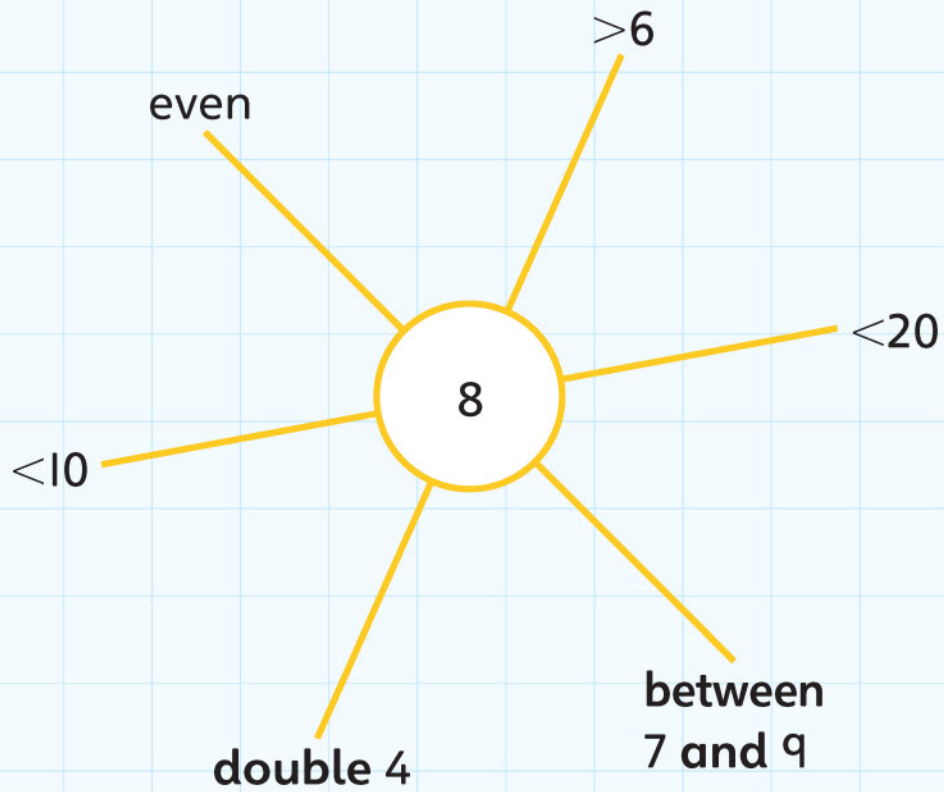
3rd letter on the 1st line.

\_\_\_\_\_

## 2 Number patterns and properties

### Connect

Complete each spider diagram with as much information as you can about the number. Then choose a number to explore.



## 2 Number patterns and properties

### Review

Complete these sentences using odd or even.

Numbers with 0, 2, 4, 6 or 8 ones are \_\_\_\_\_.

Numbers with 1, 3, 5, 7 or 9 ones are \_\_\_\_\_.

These numbers have been ordered from largest to smallest.  
Write a number between each pair of numbers. Make sure  
the numbers are still in order from largest to smallest.

Double these numbers.

84		65		41		28		3
----	--	----	--	----	--	----	--	---

↓                      ↓

double	double
--------	--------

↓                      ↓

--	--

Write the fourth number here.

Use any of the numbers above to complete these number sentences.

	<	
--	---	--

	<	
--	---	--

	<	
--	---	--

	<	
--	---	--

	<	
--	---	--

	<	
--	---	--



# 3 Number Pairs

## Engage

What are number pairs?



Pair means two things that are the same.

A pair of shoes are not exactly the same. There's a left foot and a right foot.



So is 3 and 3 a number pair?

3 and 3 makes 6 but so does 4 and 2.



## 3A Pairs for 10 and rounding

### Discover



Use the numbers from 0 to 10 to find all the number pairs for 10.

You can only use each number once. Cross out each number as you use it. The first one has been done for you.

Then write each pair again, changing the order of the numbers in each row. The first one has been done for you.

$$0 + 10 = 10$$

$$10 + 0 = 10$$

It does not matter which order you write the numbers in, they are the same pair.

Did you use all the numbers? Which number is left?

26

Write the number pair for 10 using this number.

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

How many **different** number pairs for 10 are there?

# 3A Pairs for 10 and rounding

## Explore

	← round down					round up →					
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	

Fill in the tens numbers in the first column of the 100 square.

Use the completed 100 square to help you round these numbers to the nearest 10.

62	<input type="text"/>	89	<input type="text"/>	25	<input type="text"/>
55	<input type="text"/>	37	<input type="text"/>	9	<input type="text"/>
3	<input type="text"/>	46	<input type="text"/>	95	<input type="text"/>
31	<input type="text"/>	20	<input type="text"/>	5	<input type="text"/>

Complete the sentences using the word **up** or **down**.

If the ones digit is 4 or less, you round \_\_\_\_\_.

If the ones digit is 5 or more, you round \_\_\_\_\_.

## 3B Pairs for 20 and 100

### Discover

Here are all the multiples of 10 to 100. Use these numbers to find all the number pairs for 100 using multiples of 10.

<del>0</del>	10	20	30	40	50	60	70	80	90	<del>100</del>
--------------	----	----	----	----	----	----	----	----	----	----------------

You can only use each number once. Cross out each number as you use it. The first one has been done for you.

Then write each pair again, changing the order of the numbers. The first one has been done for you.

$$0 + 100 = 100$$

$$100 + 0 = 100$$

It does not matter which order you write the numbers in, they are the same pair.

Did you use all the numbers? Which number is left?

Write the number pair for 100 using this number.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Complete the sentence:

Finding number pairs for 100 using multiples of 10 is the same as finding number pairs for 10 except the numbers are \_\_\_\_\_ times bigger.

# 3B Pairs for 20 and 100

## Explore

You have found number pairs for 10 and 100, now find the pairs for 20.

<del>0</del>	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	<del>20</del>

You can only use each number once. Cross out each number as you use it. The first one has been done for you.

$$0 + 20 = 20$$

Make sure you have not written the same pair twice but in a different order.

Did you use all the numbers?  
Which number is left?

Write the number pair for 20  
using this number.

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

Imagine you are finding number  
pairs for 30.  
Would you use all the numbers?

Which number would not be used?

How many number pairs do  
you think there are for 30?

# 3 Number pairs

## Connect

You will need:

- squared paper
- counters.

I like to make cakes for my friends. Some people like chocolate cakes, some people like lemon cakes and some people like both chocolate cakes and lemon cakes. I have boxes which hold 12, 14, 16, 18 or 20 cakes.

Here is a box of 12 chocolate cakes.



Some of my boxes were damaged. I cannot put a cake in one corner.



This box for 12 cakes will only hold 11 cakes.  
Each of the damaged boxes hold one cake less.

In your group, choose one size of box and write all the different ways of filling the box with chocolate and lemon cakes.

How will you record what you find out?

You might find squared paper and counters useful.

Example:

$$14 + 6 = 20$$



$$14 + 6 = 20$$



The boxes are different! Perhaps we should always write the number of chocolate cakes first?

Find all the number pairs for 13.

# 3 Number Pairs

## Review

Write a number to make the sentence or number sentence correct.

$$\underline{\quad} + 7 = 10$$

$$40 + \underline{\quad} = 100$$

$$2 + \underline{\quad} = 10$$

$\underline{\quad}$  is 40 rounded to the nearest 10

$\underline{\quad}$  is 60 rounded to the nearest 10

$$14 + \underline{\quad} = 20$$

$$\underline{\quad} + 8 = 20$$

$\underline{\quad}$  is 90 rounded to the nearest 10

$$\underline{\quad} + 10 = 100$$

$$11 + \underline{\quad} = 20$$

$\underline{\quad}$  is 50 rounded to the nearest 10

## Number Facts

Write 5 different facts about the number 13

Pick any two-digit number: Write 5 facts that you know about your number.

# 4 Calculating – Addition and Subtraction

## Engage

How do you add two numbers together?

I just count on in my head.

I use a number line.

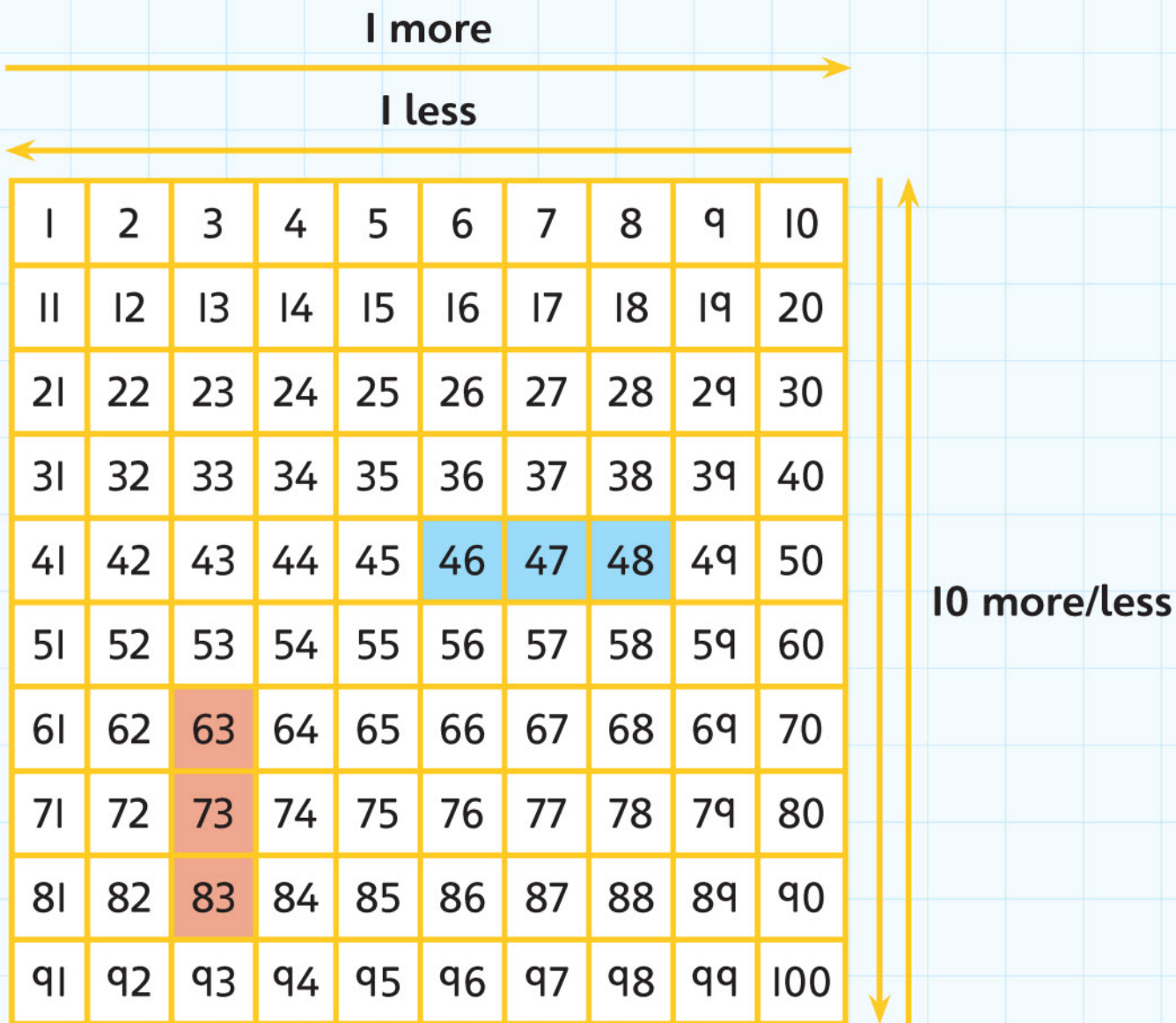


I split the tens and ones.

It depends on what the numbers are.

# 4A One more, one less; ten more, ten less

## Discover



Choose a number on the 100-square, then write the number that is **1 more** and **1 less**. Colour each set of numbers a different colour. See the example in the 100-square.

1 less  1 more

1 less  1 more

1 less  1 more

1 less  1 more

Choose a number on the 100-square, then write the number that is 10 more and 10 less. Colour each set of numbers a different colour. See the example in the 100-square.

<input type="text"/>	10 less	<input type="text" value="73"/>	10 more	<input type="text"/>
<input type="text"/>	10 less	<input type="text"/>	10 more	<input type="text"/>
<input type="text"/>	10 less	<input type="text"/>	10 more	<input type="text"/>
<input type="text"/>	10 less	<input type="text"/>	10 more	<input type="text"/>
<input type="text"/>	10 less	<input type="text"/>	10 more	<input type="text"/>
<input type="text"/>	10 less	<input type="text"/>	10 more	<input type="text"/>

Tick  the box if the sentence is correct.

You go right on the 100-square to find one more.

You move down on the 100-square to find 10 more.

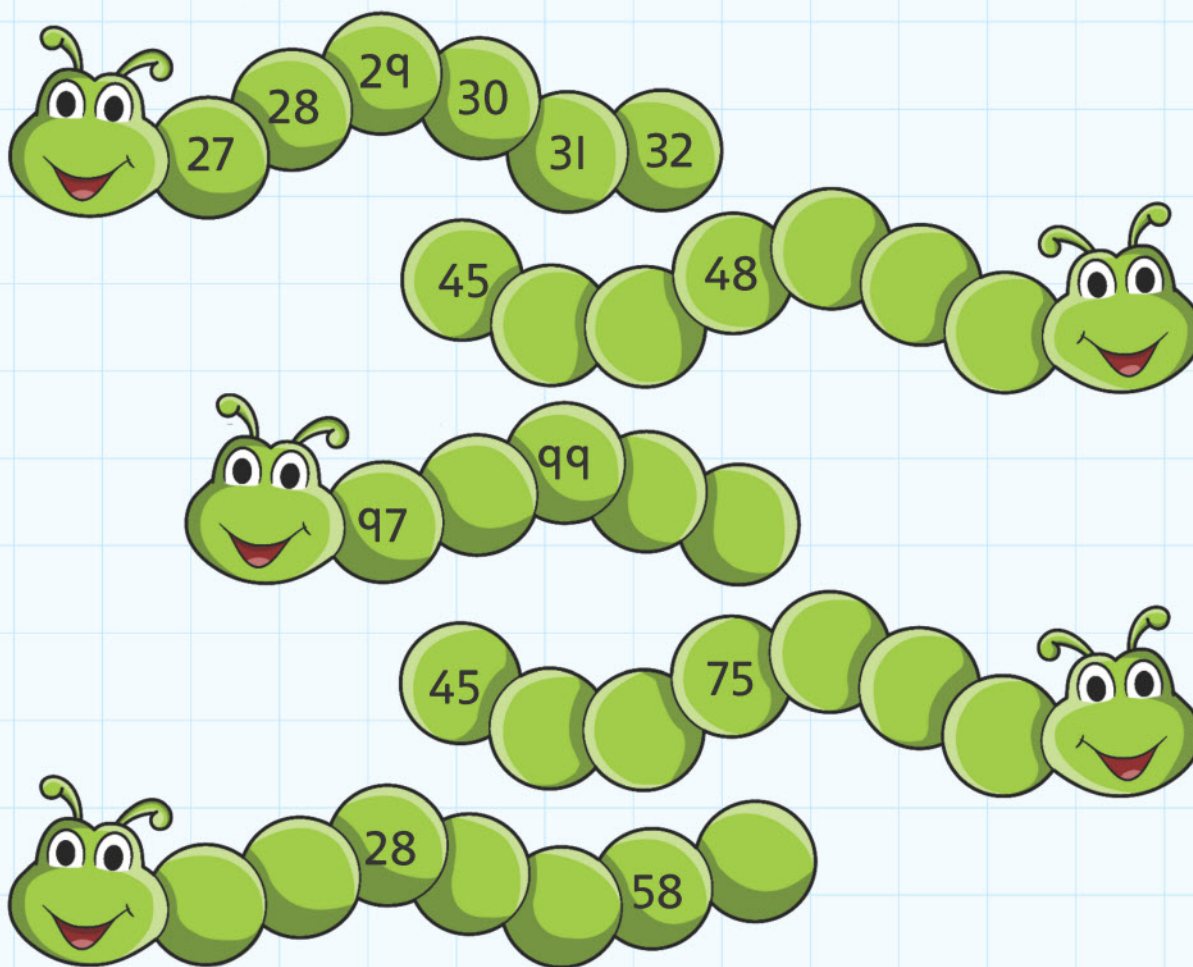
You move left on the 100-square to find one less.

You move up on the 100-square to find 10 less.

# 4A One more, one less; ten more, ten less

## Explore

Fill in the missing numbers on these caterpillars. Use a 100-square to help you.



Write 1 more and 1 less than each number.


← 1 less

94	76	61
12	59	48
37	85	23

→ 1 more

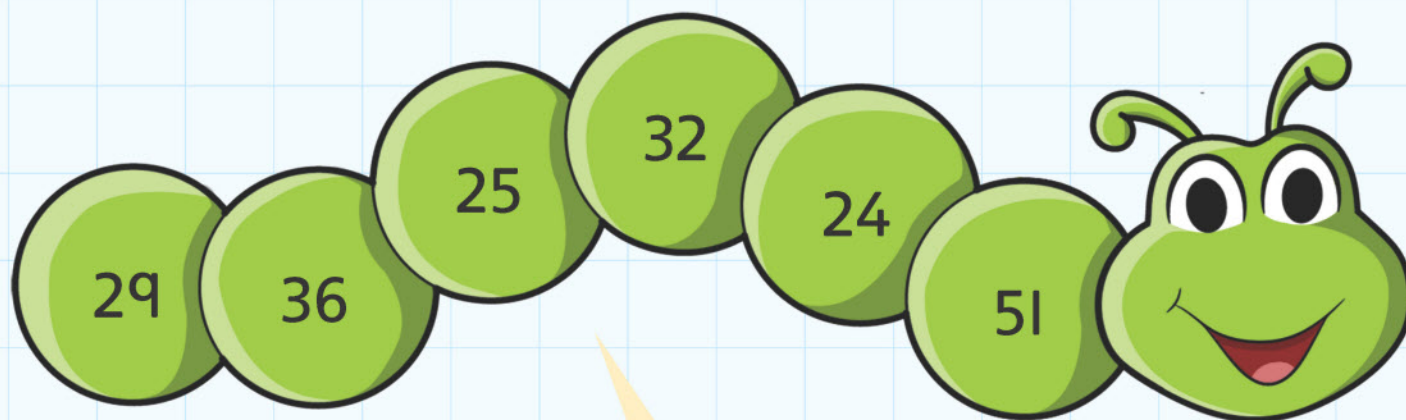

Write 10 more and 10 less than each number.


← 10 less

34	69	45
71	87	18
53	92	26

→ 10 more


Which number is left?



I am 1 more than 23.

I am 1 more than 28.

I am 1 less than 37.

I am 1 more than 31.

I am 1 less than 52.

The number left is \_\_\_\_\_.

Complete these sentences with the word **ones** or **tens**.

The first one has been done for you.

When you write the number that is 10 or 20 more, the ones digit stays the same.

When you write the number that is 10 or 20 less, the \_\_\_\_\_ digit stays the same.

When you write the number that is 1 less, the \_\_\_\_\_ digit usually stays the same.

When you write the number that is 1 more, the \_\_\_\_\_ digit usually stays the same.

## 4B Adding small numbers

### Discover

Write the six number pairs for 10.

Use the number pairs to help you add these numbers.  
The first one has been done for you.

$$\begin{array}{c} 10 \\ \text{---} \\ \textcircled{4} + 3 + \textcircled{6} = 13 \end{array}$$

$1 + 6 + 9 =$

$8 + 4 + 6 =$

$5 + 7 + 5 =$

$8 + 5 + 2 =$

$6 + 3 + 7 =$

$5 + 5 + 4 =$

$4 + 5 + 6 =$

Now add these numbers together.

Look for number pairs for 10 or three numbers to make 10.

$1 + 2 + 3 + 4 + 5 =$

$4 + 5 + 6 + 7 =$

$2 + 3 + 4 + 5 + 6 =$

$3 + 4 + 3 + 4 =$

$2 + 2 + 6 + 6 =$

$8 + 9 + 1 + 1 =$

$7 + 6 + 5 + 4 + 3 =$

$2 + 4 + 6 + 8 =$

## 4B Adding small numbers

### Explore



Choose four of these numbers. Add them together.  
How many **different** totals can you make?

Add all five of the numbers together.  
Put them in a different order to help you.

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

Remove 0 from a set of 0–9 digit cards. Shuffle and turn over the top five cards. Add them together. Put the cards in a different order to help you add them. Shuffle the cards and turn over the top five again.

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

$$\underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

# 4C Add and subtract a single-digit number

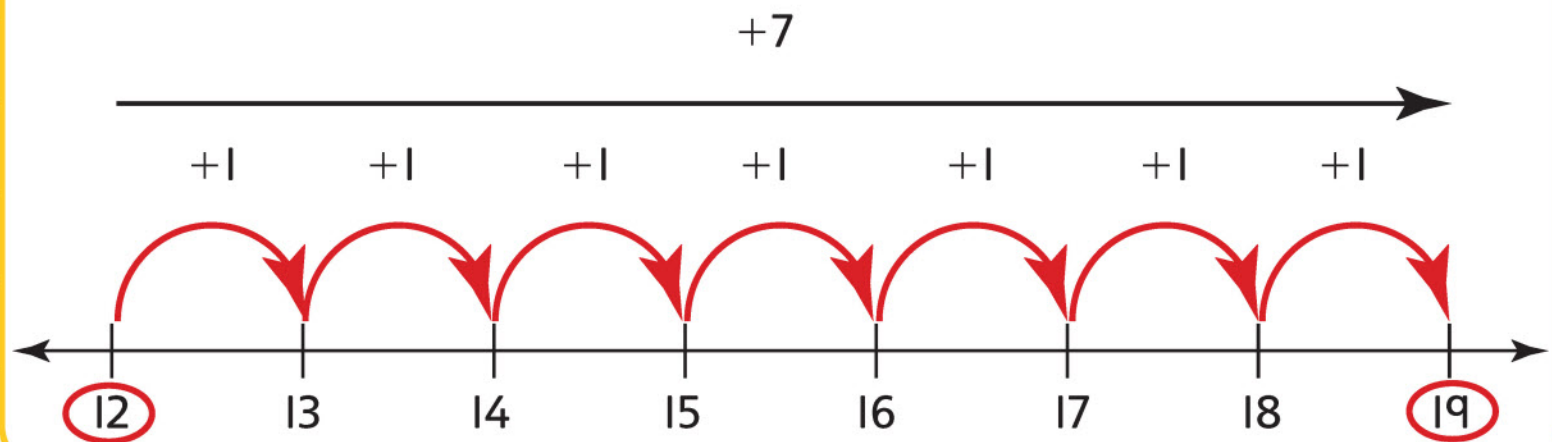
## Discover

Worked example

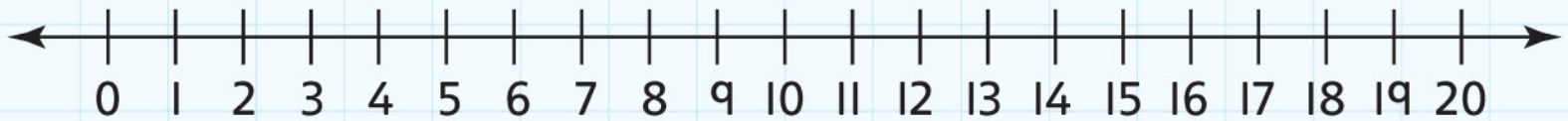
$$12 + 7 = 19$$

Find 12 on the number line and circle it.

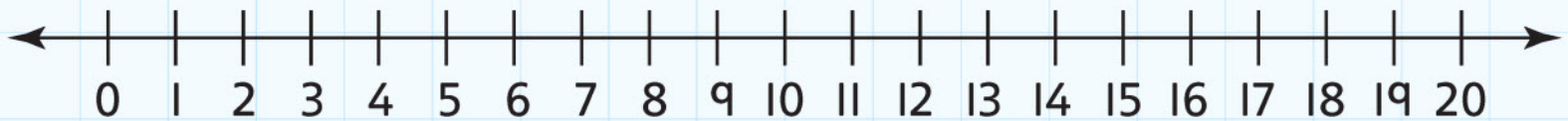
Count on 7, jumping one space forward each time you say the next number. Draw a circle around the last number you land on.



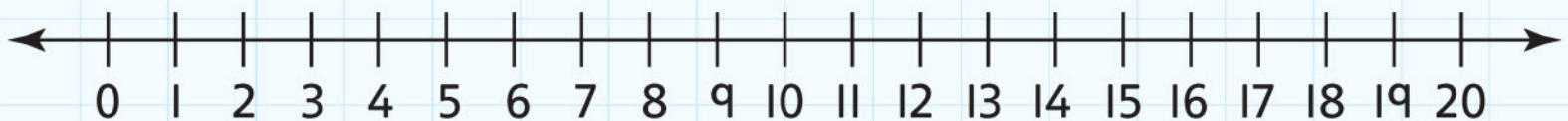
$$13 + 4 =$$



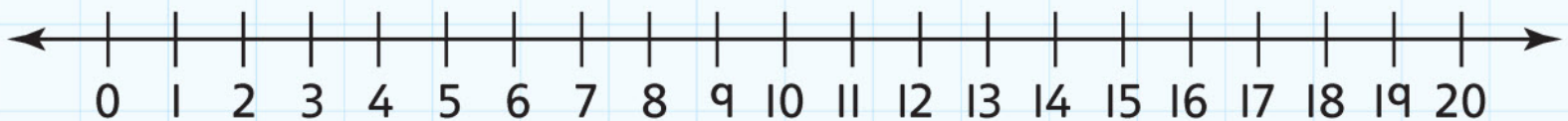
$$11 + 8 =$$



$$14 - 6 =$$

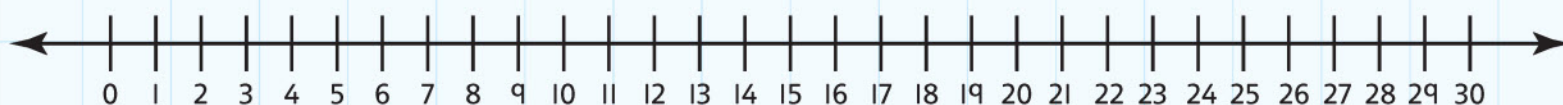


$$17 - 8 =$$

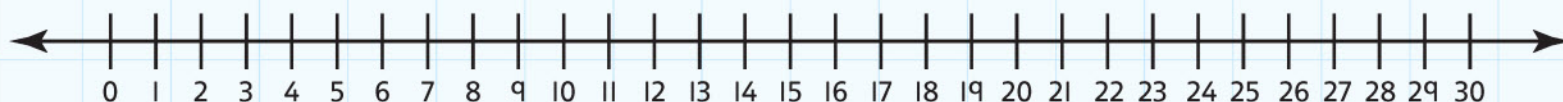


## to/from a 2-digit number

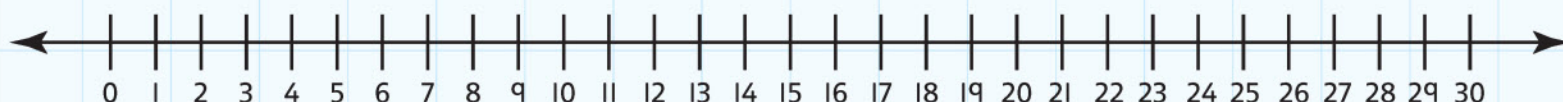
$16 + 9 =$



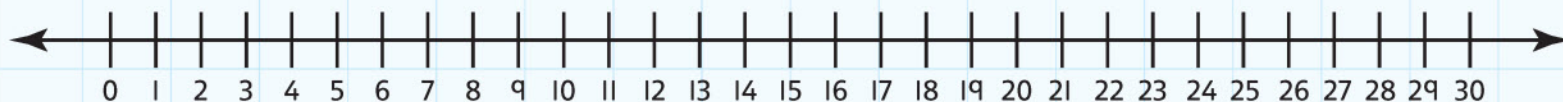
$22 + 6 =$



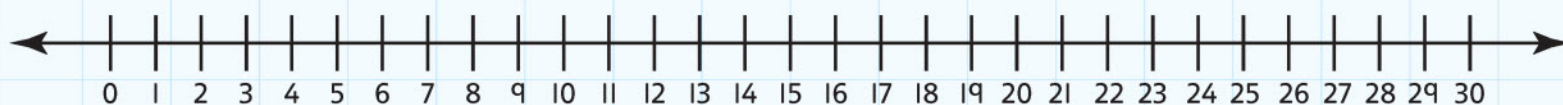
$29 - 5 =$



$22 - 7 =$



$28 - 9 =$



Complete these sentences using the word **right** or **left**.

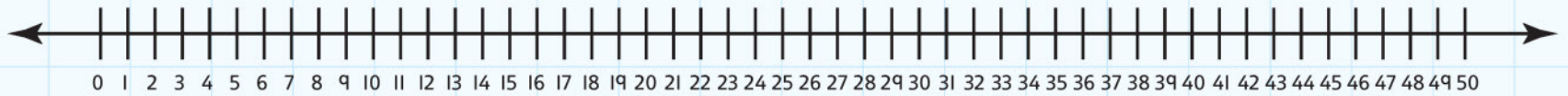
When you **add** on a number line, you count along the number line to the \_\_\_\_\_.

When you **take away** on a number line, you count back on the number line to the \_\_\_\_\_.

# 4C Add and subtract a single-digit number

## Explore

Add or subtract to find the missing numbers.  
Use the number line to help you.



Subtract 8	
19	
21	
47	
26	
32	

+	4	7	9
17			
24			
32			

Add 6	
19	
21	
47	
26	
32	

Add 8	
36	
27	
14	
21	
18	

-	3	5	9
17			
24			
32			

Subtract 6	
36	
27	
14	
21	
18	

Draw a line from each number to the correct answer.

42

36 -	9	=	29	29 +	2	=	38
	7		31		9		33
	5		27		4		31

# 4D Adding two 2-digit numbers

## Discover

Worked example

$$\begin{array}{c}
 21 + 17 = 38 \\
 \swarrow \quad \downarrow \quad \downarrow \quad \searrow \\
 20 \quad 1 \quad 10 \quad 7 \\
 20 + 10 = 30 \quad 1 + 7 = 8 \\
 \swarrow \quad \searrow \\
 30 + 8 = 38
 \end{array}$$

Split each number into tens and ones. Add the tens. Add the ones. Add the two new totals. You do not need to draw the arrows. They just show you where the numbers came from. This is the short way to write the number sentence:

$$21 + 17 = 20 + 10 + 1 + 7 = 38$$

Solve these addition number sentences.

$25 + 13 = 20 + 10 + 5 + 3 =$

$28 + 14 =$

$37 + 21 =$

$24 + 19 =$

15	61	47
74	26	82
38	53	19

+ 23


Complete this addition grid.

+	15	42	21	37	53	29	64
19							
33							

# 4D Adding two 2-digit numbers

## Explore

Solve this cross-number puzzle.

1			2	
		3		
	4			6
5			7	
		8		

### Clues

#### Across

1.  $17 + 15$
2.  $43 + 52$
3.  $28 + 13$
4.  $29 + 27$
5.  $37 + 31$
7.  $42 + 41$
8.  $58 + 39$

#### Down

1.  $25 + 12$
2.  $47 + 44$
3.  $27 + 19$
4.  $31 + 27$
5.  $38 + 26$
6.  $18 + 15$
7.  $45 + 42$

Write the clues for this cross-number puzzle.

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

### Clues

#### Across

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_

#### Down

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

The chickens laid 18 eggs on Monday and 23 eggs on Tuesday. How many eggs altogether?

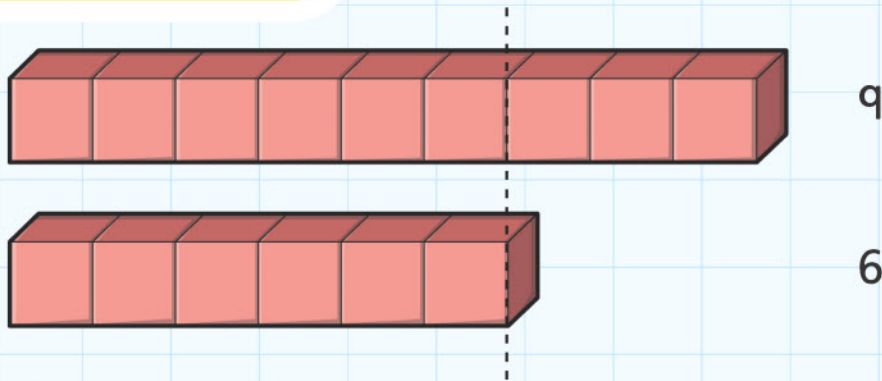
There were 27 students in one class and 28 in another class. How many students altogether?

Make up a number story to go with this calculation:  $25 + 19 = 44$

Here is an example. There were 25 students in one class and 19 in another class. There were 44 students altogether. What will your story be about?

# 4E Finding the difference

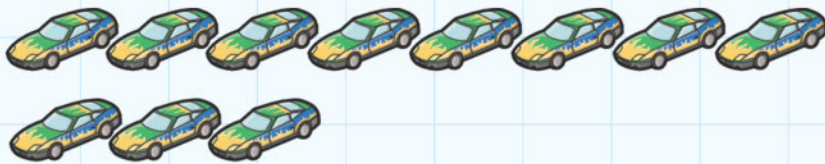
## Discover



The difference between  
9 and 6 is 3

$$9 - 6 = 3$$

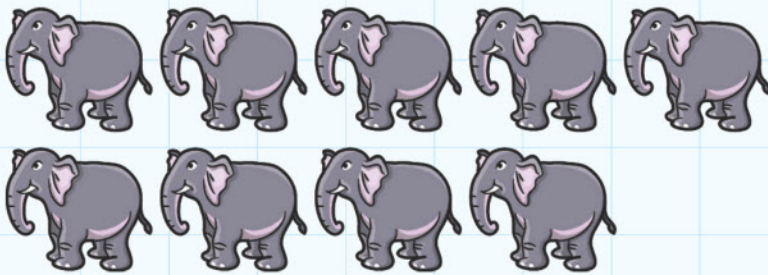
Find the difference.



The difference between

and  is

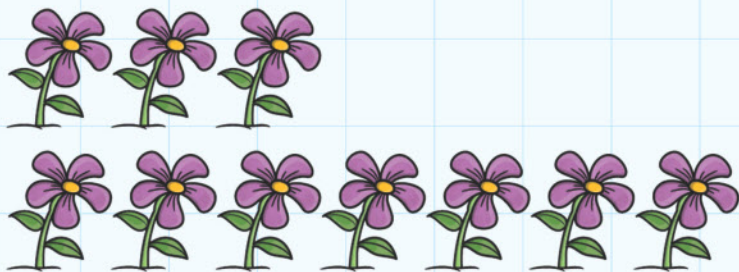
-  =



The difference between

and  is

-  =



The difference between

and  is

-  =

The difference between 14 and 8 is

$14 - 8 =$

The difference between 19 and 7 is

$19 - 7 =$

The difference between 17 and 12 is

$17 - 12 =$

The difference between 24 and 18 is

$24 - 18 =$

The difference between 38 and 31 is

$38 - 31 =$

Make up a number story to go with this calculation:  $28 - 9 = 19$

Here is an example. There were 28 students in a class.

9 students were unwell so only 19 students were at school.

What will your story be about?

## 4E Finding the difference

### Explore

$34 - 28 =$

$27 - 25 =$

$36 - 32 =$

$22 - 18 =$

$61 - 57 =$

$63 - 58 =$

$42 - 39 =$

$31 - 28 =$

$82 - 79 =$

$74 - 69 =$

$53 - 49 =$

$45 - 38 =$

$29 - 25 =$

$53 - 47 =$

You could **count back** from these numbers to find the difference.

-	21	23	25
27			
28			
29			

You could **count on** from these numbers to find the difference.

Complete these sentences using the words **count on** or **count back**.

To find a small difference between two numbers, you can

\_\_\_\_\_ from the smaller to the larger number.

To find a small difference between two numbers, you can

\_\_\_\_\_ from the larger to the smaller number.

# 4F Missing numbers

## Discover

Think: How many more to make 45?

Count up from 27 to 45, the missing number is 18.

Think: How many more to make 45?

I did it a different way.

I know  $7 + 3 = 10$ , so  $27 + 3 = 30$ ,  
 $30 + 10 = 40$ ,  $40 + 5 = 45$ .

### Worked example

$$27 + \boxed{\phantom{00}} = 45 \quad 27 + \boxed{18} = 45$$

$$45 - 27 = \boxed{\phantom{00}} \quad 45 - 27 = \boxed{18}$$

Think: Make it a subtraction

$$45 - 27 = \boxed{\phantom{00}}$$

$$45 - 20 = 25, 25 - 7 = 18$$

The missing number is 18.

Think: Make it a subtraction

If it was a smaller difference, I could have counted up on a number line.

Find the missing numbers.

$$15 + \boxed{\phantom{00}} = 20$$

$$19 + \boxed{\phantom{00}} = 30$$

$$\boxed{\phantom{00}} + 40 = 100$$

$$\boxed{\phantom{00}} + 25 = 40$$

$$40 + \boxed{\phantom{00}} = 57$$

$$63 + \boxed{\phantom{00}} = 88$$

$$\boxed{\phantom{00}} + 16 = 63$$

$$\boxed{\phantom{00}} + 61 = 80$$

$$\boxed{\phantom{00}} + 49 = 67$$

Think: Count back on a number line.

I need to count back 9 to get from 34 to 25, so the missing number is 9.

Think: How many do I need to take away to get from 34 to 25?

$34 - 10$  is 24, so  $34 - 9$  is 25.

The missing number is 9.

Worked example

$$34 - \square = 25 \quad 34 - 9 = 25$$

$$25 + \square = 34 \quad 25 + 9 = 34$$

Think: Make it an addition and count up from 25 to 34.

$25 + 5 = 30$ ,  $30 + 4 = 34$ .

$5 + 4 = 9$ , the missing number is 9.

Think: Count up in my head.

25 and 5 is 30, 30 and 4 is 34, so I counted on 5 and 4, that's 9.

Find the missing numbers.

$$25 - \square = 20$$

$$47 - \square = 30$$

$$30 - \square = 19$$

$$\square - 13 = 64$$

$$\square - 31 = 27$$

$$\square - 39 = 52$$

$$86 - \square = 59$$

$$76 - \square = 34$$

$$62 - \square = 41$$

# 4F Missing numbers

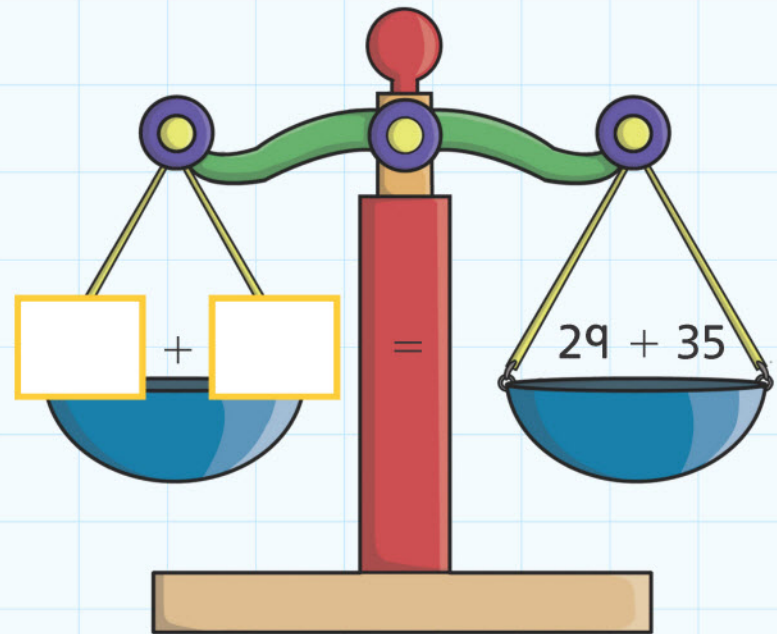
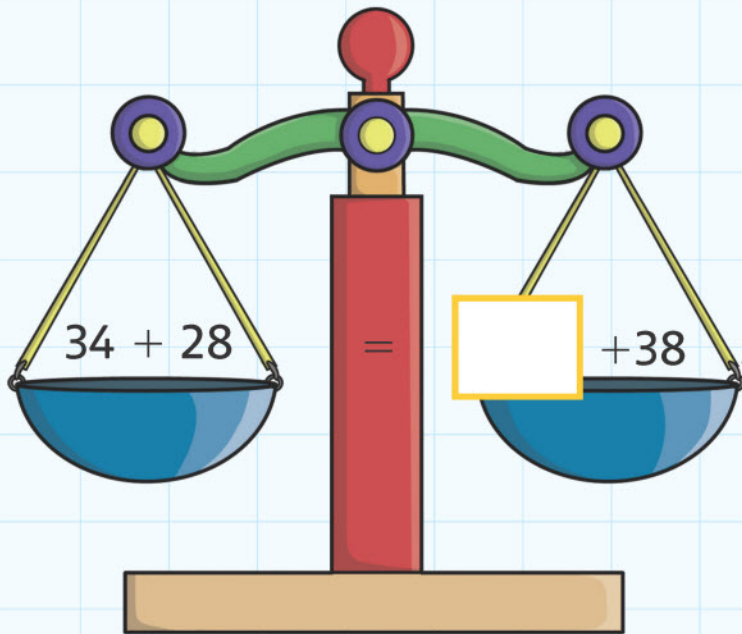
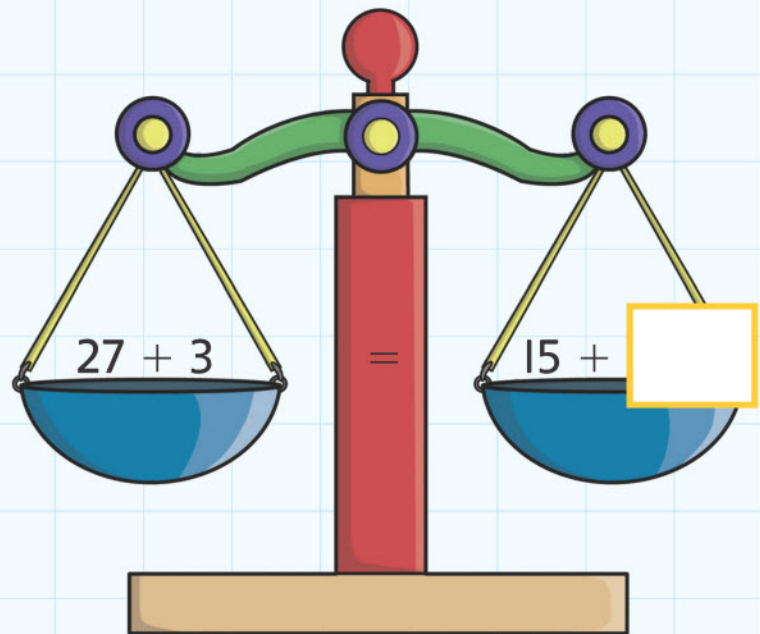
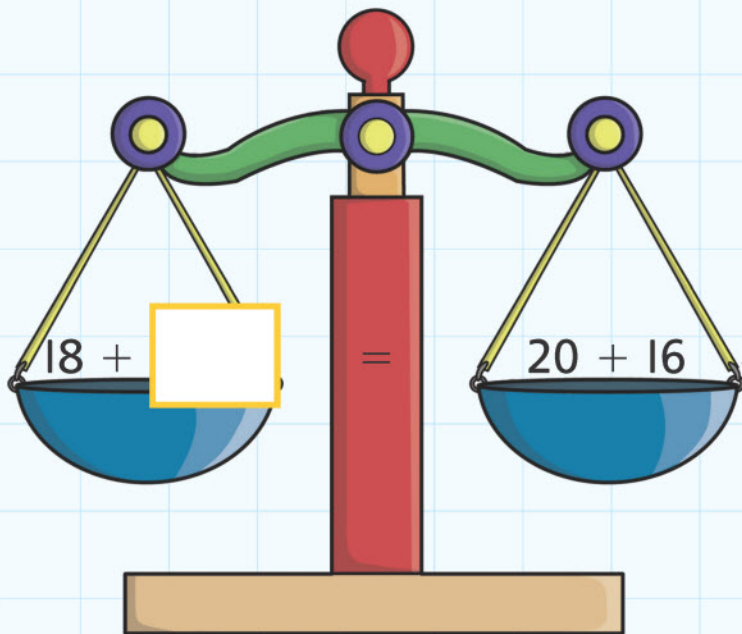
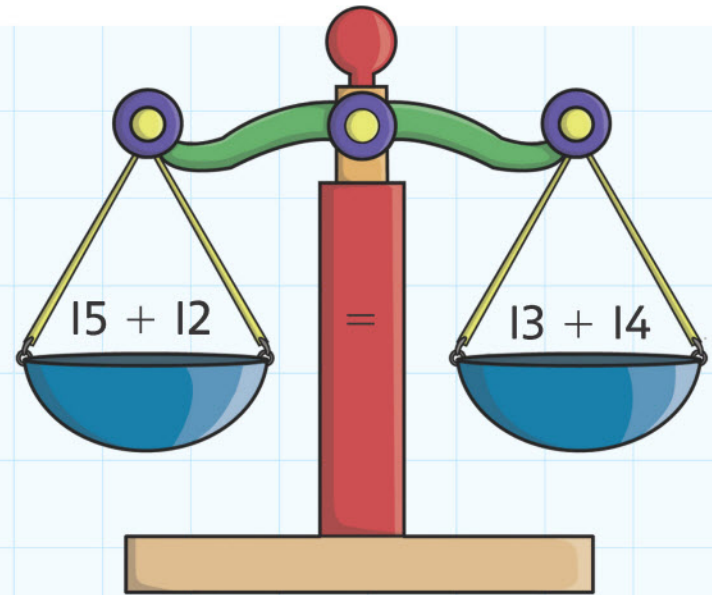
## Explore

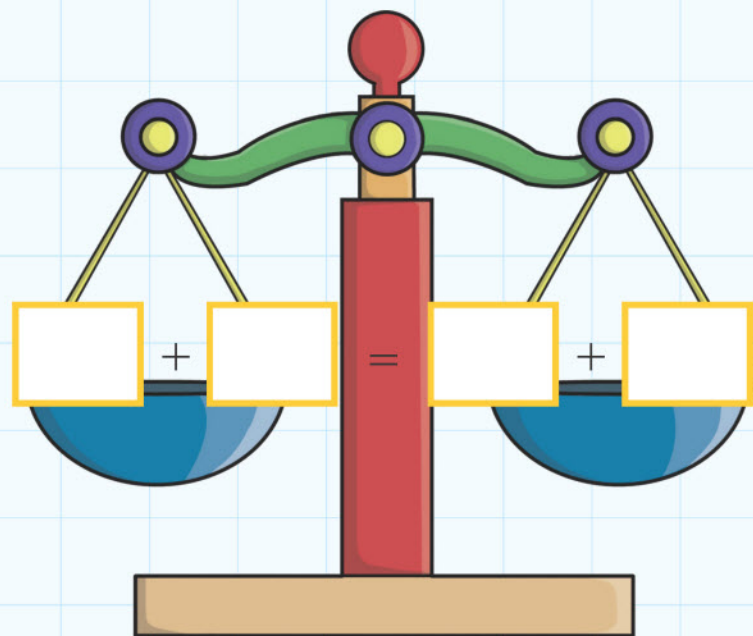
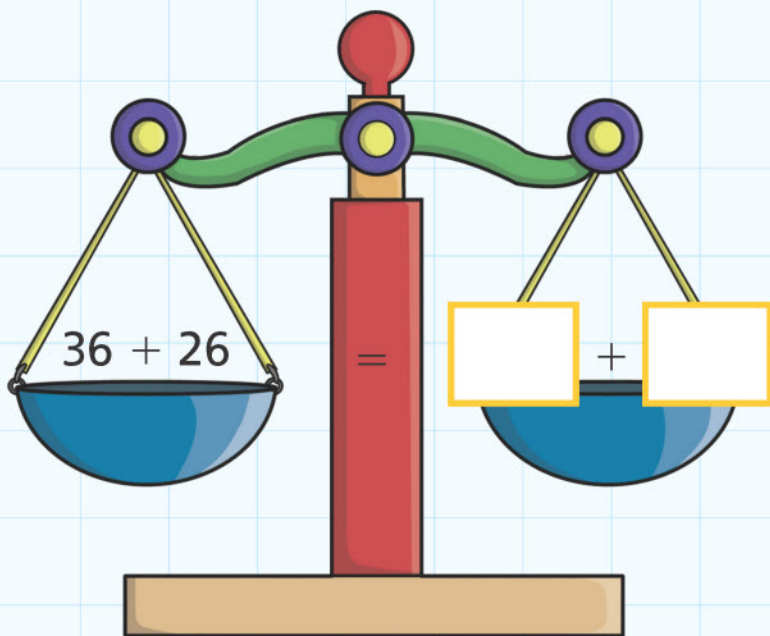
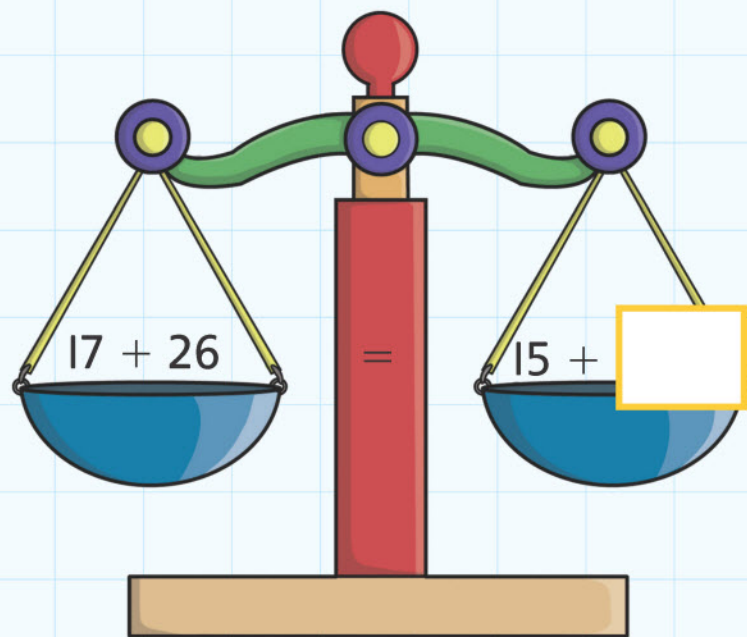
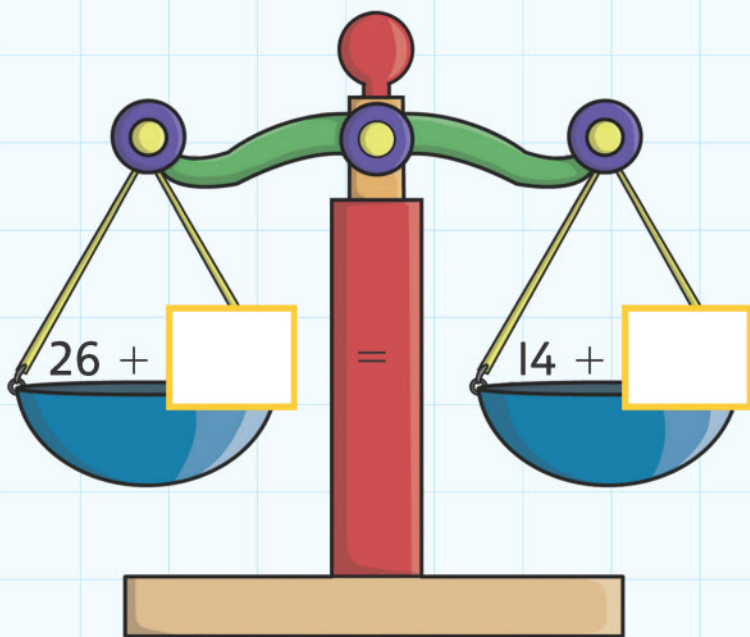
The scales show that the totals each side of the equals sign are the same. The scales **balance**.

So we could write

$$15 + 12 = 13 + 14$$

Make these scales balance





Write **true** or **false** next to each sentence.

$$9 + 14 = 14 + 9 \quad \underline{\hspace{2cm}}$$

$$42 + 16 = 46 + 12 \quad \underline{\hspace{2cm}}$$

$$23 + 25 = 32 + 52 \quad \underline{\hspace{2cm}}$$

$$45 - 12 = 19 + 26 \quad \underline{\hspace{2cm}}$$

$$68 - 31 = 23 + 14 \quad \underline{\hspace{2cm}}$$

$$26 + 24 = 25 + 25 \quad \underline{\hspace{2cm}}$$

$$74 - 38 = 81 - 44 \quad \underline{\hspace{2cm}}$$

$$57 - 25 = 55 - 27 \quad \underline{\hspace{2cm}}$$

## 4 Calculating – addition and subtraction

### Connect

What happens when you take a 2-digit number, swap the digits round and **add** the two numbers?

$$32 + 23 = 30 + 20 + 2 + 3 = 55$$

$$62 + 26 = 60 + 20 + 2 + 6 = 88$$

Try some more numbers. What do you notice?

Colour the totals on a 100-square to help you.

When you take a 2-digit number, swap the digits round and add the two numbers, the answer \_\_\_\_\_

\_\_\_\_\_

## 4 Calculating – addition and subtraction

### Review

What happens when you take a 2-digit number, swap the digits round and **subtract** the larger number from the smaller number?

$$73 - 37 = 36$$

$$82 - 28 = \square$$

Predict what you think will happen.

I think \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Try some numbers. What do you notice?

When you take a 2-digit number, swap the digits round and subtract the smallest number from the largest number, the answer

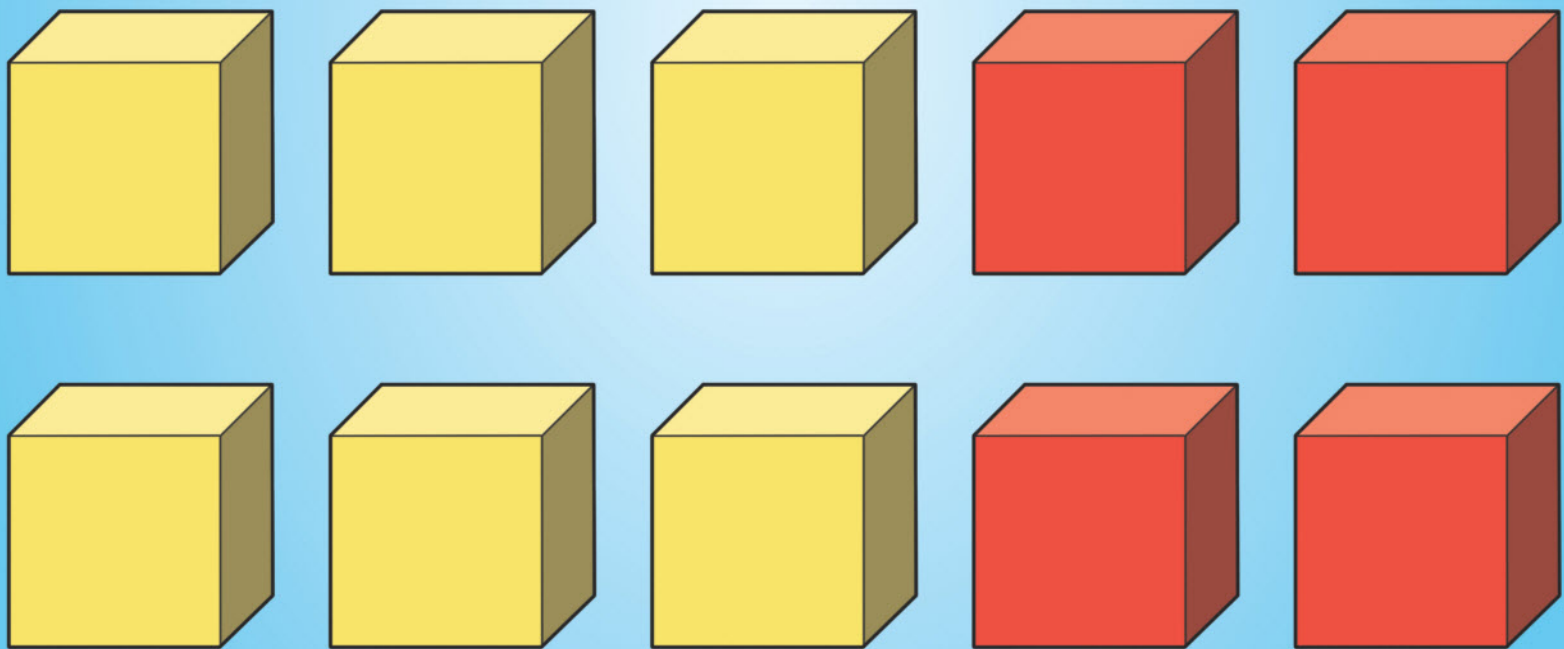
\_\_\_\_\_  
\_\_\_\_\_

# 5 Number Families

## Engage

What is a fact family?

There are lots of different people in my family, so there must be more than two facts in a **fact family**.



But everyone in your family is related to each other, so the number facts in a **fact family** must be related too.

But *how* are they related?

# 5A Fact families for number pairs to 20

## Discover

$20$   
 $1 + 19$   
 $19 + 1 = 20$   
 $1 + 19 = 20$   
 $20 - 19 = 1$   
 $20 - 1 = 19$

$\square + \square = \square$   
 $\square + \square = \square$   
 $\square - \square = \square$   
 $\square - \square = \square$

$\square + \square = \square$   
 $\square + \square = \square$   
 $\square - \square = \square$   
 $\square - \square = \square$

Which fact family did not need all the floors in the house? \_\_\_\_\_

\_\_\_\_\_

# 5A Fact families for number pairs to 20

## Explore



Complete these sentences.

I found the fact families for number \_\_\_\_\_.

There are \_\_\_\_\_ different families.

Write any fact family which did not need all the floors in the house here.

\_\_\_\_\_

# 5B Fact families for multiples of 10 to 100

## Discover

Number pairs for 10		Number pairs for 100 using multiples of 10
$10 + 0 = 10$	<p>→</p> <p>Multiply each number by 10 to make it 10 times bigger, so each number pair for 10 becomes a number pair for 100 using multiples of 10</p> <p>→</p>	$100 + 0 = 100$

Write the two related subtraction facts for this number pair:

$80 + 20 = 100$ ,  $20 + 80 = 100$  \_\_\_\_\_

Circle the number which does not belong to the fact family.  
The first one has been done for you.

100 | 20 | 70 | 80

6 | 20 | 10 | 4

4 | 2 | 8 | 10

100 | 50 | 100 | 50

40 | 60 | 30 | 100

50 | 100 | 0 | 100

0 | 10 | 10 | 1

9 | 10 | 1 | 3

10 | 7 | 4 | 3

70 | 100 | 40 | 30

10 | 40 | 100 | 90

5 | 10 | 5 | 0

Complete the following sentence using the word **bigger** or **smaller**.

Number pairs for 100 using multiples of 10 are the same as number pairs for 10, they are just ten times

\_\_\_\_\_.

# 5B Fact families for multiples of 10 to 100

## Explore

Write the fact family for each number pair for 100 using multiples of 10.



Which fact family did not need all the floors in the house?

\_\_\_\_\_.

# 5 Number families

## Connect

Look at these statements about fact families. Write **true** or **false** next to each statement and give at least three examples to show that your answer is correct. The first one has been done for you.

All fact families have four related facts.

false

①

$$5 + 5 = 10$$

$$10 - 5 = 5$$

②

$$10 + 10 = 20$$

$$20 - 10 = 10$$

③

$$3 + 3 = 6$$

$$6 - 3 = 3$$

There are only two facts in these fact families.

Each set of number pairs has a fact family with only two facts.

Each fact family can be recorded as a triangle.

# 5 Number families

## Review

Here is an alien number sentence.



They use add (+), subtract (−) and equals (=) just like we do.

Write the other three number sentences in the alien fact family.



# 6 Multiplication and Division

Engage

How many?

Special offer:  
Trainers \$30 a pair

Special offer:  
Coloured pencils  
\$2 pack of 10

10 packs of 10

10 packs of 10

10 packs of 10

Special offer:  
5 cakes \$1 pack of 5

Special offer:  
5 cakes \$1 pack of 5

# 6A Twos

## Discover

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	

# 2

Complete the sentence using the word **even** or **odd**.

When you count in twos from 0, all the numbers are \_\_\_\_\_.

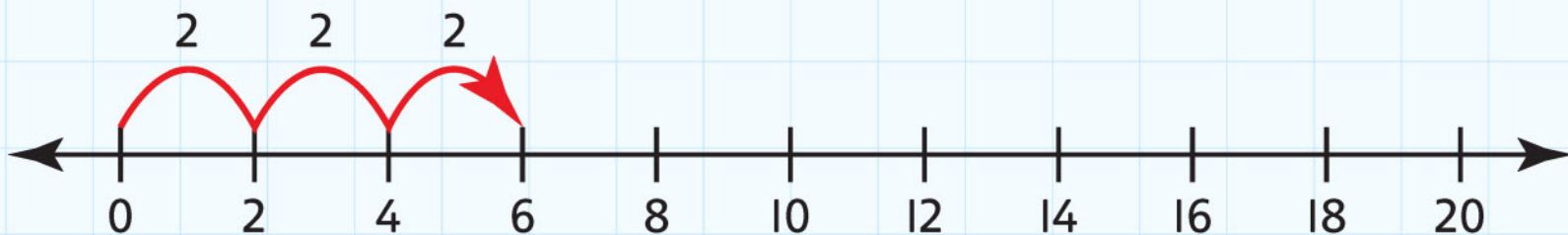
Start at 0. Draw 3 jumps of 2.

Which numbers do you land on?

2, 4, 6

Which number did you finish on?

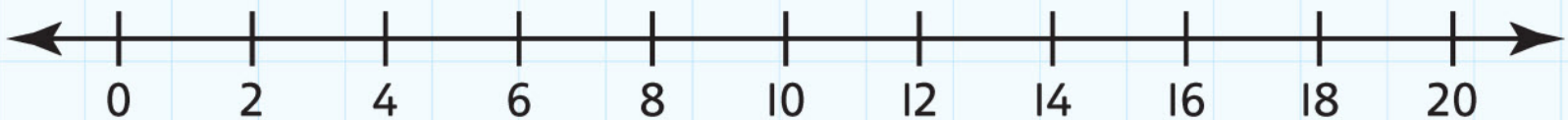
6



Start at 0. Draw 5 jumps of 2.

Which numbers do you land on?

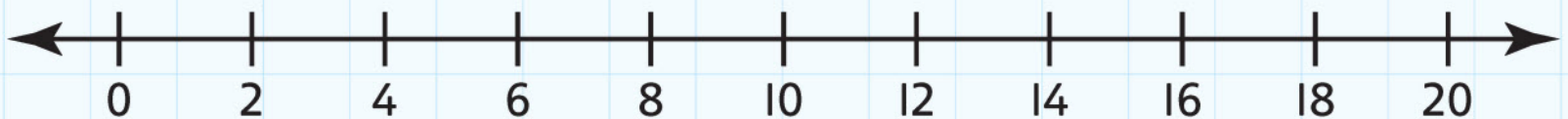
Which number did you finish on?



Start at 0. Draw 8 jumps of 2.

Which numbers do you land on?




Which number did you finish on?



# 6A Twos

## Explore

Complete the two times table up to  $10 \times 2$ .

$0 \times 2 = 0$	
$1 \times 2 = 2$	 2
$2 \times 2 = 4$	 $2 + 2 = 4$
3	 $2 + 2 + 2 =$
4	
5	
6	
7	
8	
9	
10	

Complete this sentence using either **odd** or **even**.

All the totals in the two times table are \_\_\_\_\_.

## 6B Fives and tens

### Discover

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	

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	

# 5

Complete the sentence using two of the words **zero**, **one**, **two** and **five**.

When you count in fives from 0, all the ones have \_\_\_\_\_ or \_\_\_\_\_.

# 10

Complete the sentence using either **zero** or **five**.

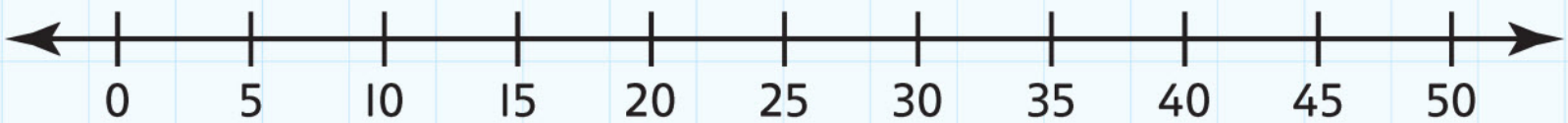
When you count in tens from 0, all the ones have \_\_\_\_\_

\_\_\_\_\_.

Start at 0. Draw 4 jumps of 5.

Which numbers do you land on?

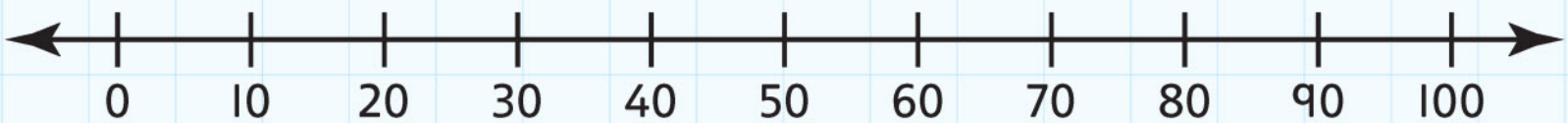
Which number did you finish on?



Start at 0. Draw 4 jumps of 10.

Which numbers do you land on?




Which number did you finish on?



## 6B Fives and tens




### Explore

Complete the five times table up to  $10 \times 5$ .

$0 \times 5 = 0$	
$1 \times 5 = 5$	 5
$2 \times 5 = 10$	 $5 + 5 = 10$
3	 $5 + 5 + 5 =$
4	
5	
6	
7	
8	
9	
10	

Complete this sentence using two of the words **zero**, **one**, **two** and **five**.  
When you count in fives from 0, all the ones have \_\_\_\_\_ or \_\_\_\_\_.

Complete the ten times table up to  $10 \times 10$ .

$0 \times 10 = 0$	
$1 \times 10 = 10$	 10
$2 \times 10 = 20$	 10 + 10 = 20
3	 10 + 10 + 10 =
4	
5	
6	
7	
8	
9	
10	

Complete this sentence using either **zero** or **five**.

When you count in tens from 0, all the ones have \_\_\_\_\_.

# 6C Threes and fours

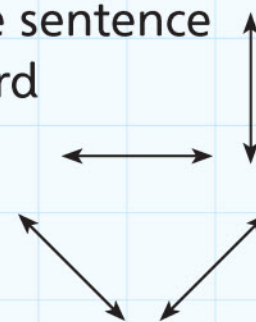
## Discover

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	

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	

# 3

Complete the sentence using the word **straight** or **diagonal**.



When you count in threes, the numbers make

\_\_\_\_\_ lines on the 100-square.

# 4

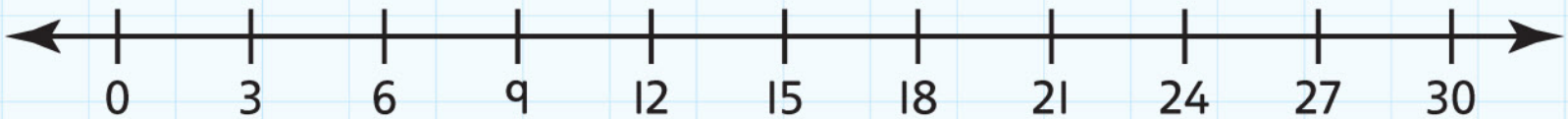
Complete the sentence using the word **even** or **odd**.

When you count in fours from 0, all the number are \_\_\_\_\_.

Start at 0. Draw 4 jumps of 3.

Which numbers do you land on?

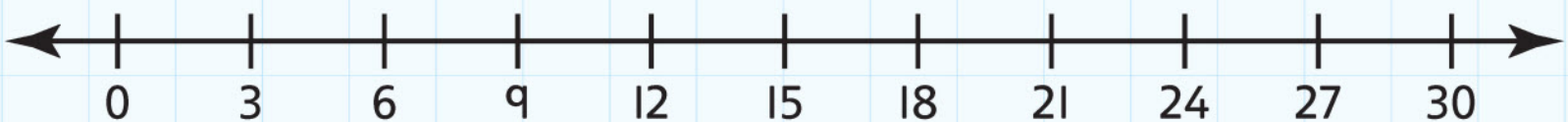
Which number did you finish on?



Start at 0. Draw 6 jumps of 3.

Which numbers do you land on?

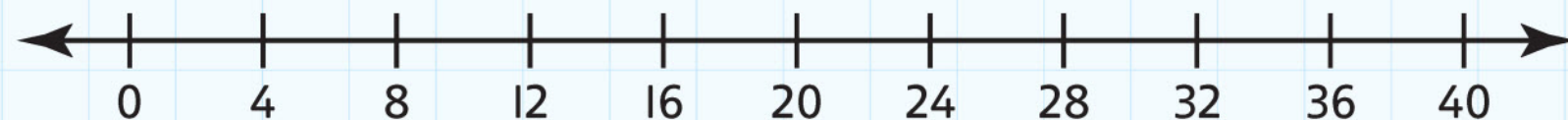
Which number did you finish on?



Start at 0. Draw 7 jumps of 4.

Which numbers do you land on?

Which number did you finish on?



## 6C Threes and fours

### Explore

Complete the three times table up to  $10 \times 3$ .

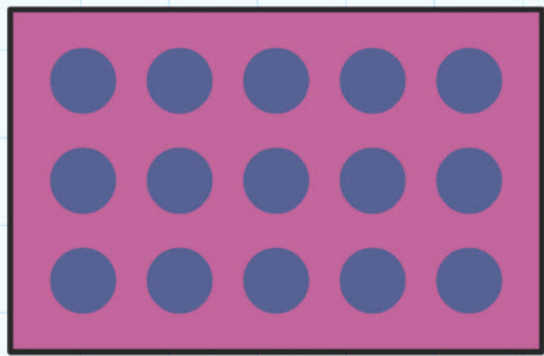
$0 \times 3 = 0$	
$1 \times 3 = 3$	3
$2 \times 3 = 6$	$3 + 3 = 6$
	$3 + 3 + 3 =$

Complete the four times table up to  $10 \times 4$ .

$0 \times 4 = 0$	
$1 \times 4 = 4$	4
$2 \times 4 = 8$	$4 + 4 = 8$
	$4 + 4 + 4 =$

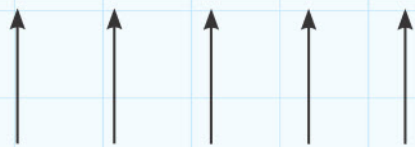
# 6D Arrays

## Discover



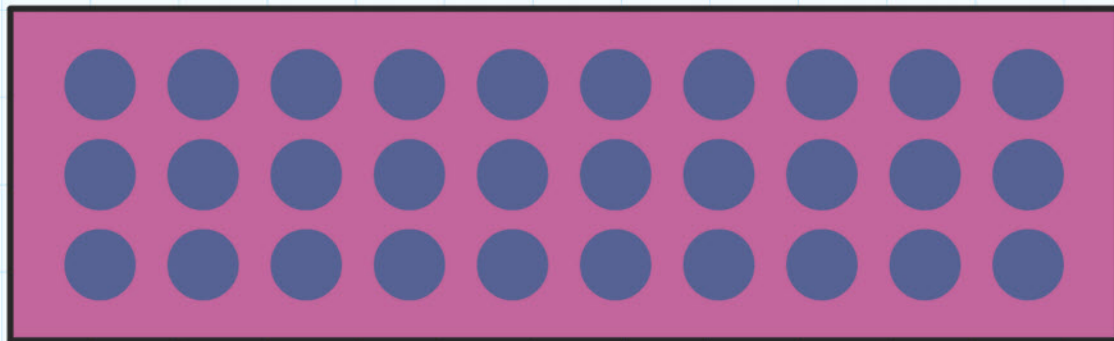
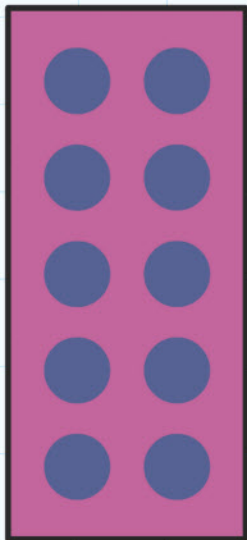
$$3 \times 5 = 15$$

$$\begin{array}{r} 3 \times 5 = 15 \\ \hline 5 \times 3 = 15 \end{array}$$



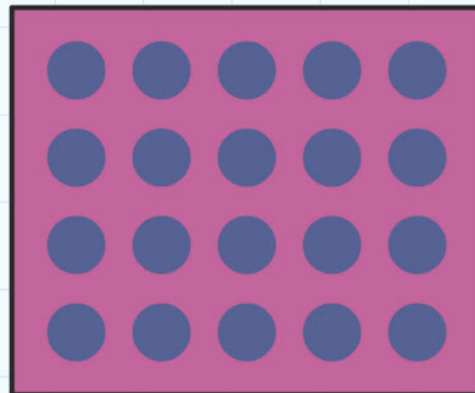
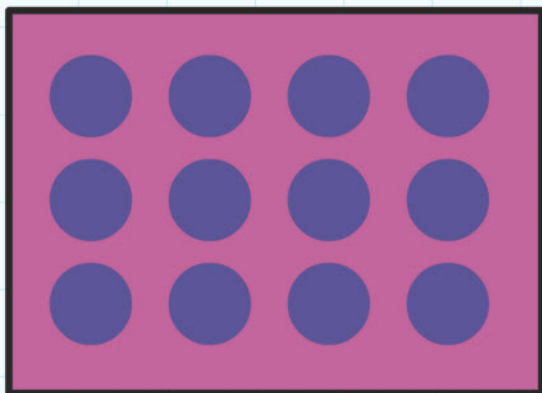
$$5 \times 3 = 15$$

Write two multiplications for each array.



---

---

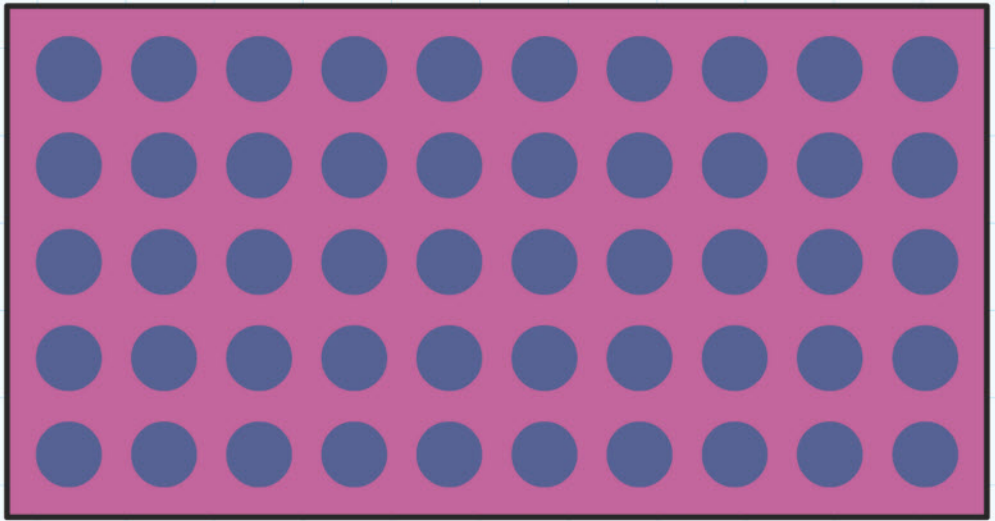
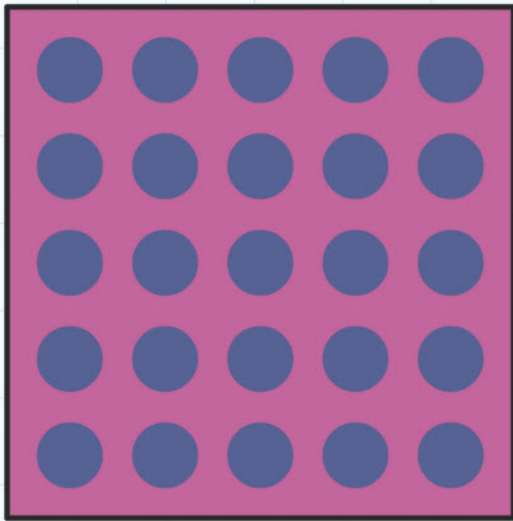


---

---

---

---

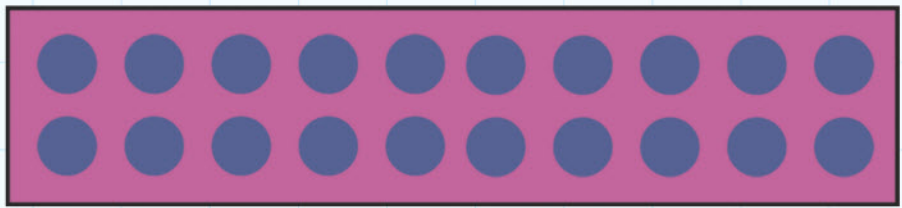
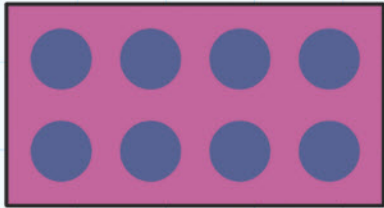


\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

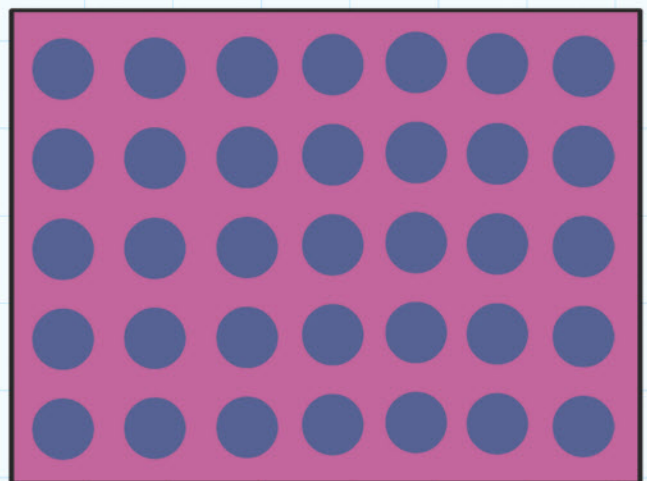
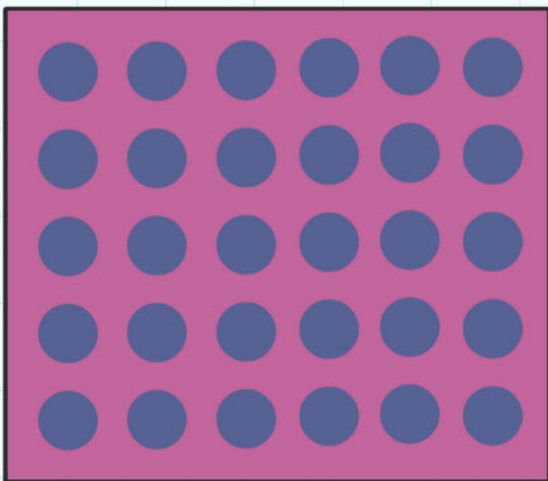


\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# 6D Arrays

## Explore

You need 24 counters, cubes or other small objects.

How many different arrays can you make?

Write the matching multiplications.

The first one has been done for you.



$$24 \times 1 = 24$$

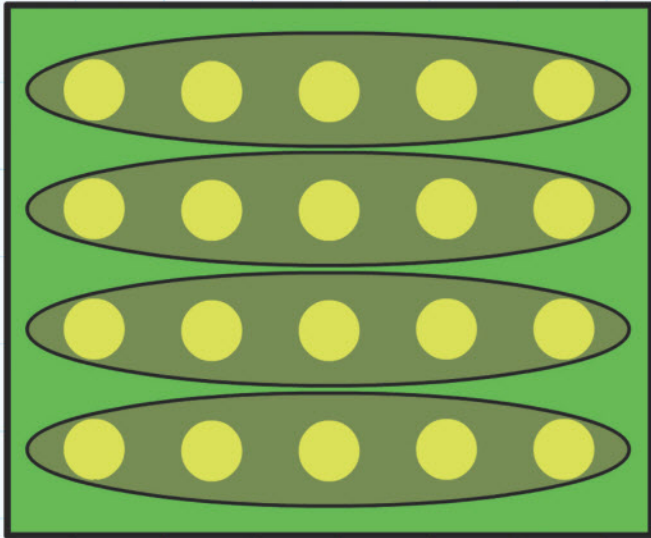
$$1 \times 24 = 24$$

Now try with 36 cubes or counters.

## 6E Division as grouping

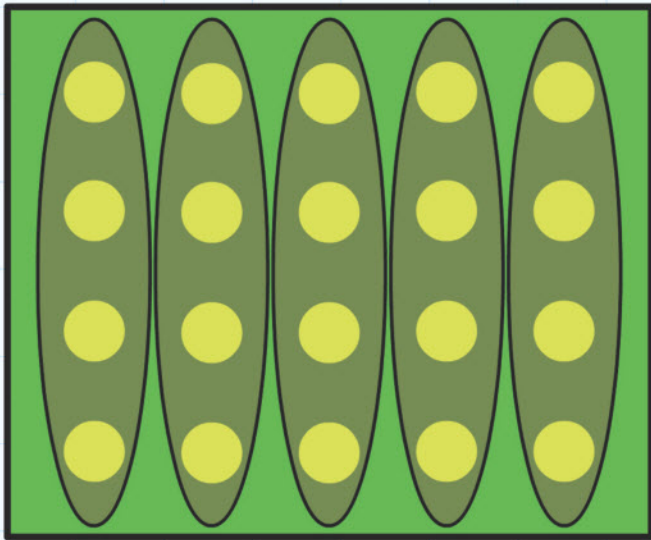
### Discover

Write the matching multiplication number sentences next to these arrays.



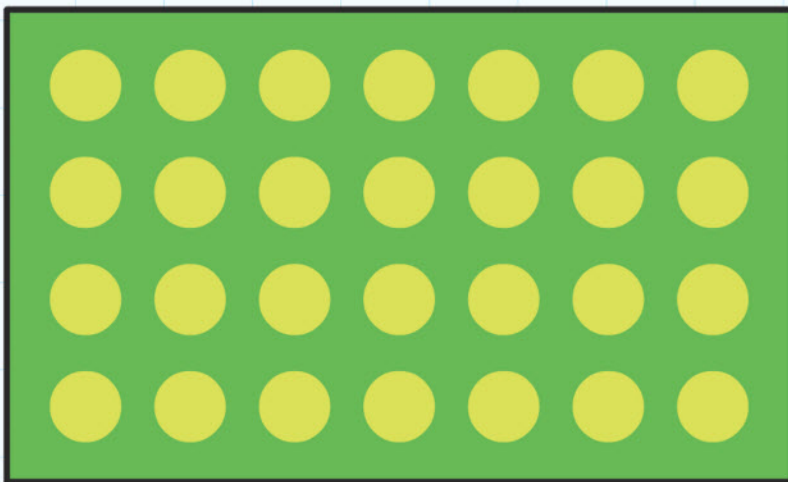
20 counters put into groups of 5.

$$20 \div 5 = 4$$



20 counters put into groups of 4.

$$20 \div 4 = \underline{\hspace{2cm}}$$

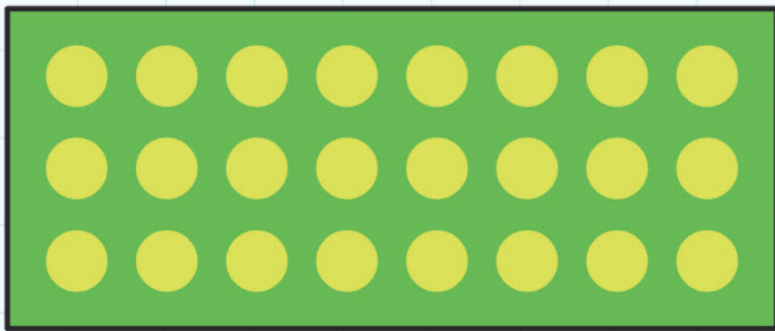


28 counters put into groups of 7.

$$28 \div 7 = \underline{\hspace{2cm}}$$

28 counters put into groups of 4.

$$28 \div 4 = \underline{\hspace{2cm}}$$

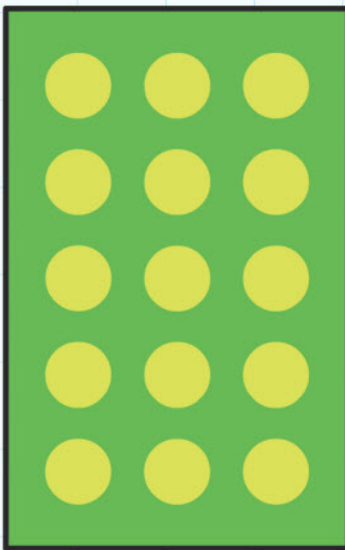


24 counters put into groups of 8.

$$24 \div 8 = \underline{\hspace{2cm}}$$

24 counters put into groups of 3.

$$24 \div 3 = \underline{\hspace{2cm}}$$

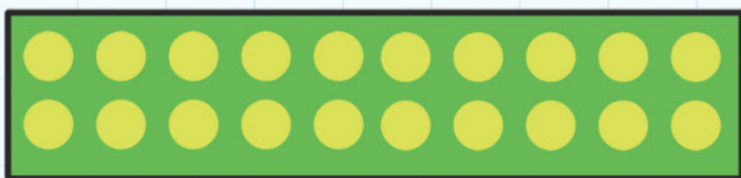


15 counters put into groups of 3.

$$15 \div 3 = \underline{\hspace{2cm}}$$

15 counters put into groups of 5.

$$15 \div 5 = \underline{\hspace{2cm}}$$



20 counters put into groups of 10.

$$20 \div 10 = \underline{\hspace{2cm}}$$

20 counters put into groups of 2.

$$20 \div 2 = \underline{\hspace{2cm}}$$

# 6E Division as grouping

## Explore

Find the matching divisions for each multiplication in the 2, 5 and 10 times tables. Draw the array to help you.

$0 \times 2 = 0$	$2 \times 0 = 0$	Try dividing by zero on a calculator. What happens?	
$1 \times 2 = 2$	$2 \times 1 = 2$	$2 \div 1 = 2$	$2 \div 2 = 1$
$2 \times 2 = 4$			
3			
4			
5			
6			
7			
8			
9			
10			

$0 \times 5 = 0$	$5 \times 0 = 0$	Try dividing by zero on a calculator. What happens?	
$1 \times 5 = 5$	$5 \times 1 = 5$	$5 \div 1 = 5$	$5 \div 5 = 1$
$2 \times 5 = 10$			
3			
4			
5			
6			
7			
8			
9			
10			

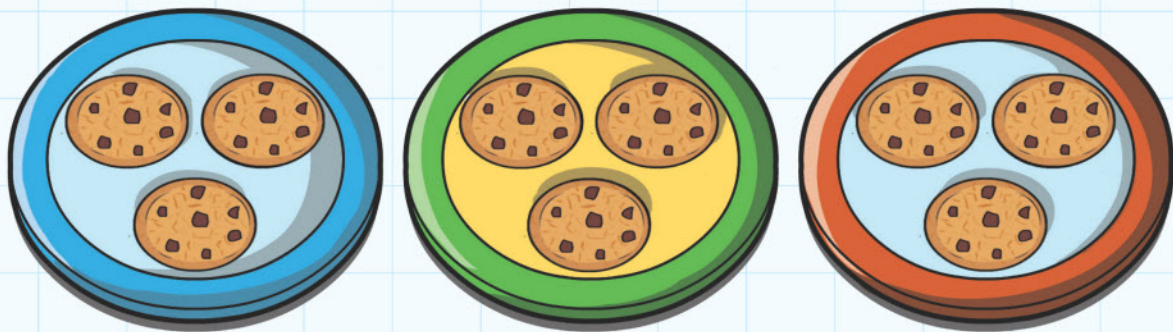
$0 \times 10 = 0$	$10 \times 0 = 0$	Try dividing by zero on a calculator. What happens?	
$1 \times 10 = 10$	$10 \times 1 = 10$	$10 \div 1 = 10$	$10 \div 10 = 1$
$2 \times 10 = 20$			
3			
4			
5			
6			
7			
8			
9			
10			

Talk to your partner (or group) about the patterns you have noticed. Describe one of the patterns.

# 6F Remainders

## Discover

Share 10 biscuits between 3 students.



3 each and 1 left over

$$10 \div 3 = 3 \text{ r } 1$$

Draw the groups and write the calculation for these problems.  
Remember to show any remainder.

Share 18 sweets between 4 students.

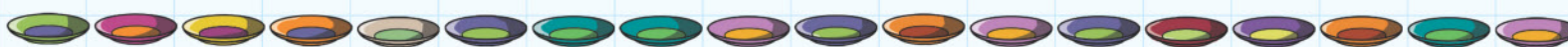


Put 21 balls into groups of 5.



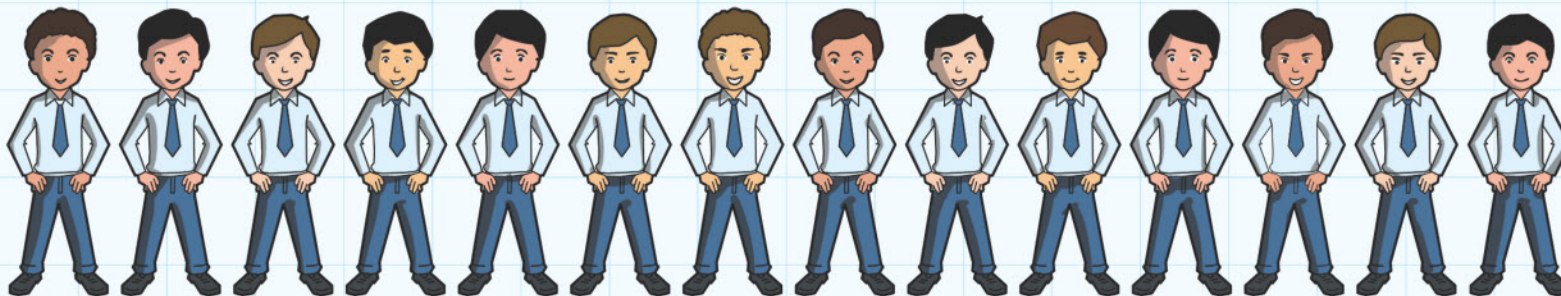
A large, empty white rounded rectangle for writing the answer to the first problem.

Put 18 plates into piles of 5.



A large, empty white rounded rectangle for writing the answer to the second problem.

Put 14 students into groups of 3.



A large, empty white rounded rectangle for writing the answer to the third problem.

## 6F Remainders

### Explore

Take a large handful of small objects.

Can you put the objects into groups of 2, 3, 4, 5 and 10?

Complete the sentences to show what you found out.

\_\_\_\_\_ objects put into groups of 2. There are \_\_\_\_\_ groups  
and \_\_\_\_\_ left over.

$$\text{_____} \div 2 = \text{_____}$$

\_\_\_\_\_ objects put into groups of 3. There are \_\_\_\_\_ groups  
and \_\_\_\_\_ left over.

$$\text{_____} \div 3 = \text{_____}$$

\_\_\_\_\_ objects put into groups of 4. There are \_\_\_\_\_ groups  
and \_\_\_\_\_ left over.

$$\text{_____} \div 4 = \text{_____}$$

\_\_\_\_\_ objects put into groups of 5. There are \_\_\_\_\_ groups  
and \_\_\_\_\_ left over.

$$\text{_____} \div 5 = \text{_____}$$

\_\_\_\_\_ objects put into groups of 10. There are \_\_\_\_\_ groups  
and \_\_\_\_\_ left over.

$$\text{_____} \div 10 = \text{_____}$$

Now choose groups of a different number to try.  
Complete the sentences to show what you did.

\_\_\_\_\_ objects put into groups of \_\_\_\_\_. There are \_\_\_\_\_  
groups and \_\_\_\_\_ left over.

$$\text{_____} \div \text{_____} = \text{_____}$$

\_\_\_\_\_ objects put into groups of \_\_\_\_\_. There are \_\_\_\_\_  
groups and \_\_\_\_\_ left over.

$$\text{_____} \div \text{_____} = \text{_____}$$

\_\_\_\_\_ objects put into groups of \_\_\_\_\_. There are \_\_\_\_\_  
groups and \_\_\_\_\_ left over.

$$\text{_____} \div \text{_____} = \text{_____}$$

\_\_\_\_\_ objects put into groups of \_\_\_\_\_. There are \_\_\_\_\_  
groups and \_\_\_\_\_ left over.

$$\text{_____} \div \text{_____} = \text{_____}$$

\_\_\_\_\_ objects put into groups of \_\_\_\_\_. There are \_\_\_\_\_  
groups and \_\_\_\_\_ left over.

$$\text{_____} \div \text{_____} = \text{_____}$$

## 6 Multiplication and division

### Connect

**How many students are in your class today?**

The teacher is going to put all the students in the class into groups of 2.  
Is there anyone without a partner?

The next activities need groups of 3, then 4, then 5, then 10.  
Will there be anyone who is not in a group?

Draw a picture to show your groups of 2, then 3, 4, 5 and 10.  
Write the matching division calculation next to each picture.

## 6 Multiplication and division

### Review

Write the matching times table, up to 10 times, below each of these three numbers.

2

5

10

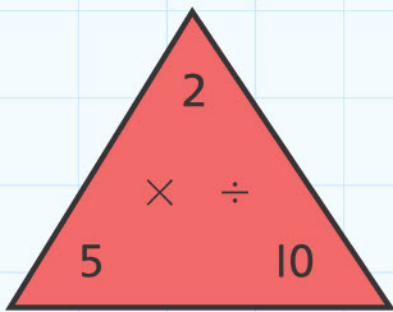
3

Count in threes. Label each mark on the number line.



4

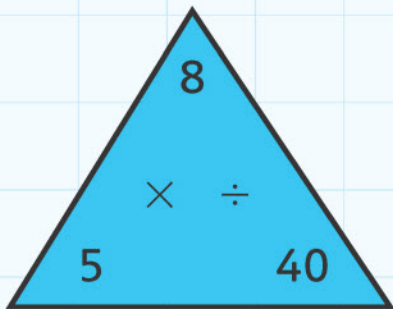
Count in fours. Label each mark on the number line.



Write the fact family for this triangle.

---

---



Write the fact family for this triangle.

---

---

There are 15 biscuits in a packet. Four students share the biscuits. They each get the same number.

How many biscuits do they get each? \_\_\_\_\_

How many biscuits are left over? \_\_\_\_\_

Write this in a number sentence. \_\_\_\_\_

---

Write a number story for this calculation:  $14 \div 3 = 4 \text{ r}2$

---

---

---



# 7

## Parts of a Whole

Engage

That's not fair!

But you've got more than me!

Here's yours, Mum said you could have half.



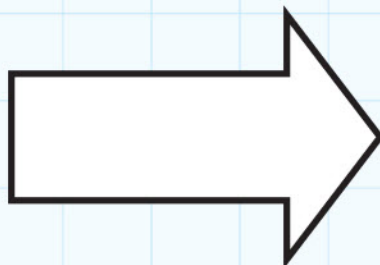
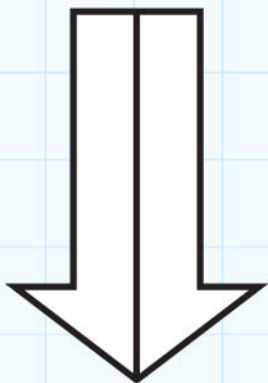
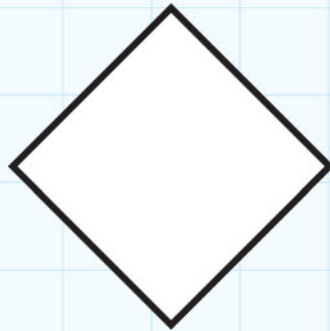
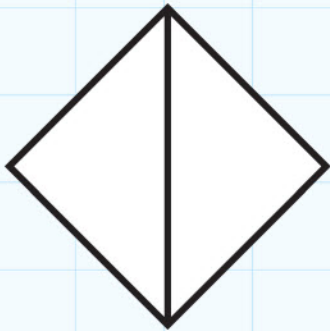
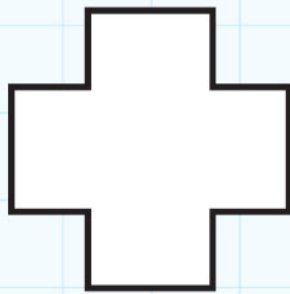
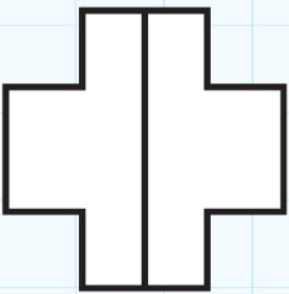
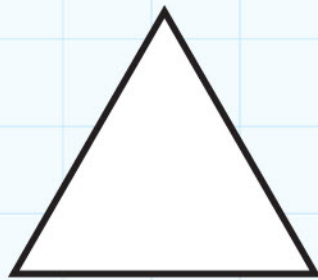
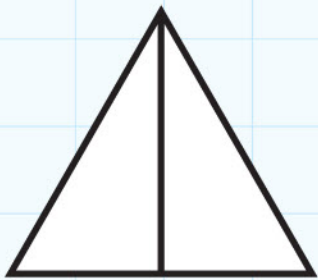
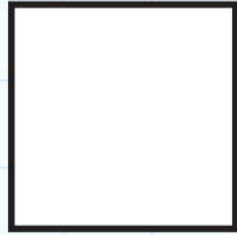
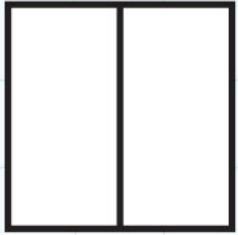
Are you saying that's not a half?

No, but it's not half of everything!

# 7A Half of a shape

## Discover

Colour half of each shape. Find a different way to show half of each shape. Label each half with the word **half** or the fraction  $\frac{1}{2}$ .



half

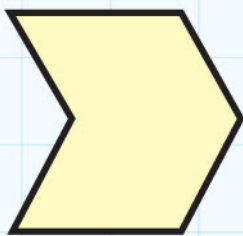
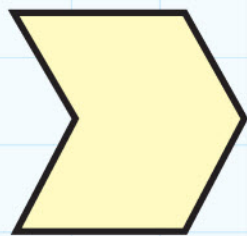
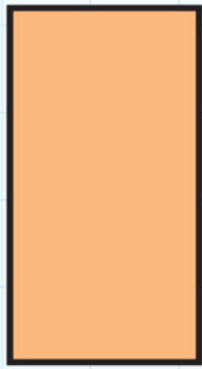
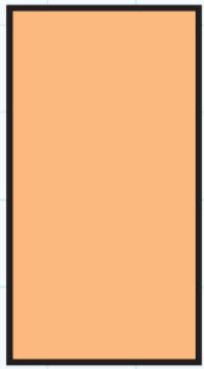
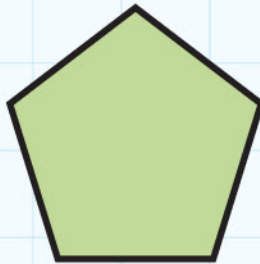
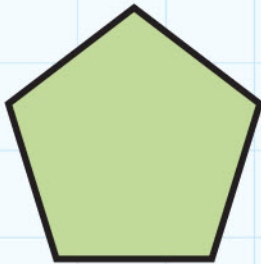
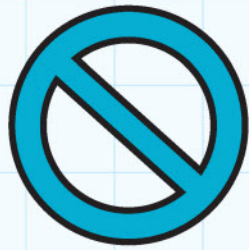
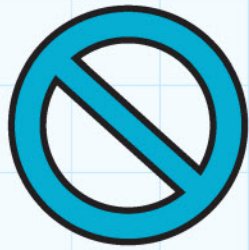
one out of two  
equal pieces

$\frac{1}{2}$

# 7A Half of a shape

## Explore

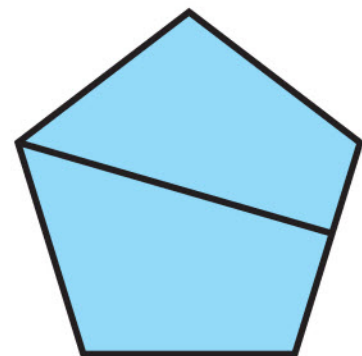
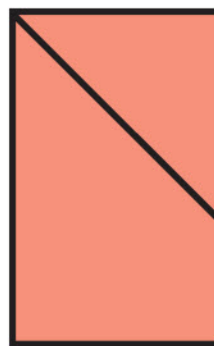
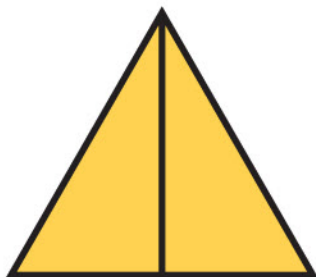
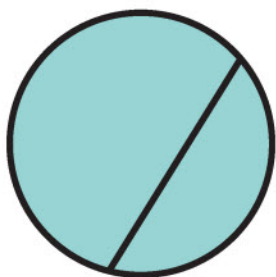
Find half of each shape in two different ways.  
Label each half with the word **half** or the fraction  $\frac{1}{2}$ .



Remember half  
one out of two  
equal pieces

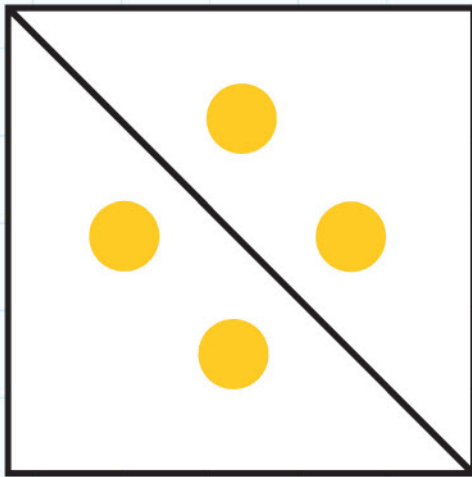
$$\frac{1}{2}$$

Tick ✓ the shapes that show half.

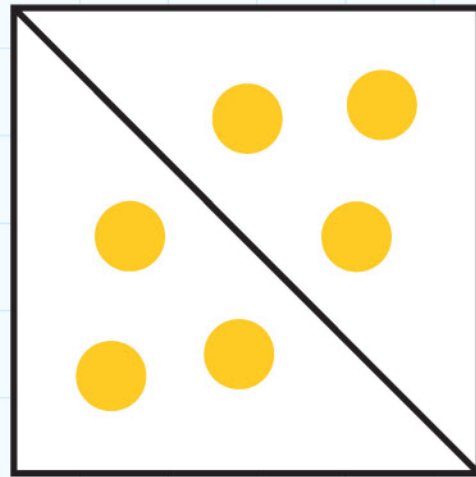


# 7B Half of an amount

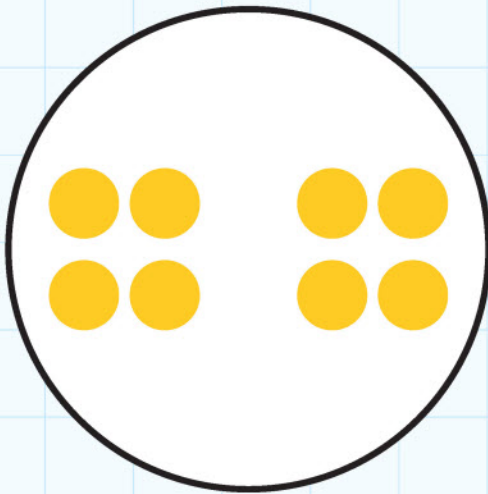
## Discover



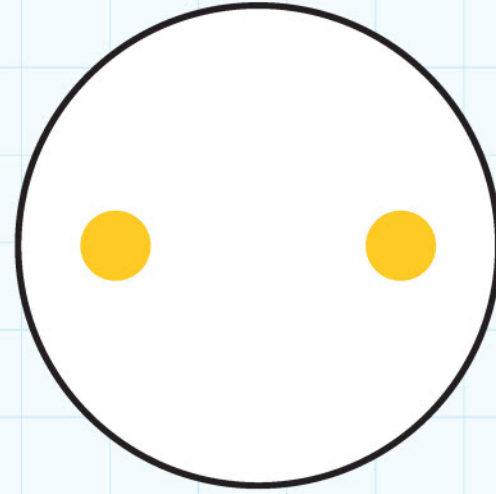
Half of 4 is 2



Half of \_\_\_\_\_ is \_\_\_\_\_



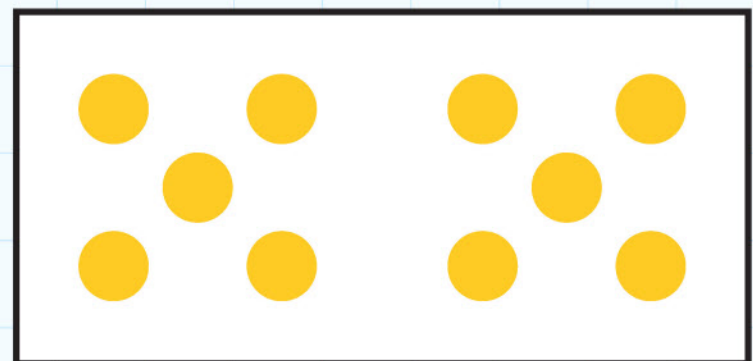
Half of \_\_\_\_\_ is \_\_\_\_\_



Half of \_\_\_\_\_ is \_\_\_\_\_

Complete this table.

number	half
2	
	2
6	
	4
10	

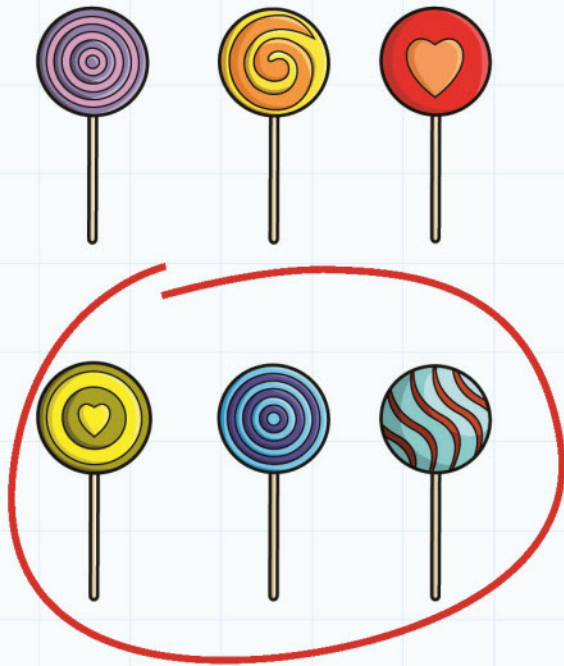


Half of \_\_\_\_\_ is \_\_\_\_\_

# 7B Half of an amount

## Explore

Count the sweets, then draw a circle around half of them.  
The first one is done for you.



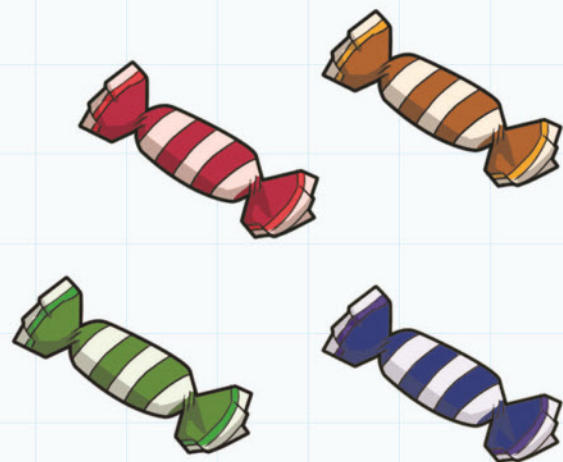
Half of  is



$\frac{1}{2}$  of  is



$\frac{1}{2}$  of  is



Half of  is



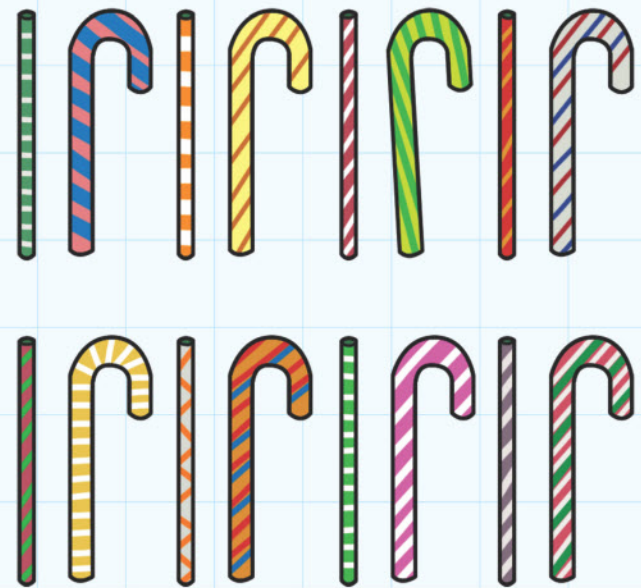
Half of  is



$\frac{1}{2}$  of  is



$\frac{1}{2}$  of  is



Half of  is

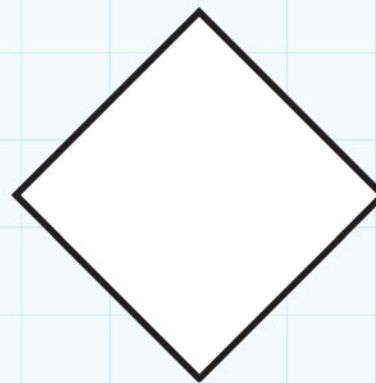
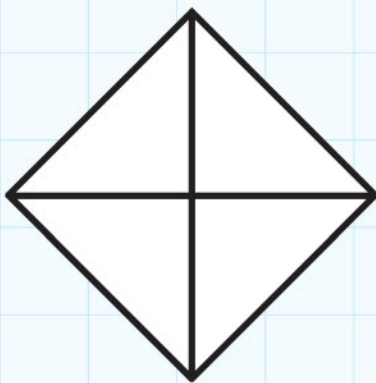
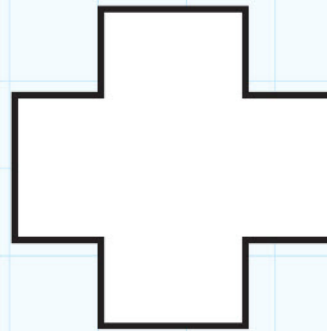
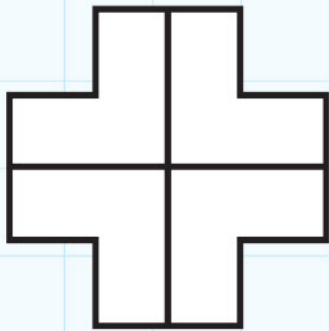
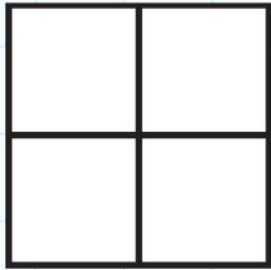
Use some counters for sweets. Find half of 18.

$\frac{1}{2}$  of 18 =

# 7C Quarter and three-quarters of a shape

## Discover

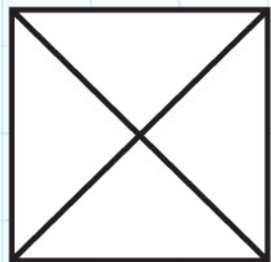
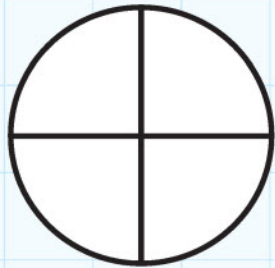
Colour one quarter of each shape. Find a different way to show a quarter of each shape. Label one quarter of each piece with the word **quarter** or the fraction  $\frac{1}{4}$ .



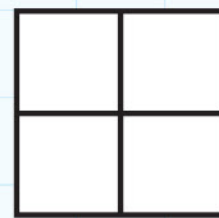
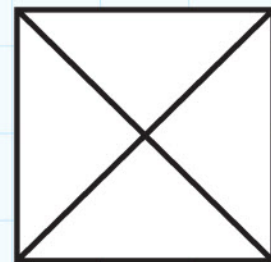
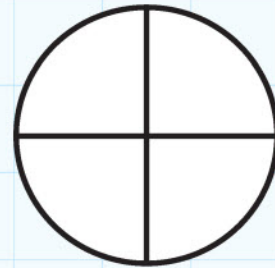
quarter  
one out of four  
equal pieces

$$\frac{1}{4}$$

Colour  $\frac{1}{4}$  of the shape.



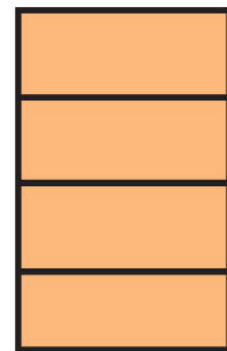
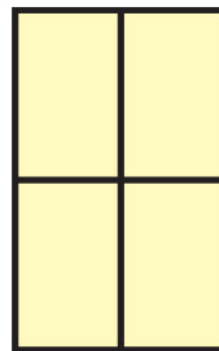
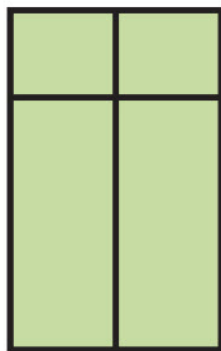
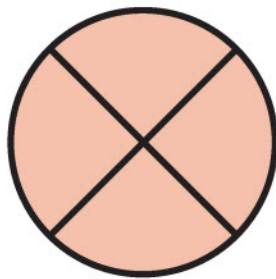
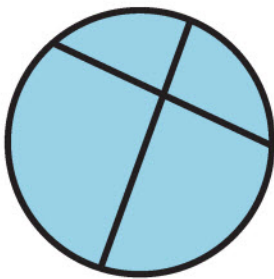
Colour  $\frac{3}{4}$  of the shape.



three- quarters  
three out of four  
equal pieces

$\frac{3}{4}$

Tick ✓ the shapes that show quarters.



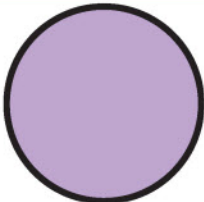
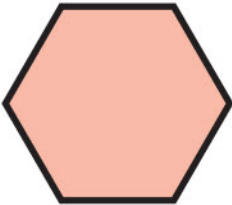
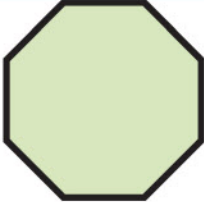
# 7C Quarter and three-quarters of a shape

## Explore

Fold paper shapes in half and half again to make quarters.  
Tick ✓ the new shapes you can make.

shape	I can make		
	square	rectangle	triangle
square			
rectangle			

Fold paper copies of these shapes into quarters.  
Draw or glue in one of the quarters.

shape	quarter
 circle	
 hexagon	
 octagon	

Complete these sentences using the words **one**, **two** or **four**.

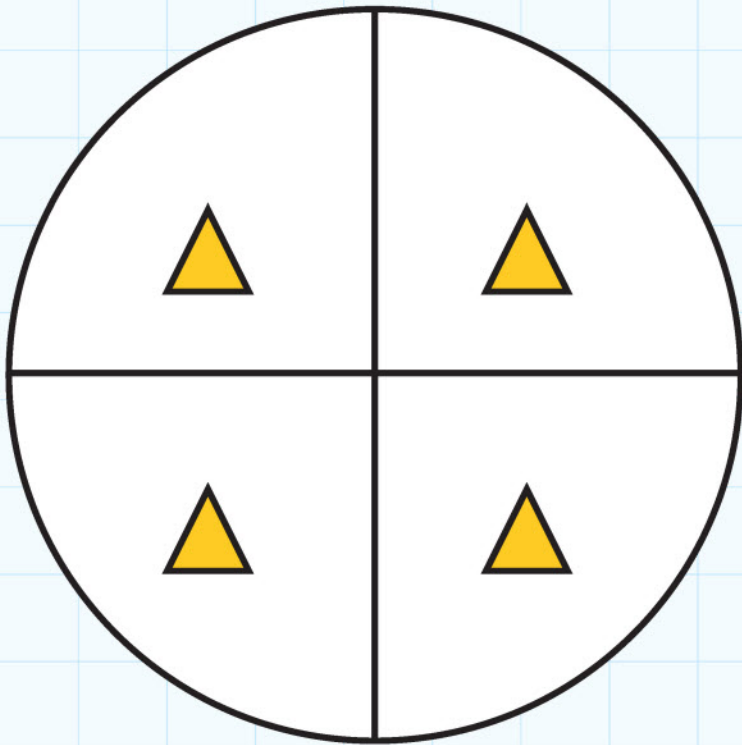
\_\_\_\_\_ halves make \_\_\_\_\_ whole.

\_\_\_\_\_ quarters make \_\_\_\_\_ whole.

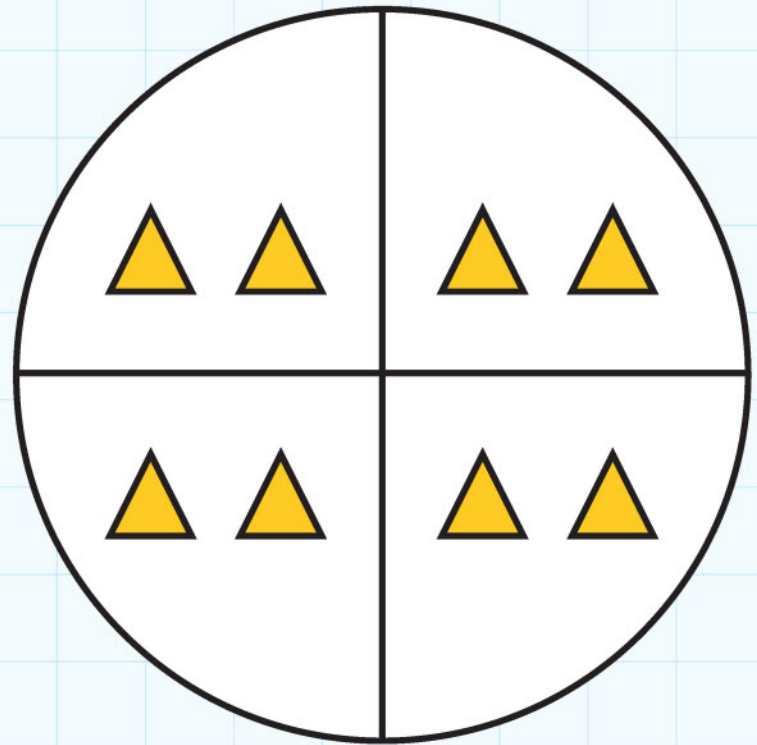
\_\_\_\_\_ half and \_\_\_\_\_ quarters are the same.

# 7D Quarter of an amount

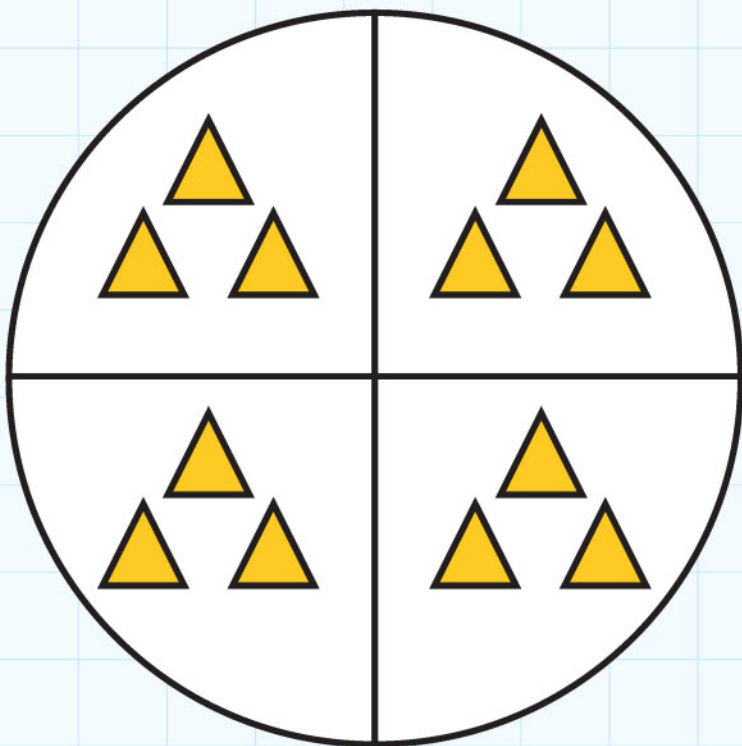
## Discover



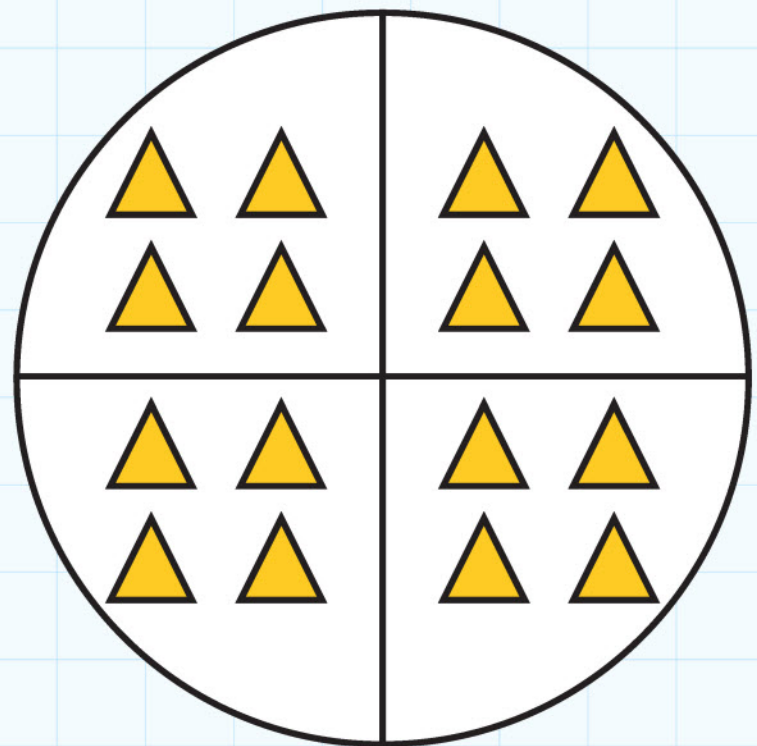
A quarter of 4 is 1



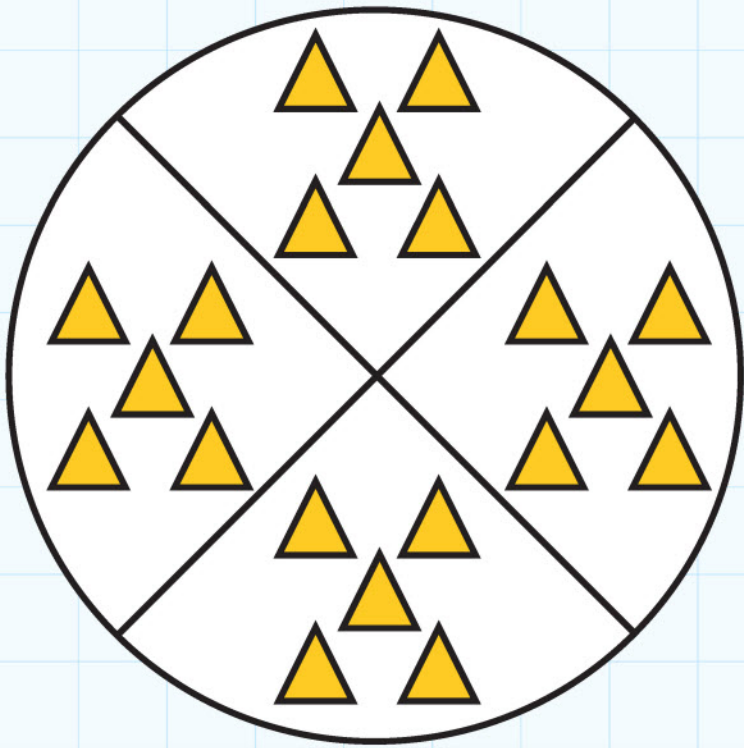
A quarter of \_\_\_\_\_ is \_\_\_\_\_



A quarter of \_\_\_\_\_ is \_\_\_\_\_



A quarter of \_\_\_\_\_ is \_\_\_\_\_



A quarter of \_\_\_\_\_ is \_\_\_\_\_

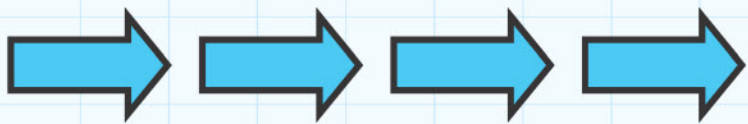
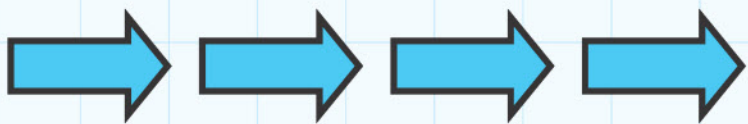
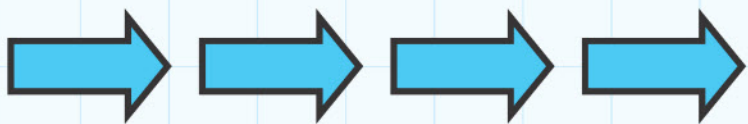
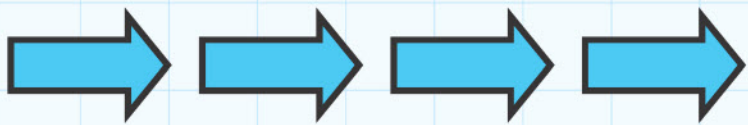
Complete this table.

number	quarter
4	1
8	
12	
	4
20	

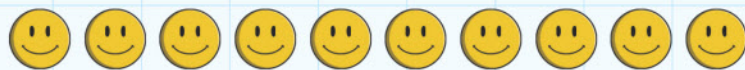
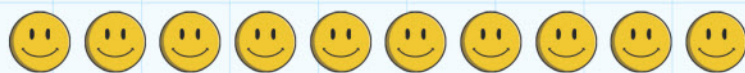
# 7D Quarter of an amount

## Explore

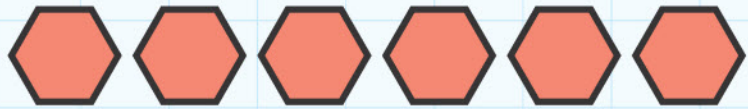
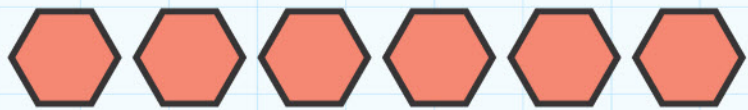
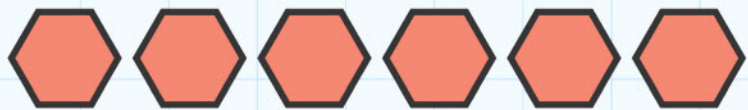
Count each set of pictures, then draw a circle around a quarter of them.



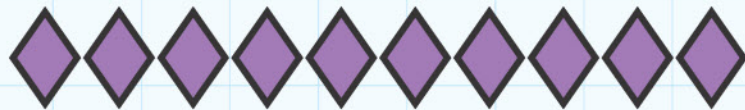
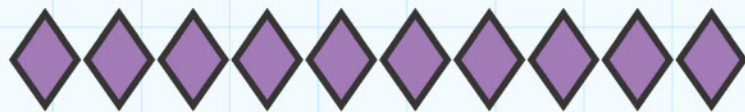
A quarter of  is



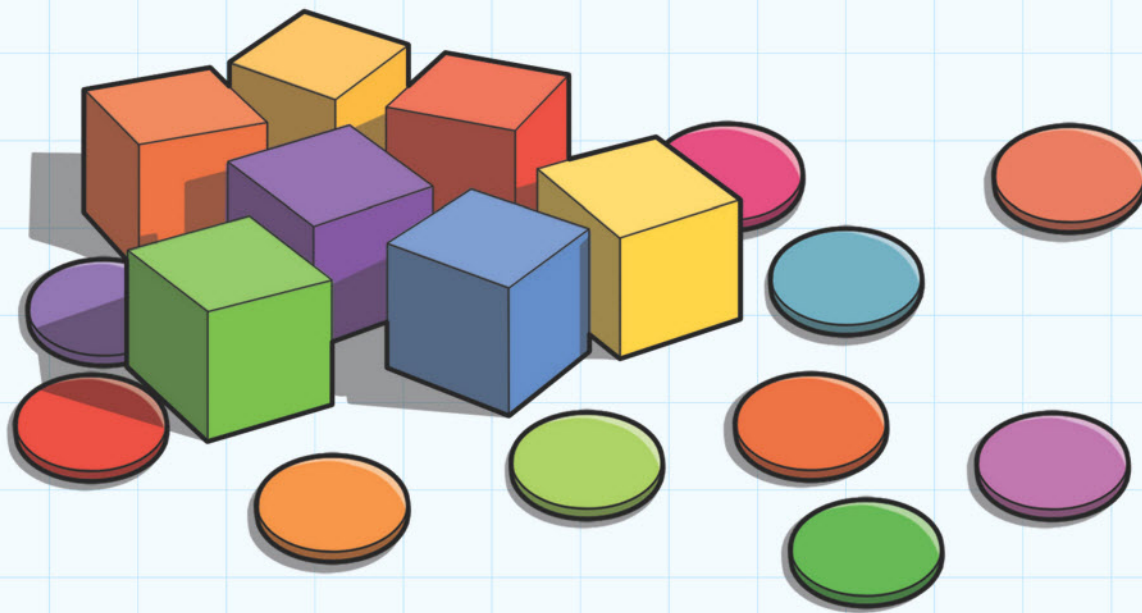
$\frac{1}{4}$  of  is



$\frac{1}{4}$  of  is



A quarter of  is



Use counters or cubes to help you find a quarter of 36, 28 and 32.

A quarter of 36 is \_\_\_\_\_

$\frac{1}{4}$  of 28 is \_\_\_\_\_

One quarter of 32 is \_\_\_\_\_

Complete these sentences using the words **two** or **four**.

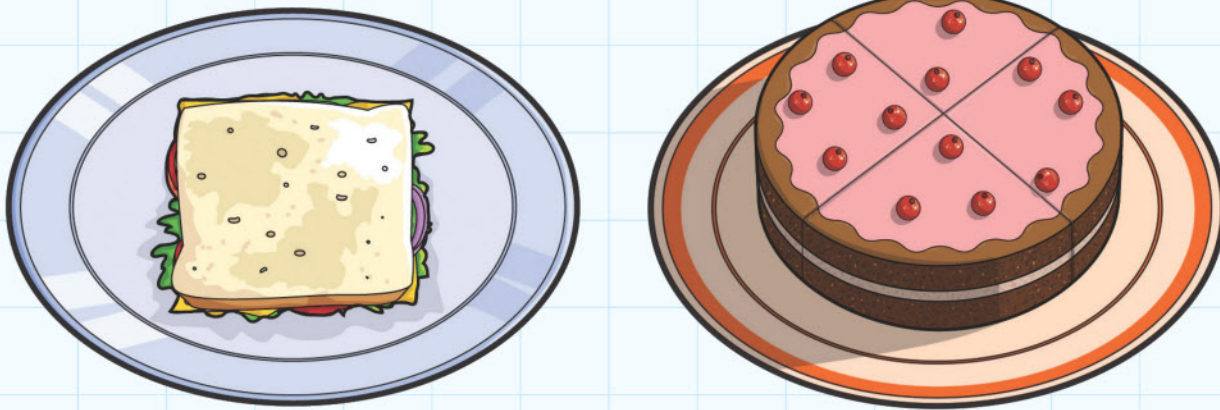
A quarter is one of \_\_\_\_\_ equal amounts.

\_\_\_\_\_ quarters make the whole amount.

\_\_\_\_\_ quarters are the same as a half.

## 7 Parts of a whole

### Connect



12 sandwiches and 12 cakes were made for a party.  
Each sandwich and cake has been cut into quarters.

Everyone has a quarter of a sandwich and a quarter  
of a cake. How many people were at the party?

Make some notes or drawings to help you work it out.

This time everyone has half a sandwich and half a cake.  
How many people were at the party?

Make some notes or drawings to help you work it out.

# 7 Parts of a whole

## Review

What if everyone was hungry and had three-quarters of a sandwich and three-quarters of a cake? How many people were at the party?

Use some counters or cubes to help you complete these number sentences.

Half of 10 is

A quarter of 12 is

$\frac{1}{4}$  of 16 =

$\frac{1}{2}$  of 18 =

Complete the sentences using **two** or **four**.

\_\_\_\_\_ halves make a whole.

\_\_\_\_\_ quarters make a whole.

\_\_\_\_\_ quarters are the same as a half.

Fold some paper shapes into halves or quarters. Cut out and glue these pieces onto this page. Label your pieces, for example, quarter of a circle, half of a hexagon,  $\frac{3}{4}$  of a rectangle.

$\frac{1}{2}$  of a circle

$\frac{1}{4}$  of a square

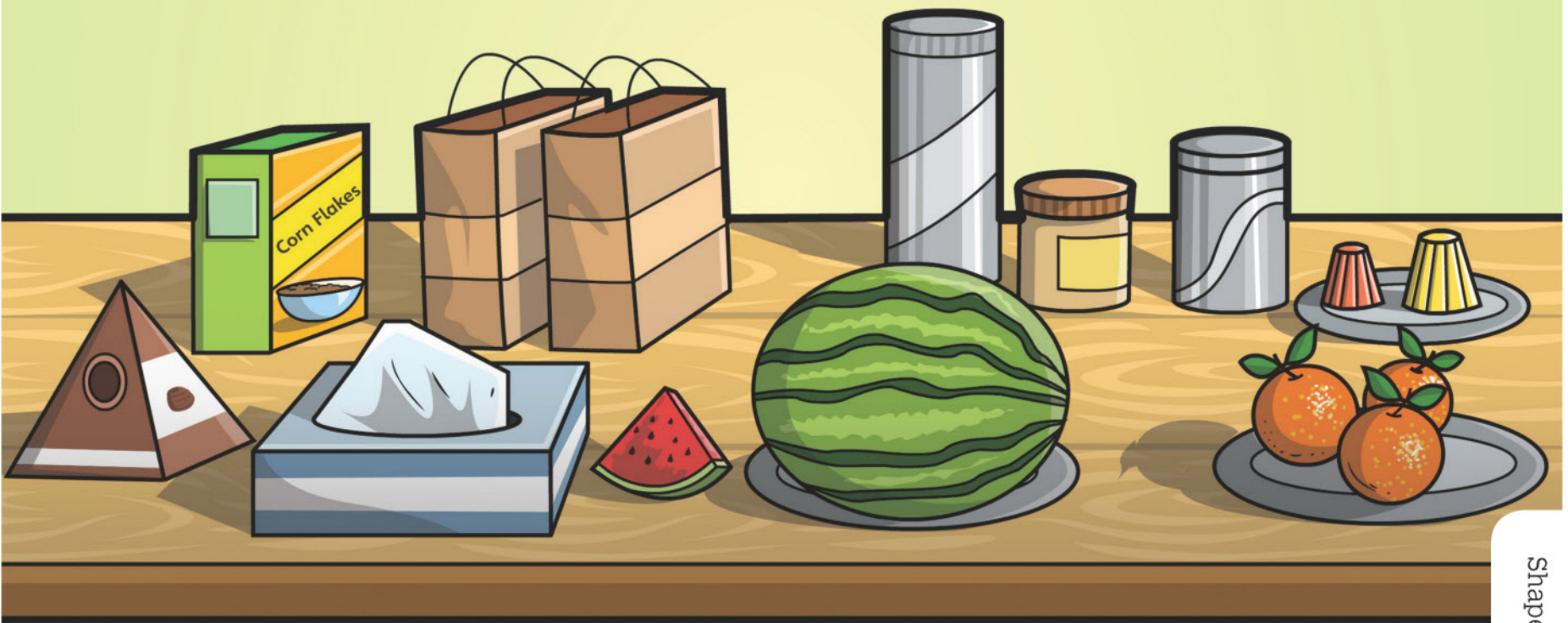


# 8 Shapes Everywhere

## Engage

This shopping reminds me of the solid shapes at school.

This tin has got two round ends but I can't remember what the shape is called.

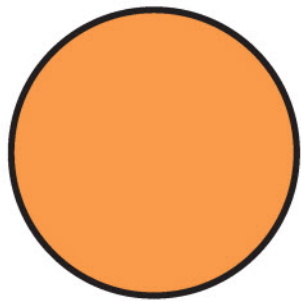


This one looks like a pyramid. There's one of those in our shapes.

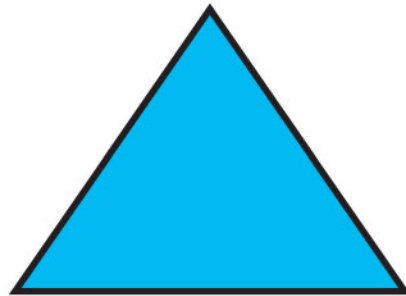
The melon looks like a ball. What is the mathematical name for it?

## 8A 2D shapes

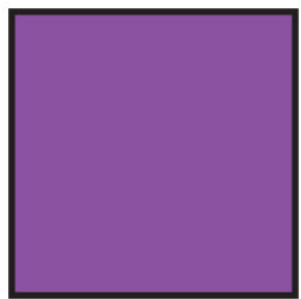
### Discover



This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.



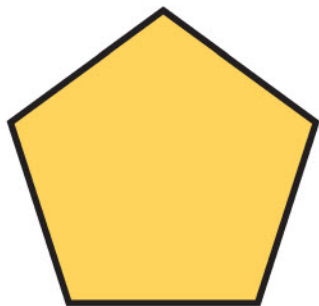
This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.



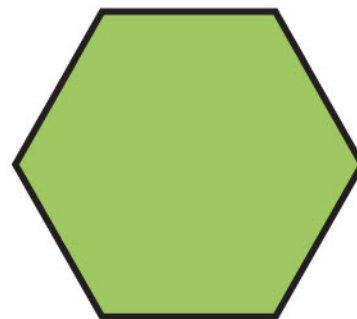
This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.



This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.



This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.

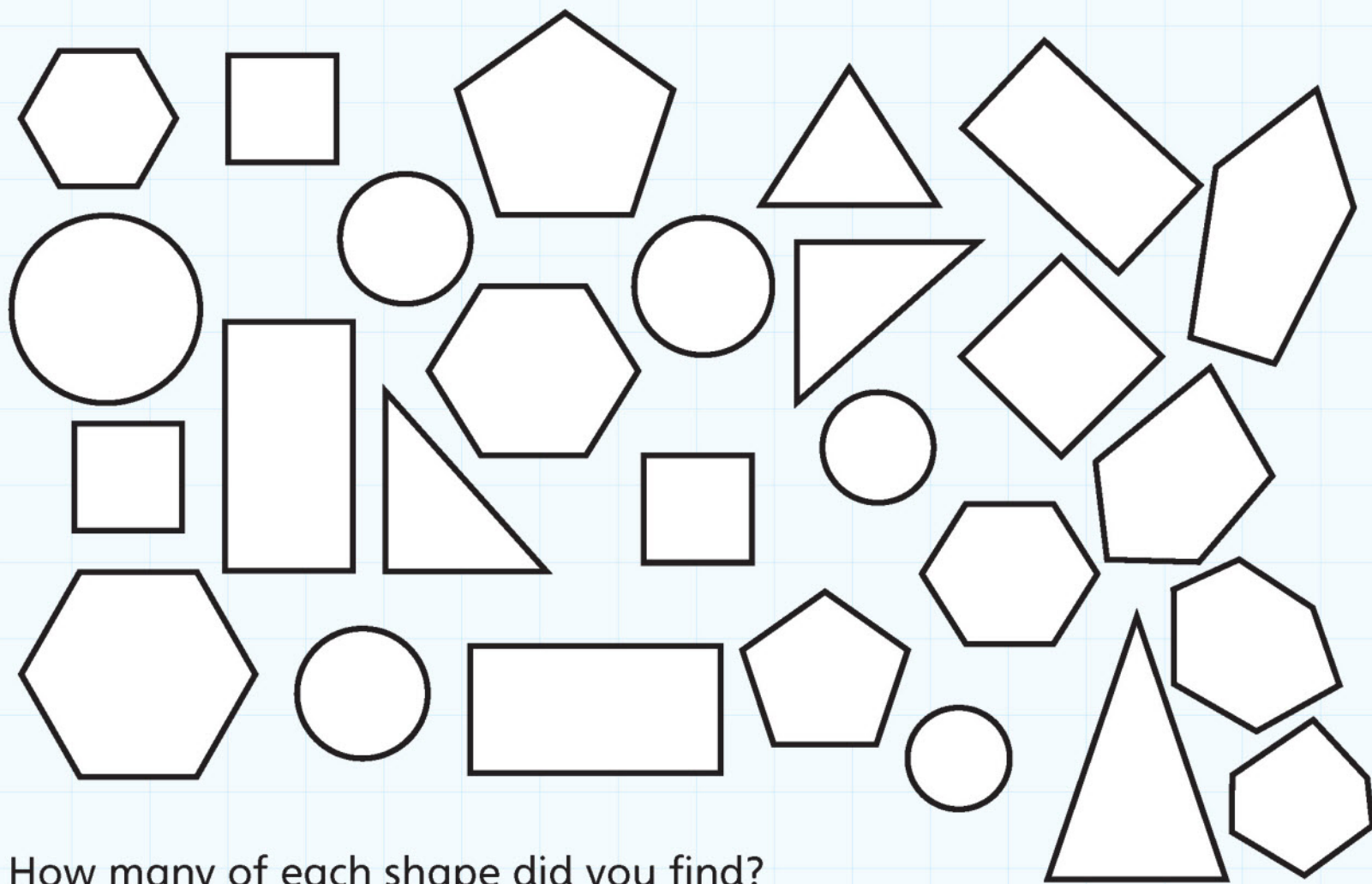


This is a \_\_\_\_\_.  
It has \_\_\_\_\_ sides and  
\_\_\_\_\_ vertices.

# 8A 2D shapes

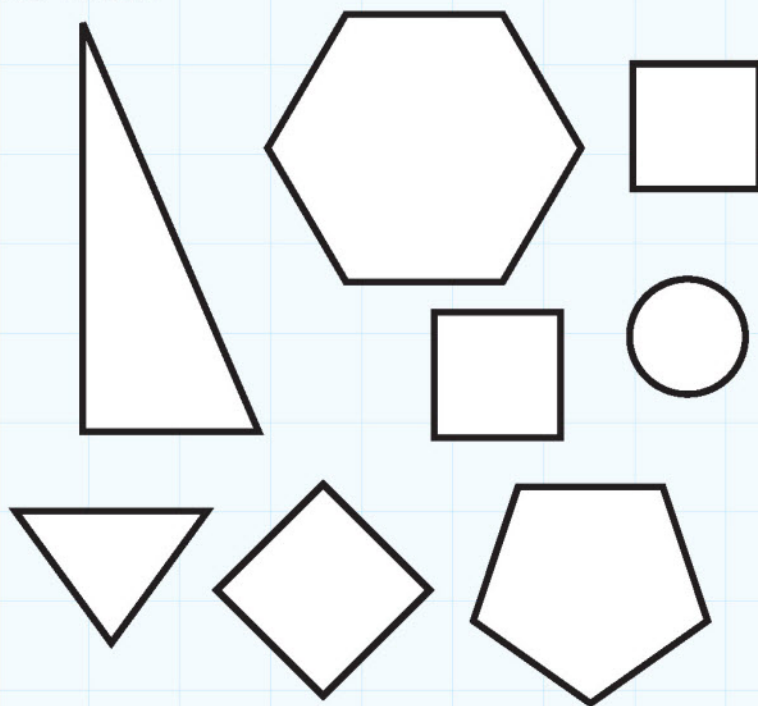
## Explore

Colour the circles green, triangles blue, squares black, rectangles white, pentagons red and hexagons yellow. Label three of each shape with its correct name.

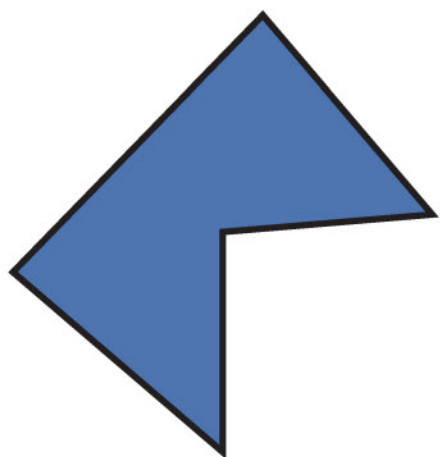


How many of each shape did you find?

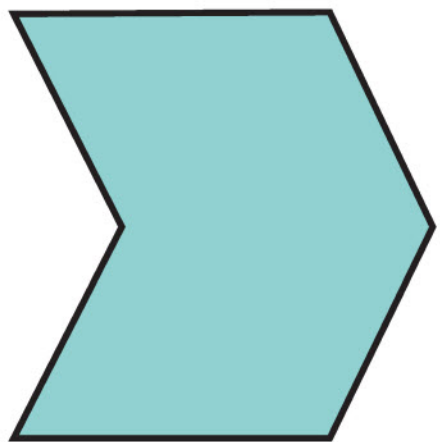
Shape	How many?
circle	
triangle	
square	
rectangle	
pentagon	
hexagon	



## Irregular shapes



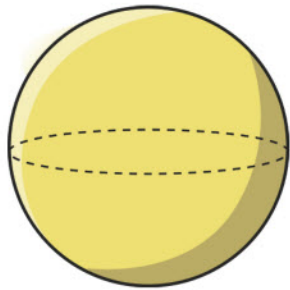
Irregular pentagons have \_\_\_\_\_ sides.



Irregular hexagons have \_\_\_\_\_ sides.

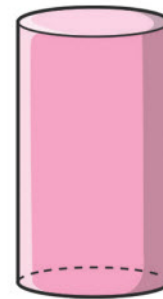
## 8B 3D shapes

### Discover



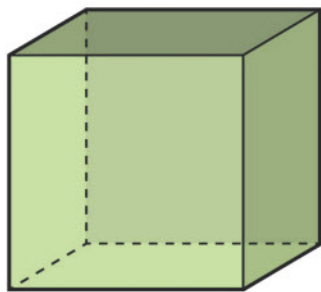
This is a **sphere**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertices.



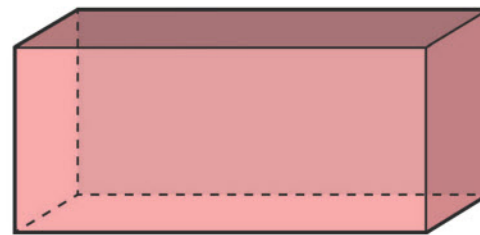
This is a **cylinder**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertices.



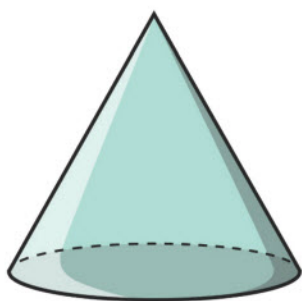
This is a **cube**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertices.



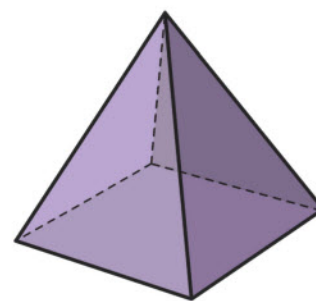
This is a **cuboid**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertices.



This is a **cone**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertex.



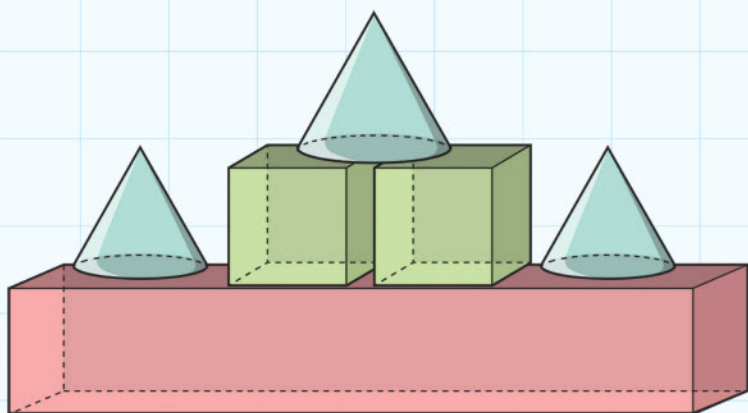
This is a **pyramid**.

It has \_\_\_\_\_ faces and  
\_\_\_\_\_ vertices.

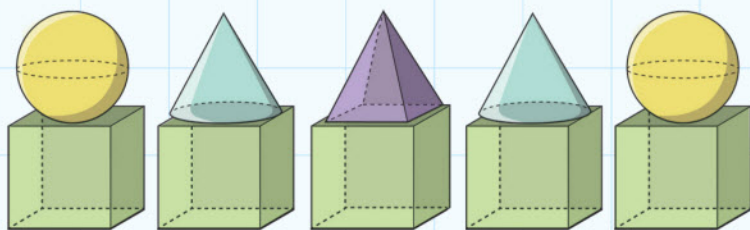
# 8B 3D shapes

## Explore

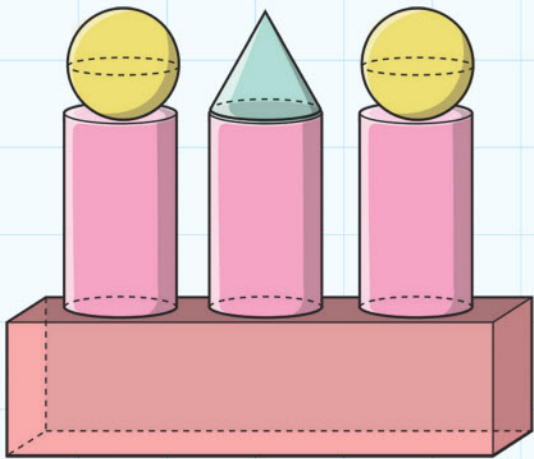
Which shapes were used to make each model?



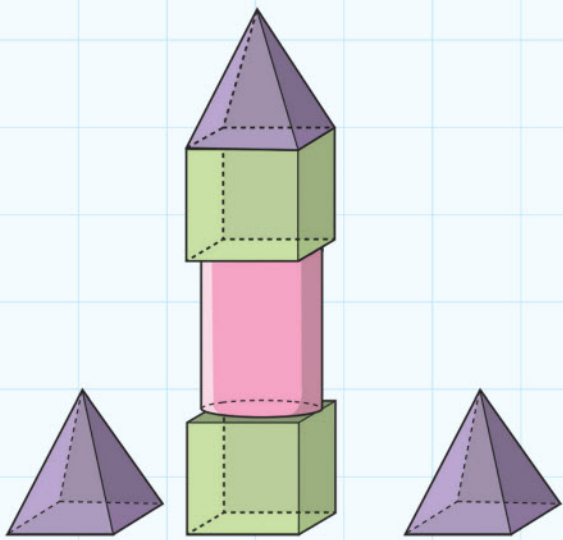
Shape	Tick ✓	How many?
Sphere		
Cylinder		
Cube		
Cuboid		
Cone		
Pyramid		



Shape	Tick ✓	How many?
Sphere		
Cylinder		
Cube		
Cuboid		
Cone		
Pyramid		



Shape	Tick ✓	How many?
Sphere		
Cylinder		
Cube		
Cuboid		
Cone		
Pyramid		

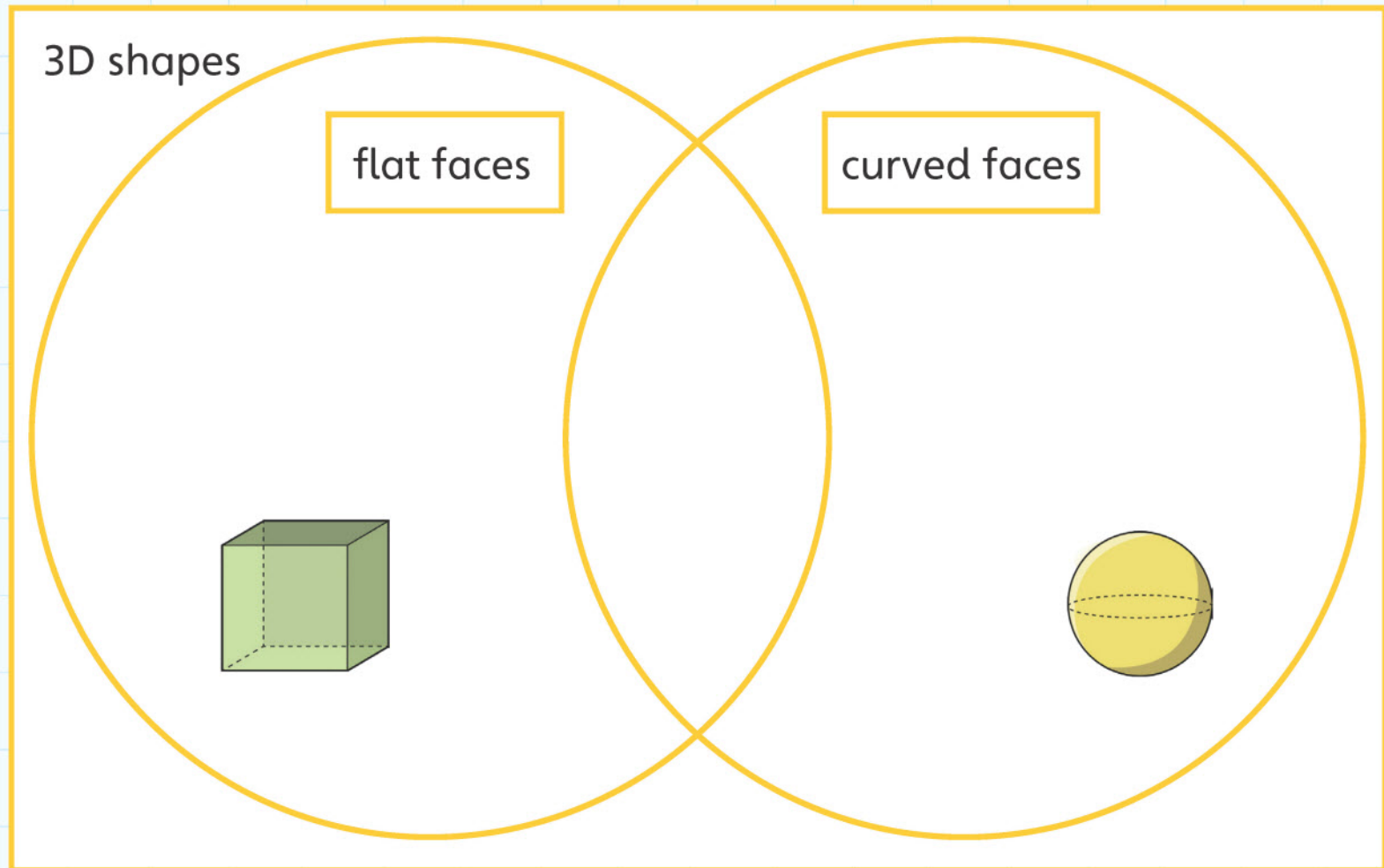


Shape	Tick ✓	How many?
Sphere		
Cylinder		
Cube		
Cuboid		
Cone		
Pyramid		

## 8C Sorting shapes using a Venn diagram

### Discover

Write or draw the shapes in the correct places.



Which shapes belong in the overlap? Write their names.

\_\_\_\_\_

Use the Venn diagram to help you complete this sentence.

Shapes in the overlap have \_\_\_\_\_ and \_\_\_\_\_ faces.

## 8C Sorting shapes using a Venn diagram

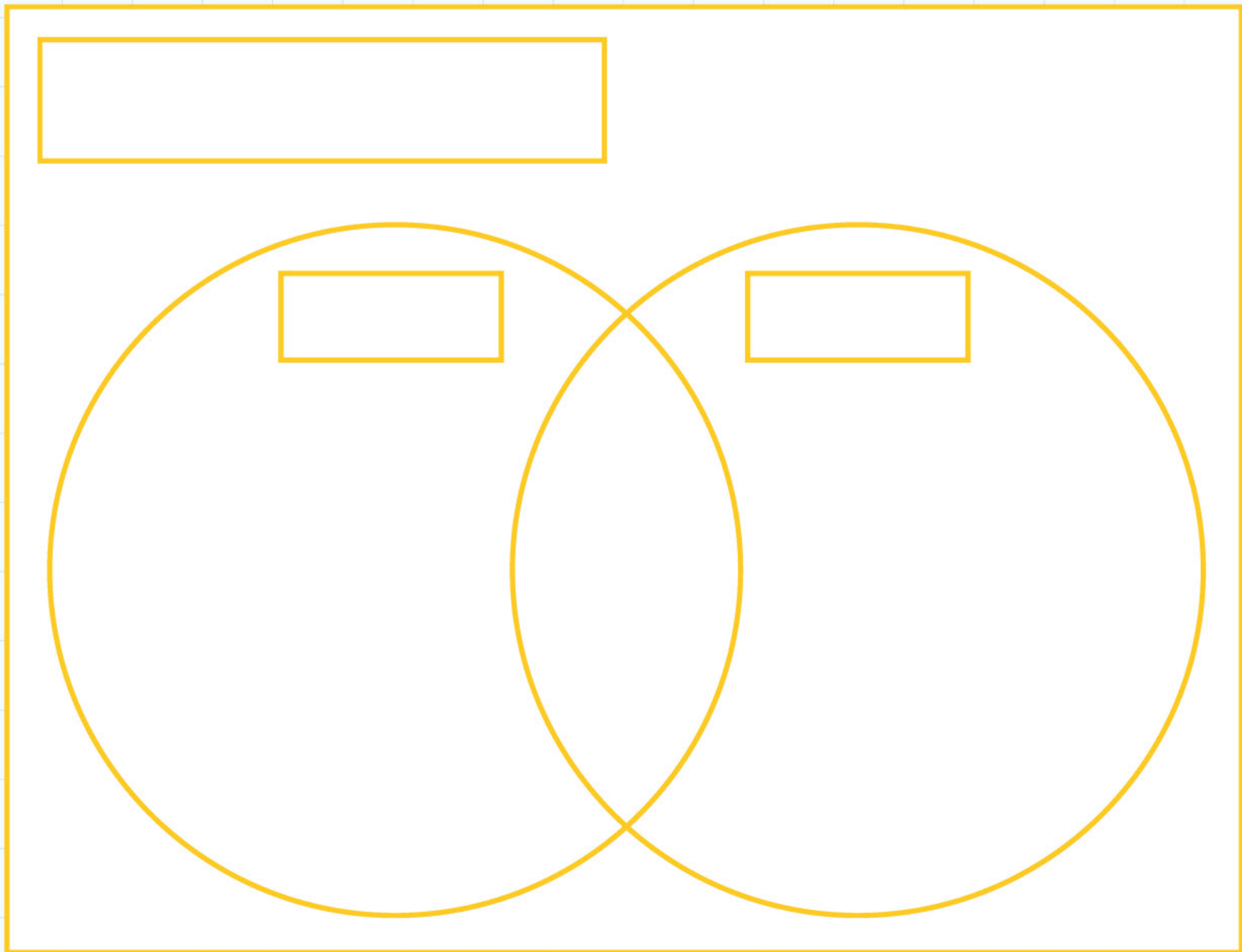
### Explore

Label the Venn diagram and use it to sort shapes.

First, label the whole diagram **2D shapes**, **3D shapes** or **2D and 3D shapes**.

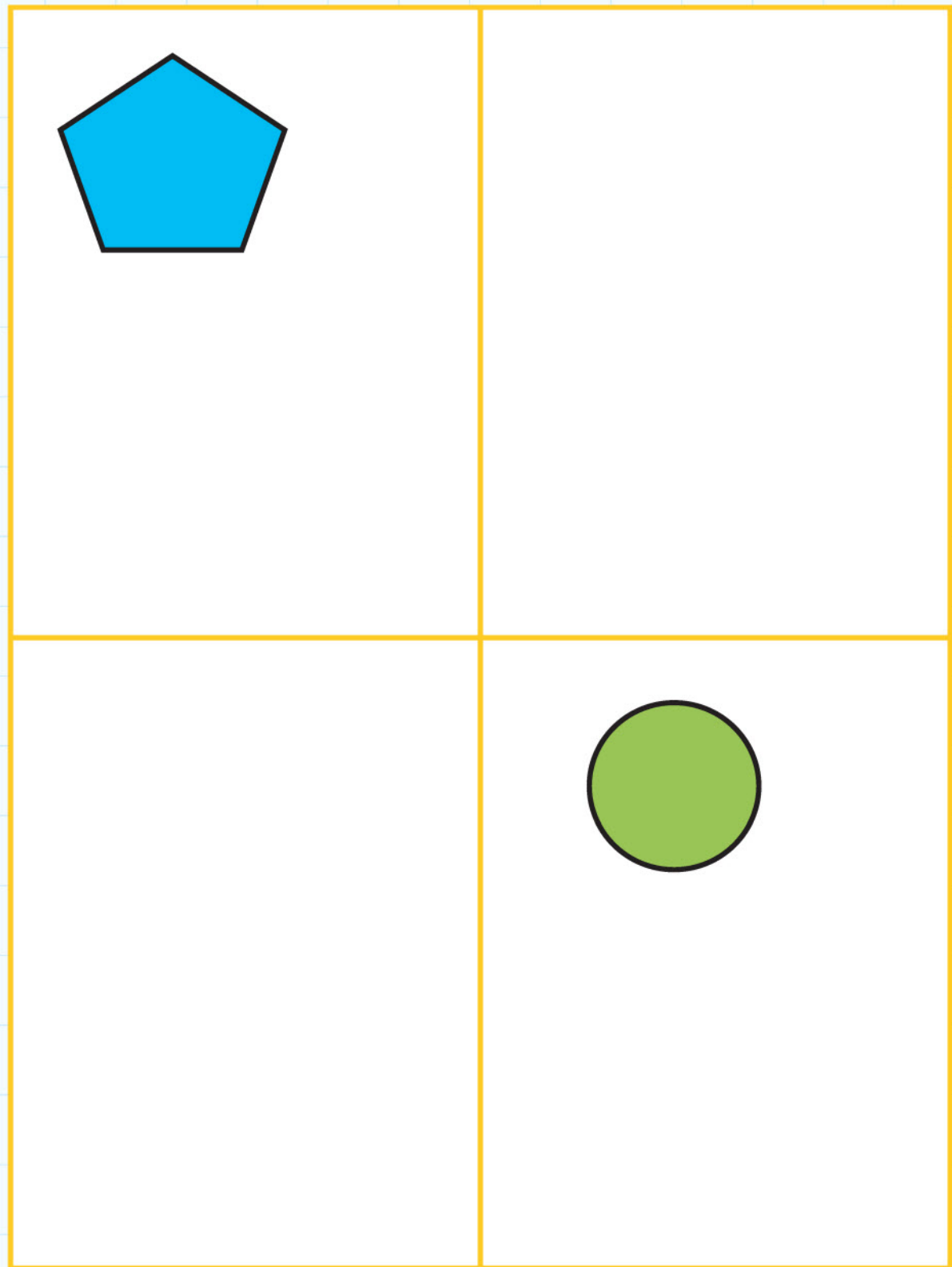
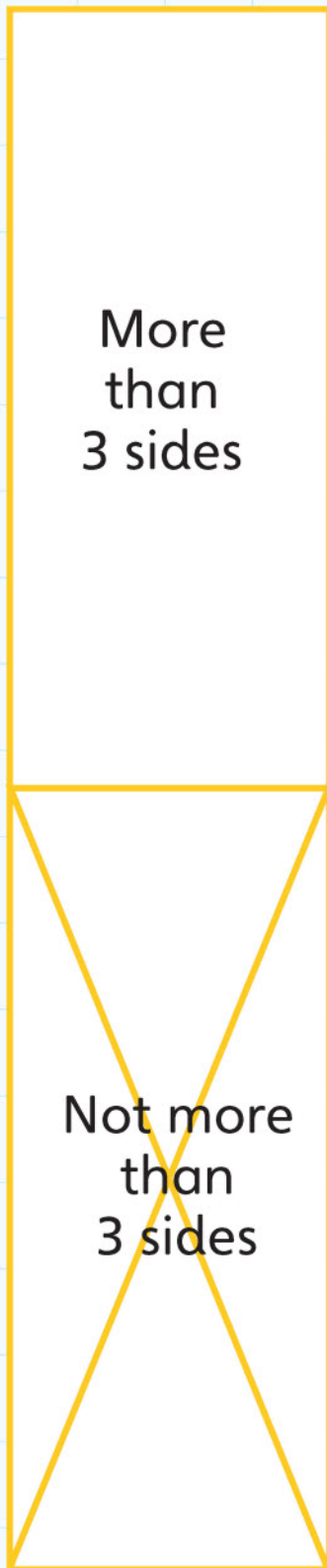
Next, label each oval. Your labels could be a colour, a shape, the number of sides or something else.

Now sort your shapes. Either draw them or write the shape name in the correct place to record.



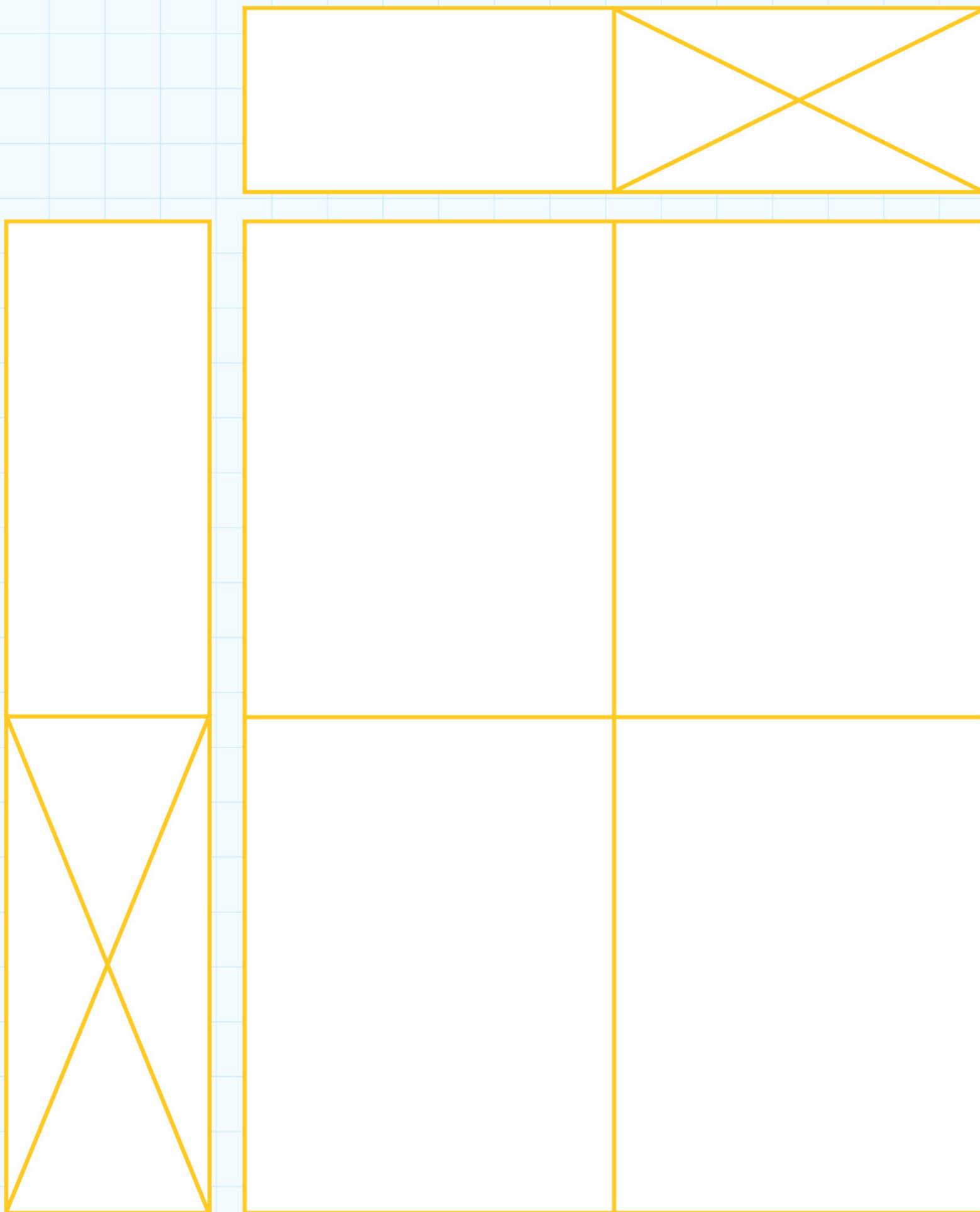
# 8D Sorting shapes using a Carroll diagram

## Discover



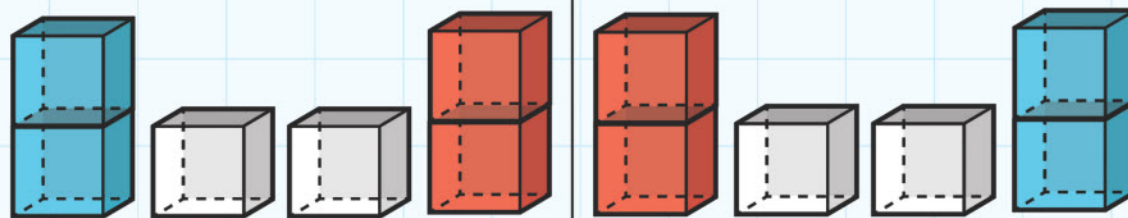
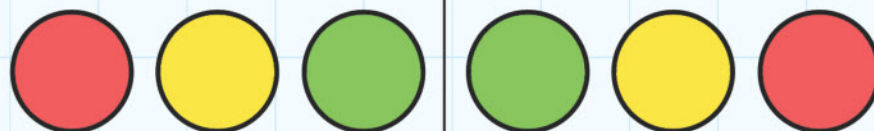
# 8D Sorting shapes using a Carroll diagram

Explore



# 8E Reflective symmetry 1

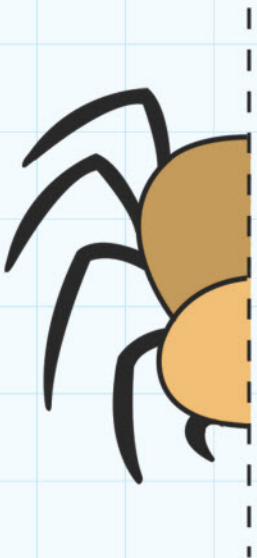
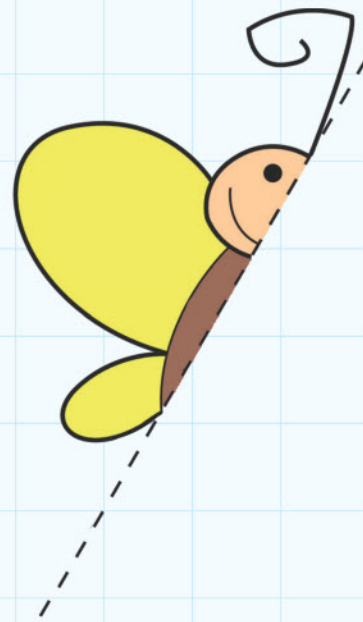
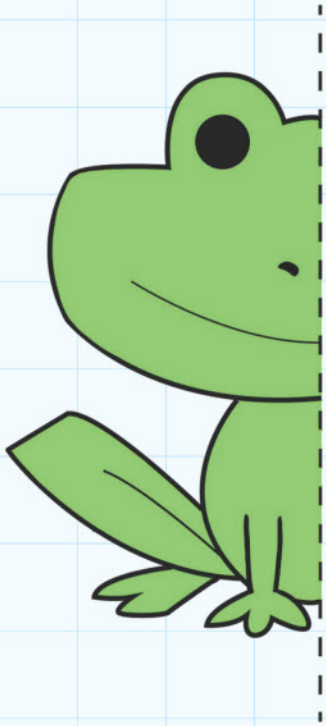
## Discover



# 8E Reflective symmetry 1

## Explore

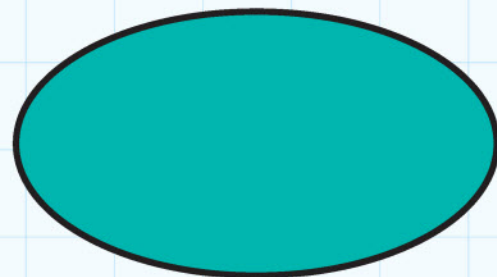
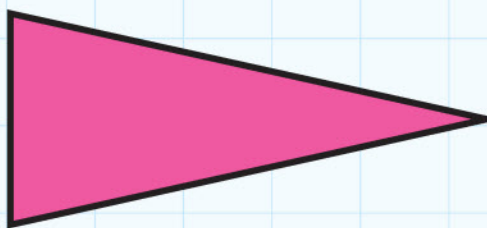
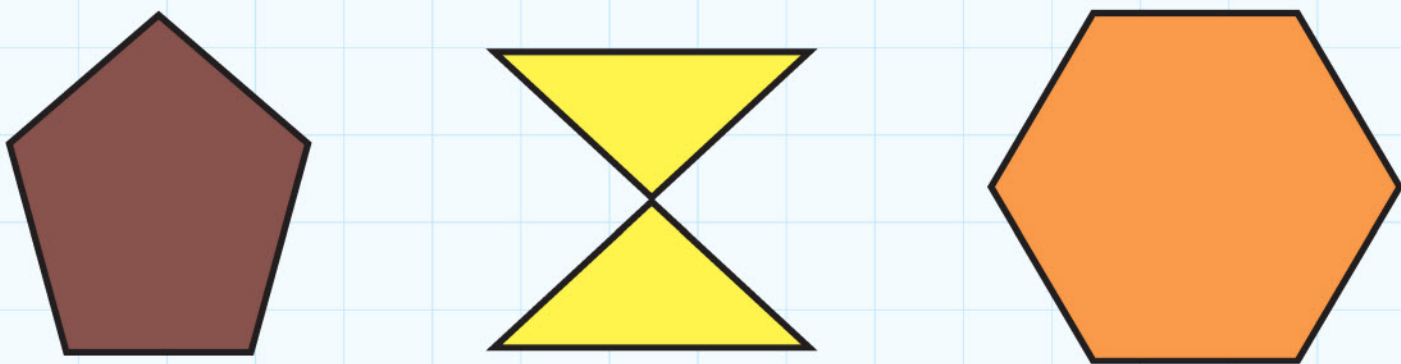
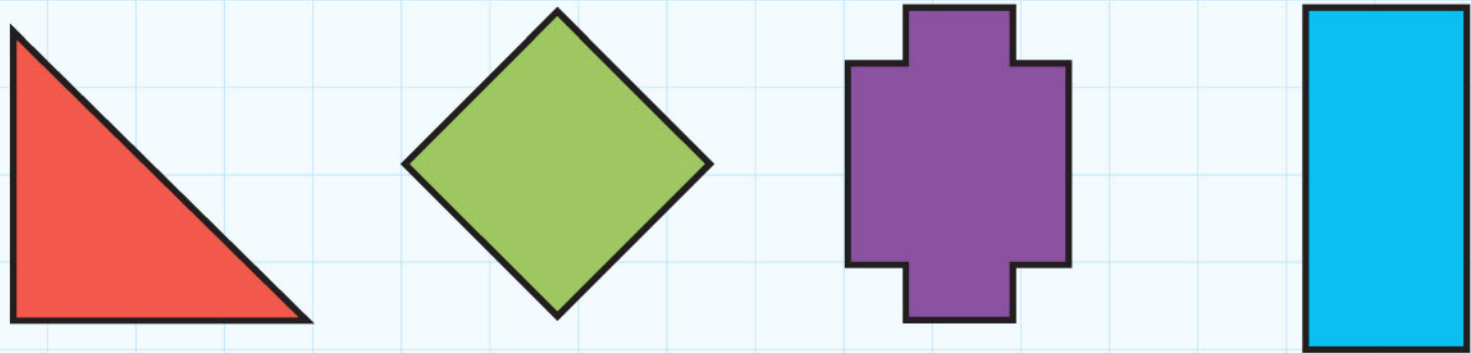
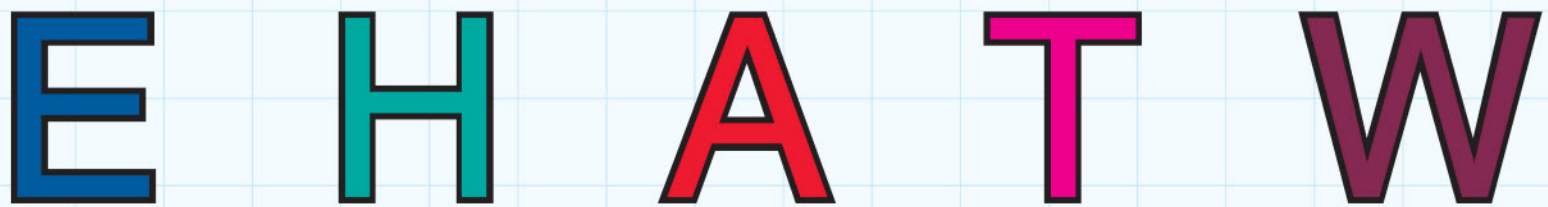
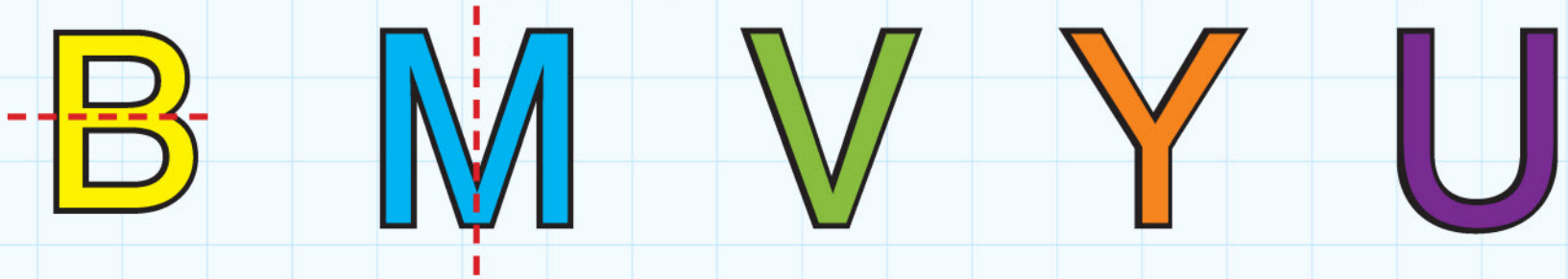
Complete these symmetrical creatures.



# 8F Reflective symmetry 2

## Discover

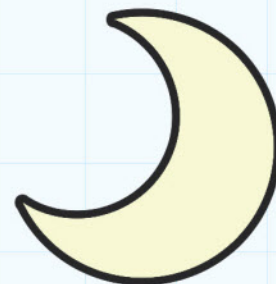
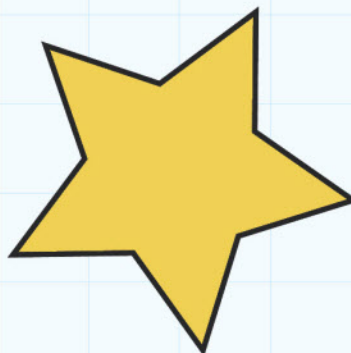
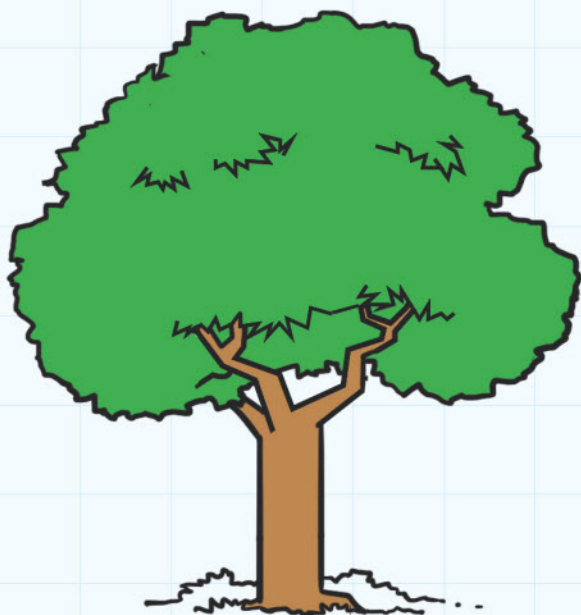
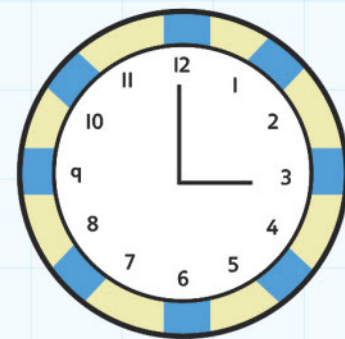
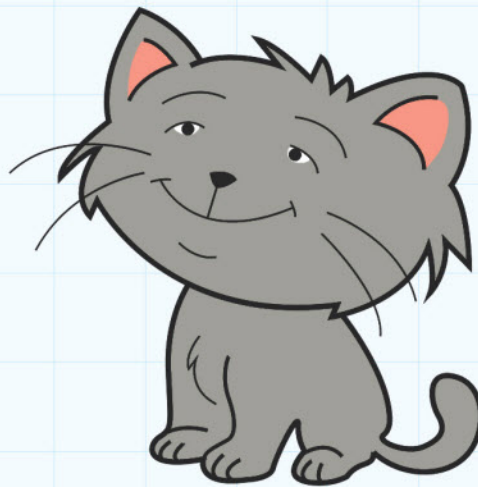
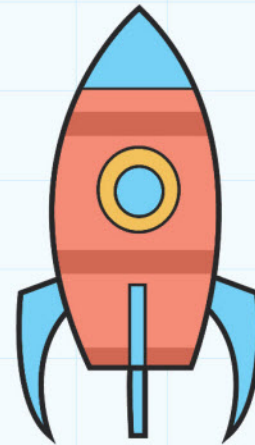
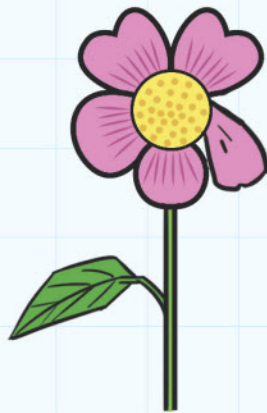
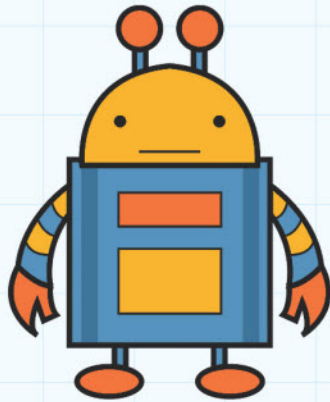
Draw in the lines of symmetry. The first two have been done for you.



# 8F Reflective symmetry 2

## Explore

Tick ✓ the symmetrical pictures, cross ✗ the pictures that are not symmetrical. Draw one or more lines of symmetry on the pictures you ticked.



## 8 Shapes everywhere

### Connect

All the shapes on Planet Quirk have an odd number of sides or an odd number of faces. Which shapes will you find on Planet Quirk?

All the shapes on Planet Orb have at least one curved edge or face. Which shapes will you find on Planet Orb?

Invent a planet. What is special about the shapes on your planet?

# 8 Shapes everywhere

## Review

### True or false?

Tick ✓ the correct sentences and put a cross ✗ next to the incorrect ones.

All the sides of a square are the same length.

A pyramid has 5 vertices.

A pentagon has 6 straight sides and 6 vertices.

Cubes have six square faces.

All shapes with three straight sides are called triangles.

A sphere has no vertices.

All shapes with five straight sides are called hexagons.

Cylinders have 4 circular faces.

Cuboids have six rectangular faces.

All shapes with six straight sides are called pentagons.

Cones have one vertex.

Choose two incorrect sentences. Re-write them to make them correct.

---

---



# 9

# Measurements

Engage

How tall are you?

How are you going to do that?

You measure horses in hands, so let's do that!

I don't know, but I know I'm taller than you.


You're taller than all of us! We should measure you.

How tall are you?



# 9A Measuring in centimetres

## Discover

Object	Estimate	Measure
pencil 	cm	cm
glue stick 	cm	cm
crayon 	cm	cm
paper clip 	cm	cm
rubber 	cm	cm
spoon 	cm	cm
scissors 	cm	cm
peg 	cm	cm

Choose five more things in the classroom to estimate then measure.

Object	Estimate	Measure
	cm	cm

Complete these sentences.

The longest thing I measured was a \_\_\_\_\_ at \_\_\_\_\_ cm.

The shortest thing I measured was a \_\_\_\_\_ at \_\_\_\_\_ cm.

# 9A Measuring in centimetres

## Explore

A   
B 

Which line is longer? \_\_\_\_\_

How much longer is the line? \_\_\_\_\_

A   
B 

Which line is shorter? \_\_\_\_\_

How much shorter is the line? \_\_\_\_\_

A   
B 

Which line is shorter? \_\_\_\_\_

How much shorter is the line? \_\_\_\_\_

A   
B 



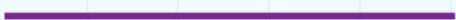
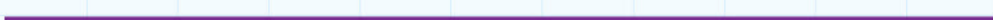
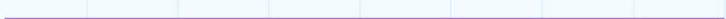
Which line is longer? \_\_\_\_\_

How much longer is the line? \_\_\_\_\_

How long is the longest line? \_\_\_\_\_

How long is the shortest line? \_\_\_\_\_

Measure each line

A		<input type="text"/>	cm
B		<input type="text"/>	cm
C		<input type="text"/>	cm
D		<input type="text"/>	cm
E		<input type="text"/>	cm


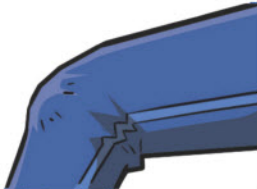



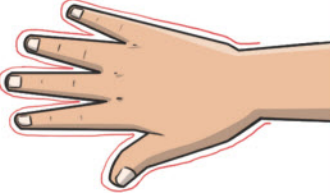


Use coloured pens to draw these lines.

- |            |            |           |             |
|------------|------------|-----------|-------------|
| Blue 15 cm | Black 4 cm | Red 7 cm  | Blue 9 cm   |
| Black 2 cm | Red 13 cm  | Blue 6 cm | Black 12 cm |

Label each line with its length.

# 9B String measures

## Discover

Object	Estimate	Measure
wrist 	cm	cm
knee 	cm	cm
ball 	cm	cm
table leg 	cm	cm
flower pot 	cm	cm
my hand 	cm	cm
can 	cm	cm
container 	cm	cm

Choose five more things in the classroom to estimate then measure.

Object	Estimate	Measure
	cm	cm

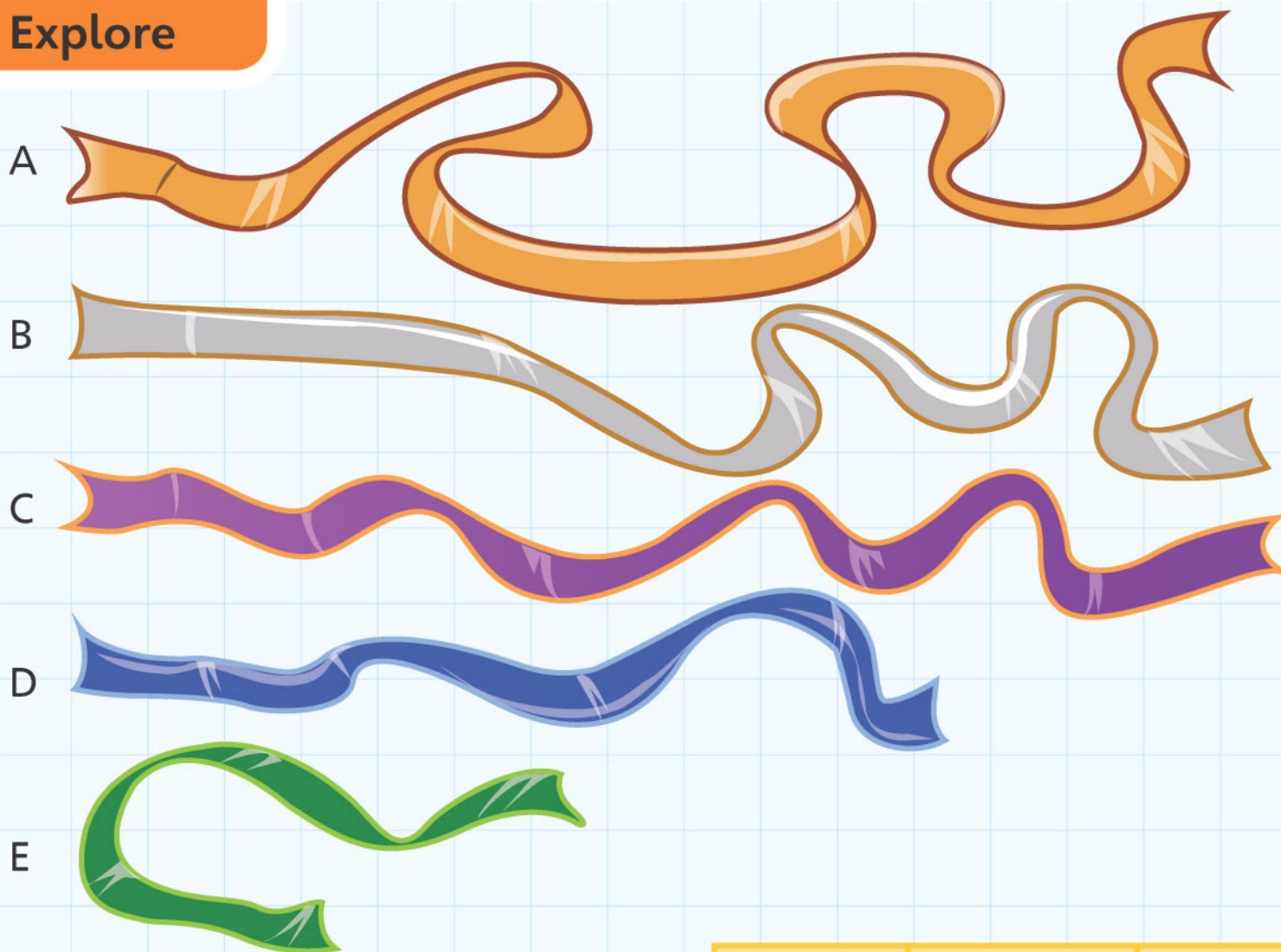
Complete these sentences.

The longest thing I measured was a \_\_\_\_\_ at \_\_\_\_\_ cm.

The shortest thing I measured was a \_\_\_\_\_ at \_\_\_\_\_ cm.

# 9B String measures

## Explore



Use the table to help you complete these sentences.

Ribbon \_\_\_\_\_ is the longest.

Ribbon \_\_\_\_\_ is the shortest.

Ribbon \_\_\_\_\_ is 5 cm longer than Ribbon \_\_\_\_\_.

Ribbon \_\_\_\_\_ is 3 cm shorter than Ribbon \_\_\_\_\_.

Ribbon	Estimate	Measure
A		
B		
C		
D		
E		

Ribbon \_\_\_\_\_ is 10 cm longer than Ribbon \_\_\_\_\_.

Ribbon \_\_\_\_\_ is 14 cm shorter than Ribbon \_\_\_\_\_.

# 9C Metre measures

## Discover

Draw or write the things you measured with your metre stick or metre mouse.

Shorter than  
a metre

1 metre long

Longer than  
a metre

How many centimetres in half a metre? \_\_\_\_\_

How many centimetres in  $\frac{1}{4}$  metre? \_\_\_\_\_

How many centimetres in 2 metres? \_\_\_\_\_

How many centimetres in  $1\frac{1}{2}$  metres? \_\_\_\_\_

What length is halfway between 40 cm and 50 cm? \_\_\_\_\_

What length is halfway between 65 cm and 75 cm? \_\_\_\_\_

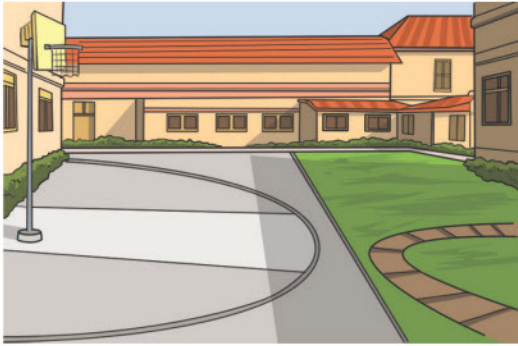
# 9C Metre measures

## Explore

Would you measure each of these things using centimetres or metres?

Write centimetres and metres in each box.

Length of the playground



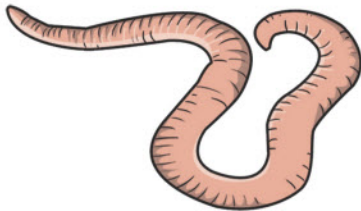
\_\_\_\_\_

Width of a computer screen



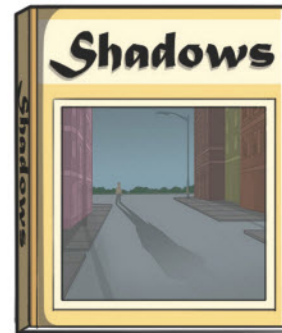
\_\_\_\_\_

Length of a worm



\_\_\_\_\_

Length of a book cover



\_\_\_\_\_

Length of a bus



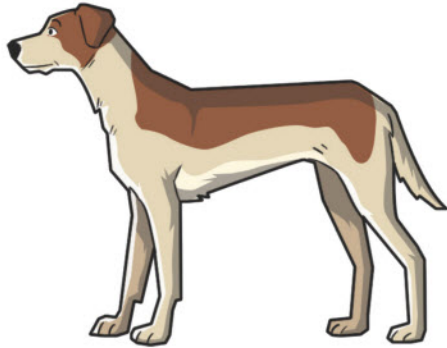
\_\_\_\_\_

Height of a tree



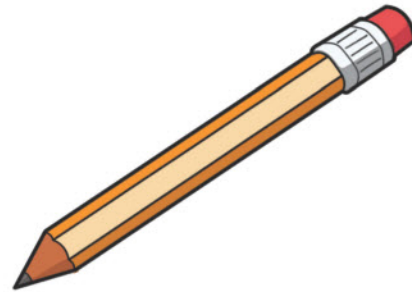
\_\_\_\_\_

Height of a dog



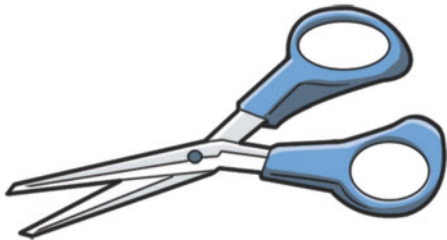
\_\_\_\_\_

Length of a pencil



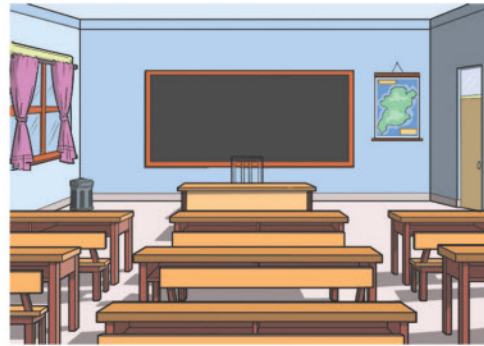
\_\_\_\_\_

Length of a pair of scissors



\_\_\_\_\_

Length of the classroom



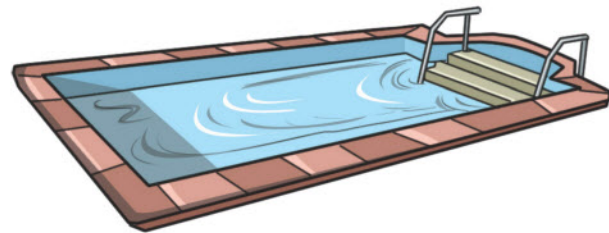
\_\_\_\_\_

Length of a thumb



\_\_\_\_\_

Length of swimming pool



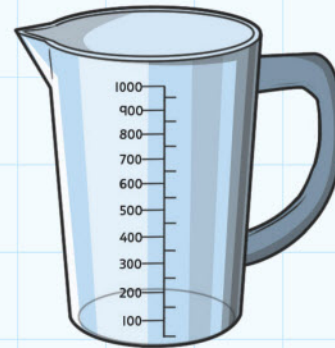
\_\_\_\_\_

# 9D Liquid measures

## Discover

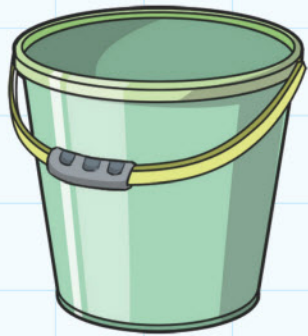
This jug holds 1 litre of water.

Your teacher will show you some containers. Use a litre jug to help you decide if each container will hold less than a litre or more than a litre.



Holds less than a litre

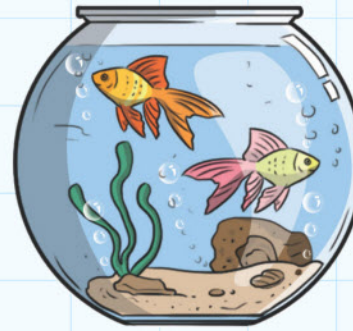
Holds more than a litre



bucket



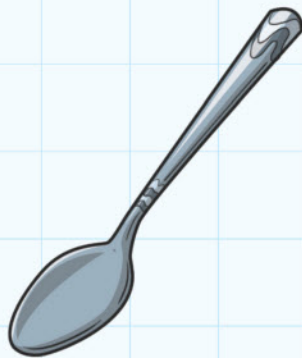
watering can



fish tank



mug



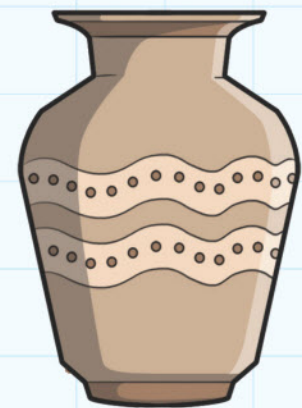
teaspoon



can of fizzy drink



large bottle  
of fizzy drink



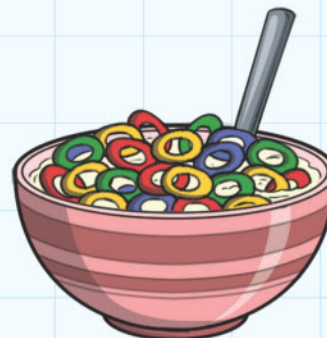
vase



teapot



carton of drink



cereal bowl



1 litre jug

# 9D Liquid measures

## Explore

### Lemonade recipe

1 litre water

4 lemons

100 g sugar



1 litre = 1000 ml

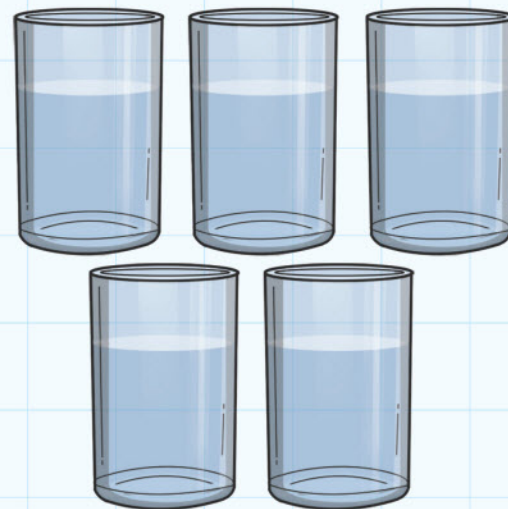
How many millilitres in half  
a litre? \_\_\_\_\_

How many millilitres in a quarter  
of a litre? \_\_\_\_\_

1 litre of lemonade is poured into  
5 glasses.

Each glass has the same amount.

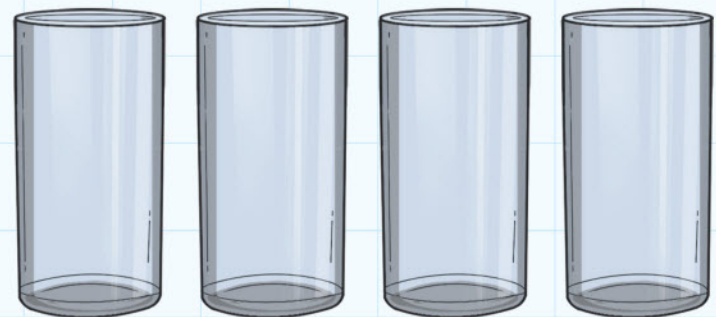
How many millilitres in each  
glass? \_\_\_\_\_



1 litre of lemonade is poured into  
4 glasses.

Each glass has the same amount.

How many millilitres in each glass?  
\_\_\_\_\_



Show how you work out the answers to these questions.

I have 20 lemons. How many litres of lemonade can I make?

\_\_\_\_\_

How many 500 ml bottles can I fill? \_\_\_\_\_

How many 200 ml drinks will I have? \_\_\_\_\_

# 9E Sweet cake weights

## Discover

Grandma's simple sweet cake recipe

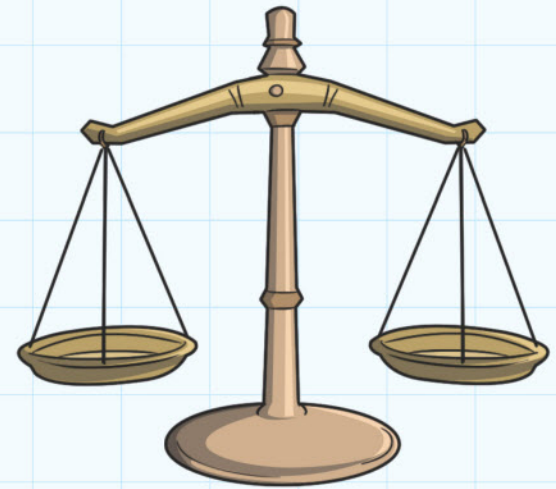
1 egg

100g self-raising flour

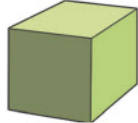


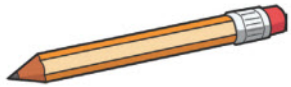
100g butter

100g sugar

Makes 6 small cakes



1 large egg weighs 100g. How many of each object weighs the same as an egg?

cubes		
counters		
paperclips		
pencils		

Heavier than an egg

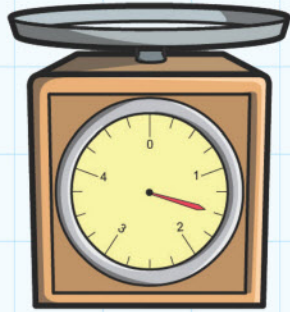
Write or draw the objects that weigh the same as an egg in order from lightest to heaviest.

lightest

heaviest

## 9E Sweet cake weights

### Explore



Grandma's simple sweet cake recipe

1 egg

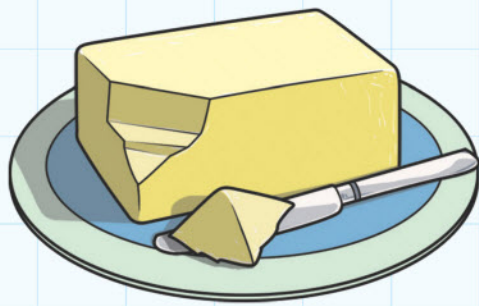
100g self-raising flour

100g butter

100g sugar

Makes 6 small cakes

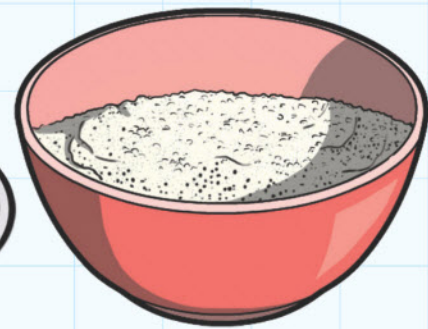
A large egg weighs 100g.



butter



flour



sugar

Complete the missing amounts.

1 egg \_\_\_\_\_

\_\_\_\_\_ g butter

\_\_\_\_\_ g self-raising flour

\_\_\_\_\_ g sugar

Makes 6 small cakes

\_\_\_\_\_ eggs

200 g butter

200 g self-raising flour

200 g sugar

Makes \_\_\_\_\_ small cakes

5 eggs

\_\_\_\_\_ g butter

\_\_\_\_\_ g self-raising flour

\_\_\_\_\_ g sugar

Makes \_\_\_\_\_ small cakes

\_\_\_\_\_ eggs

1 kg butter

1 kg self-raising flour

1 kg sugar

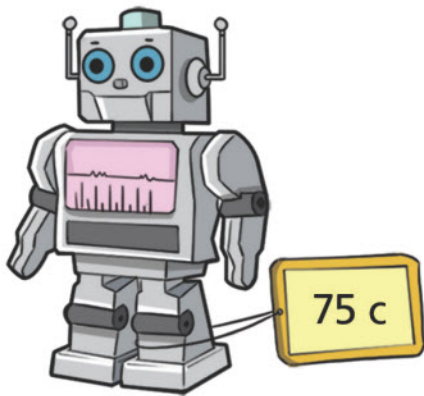
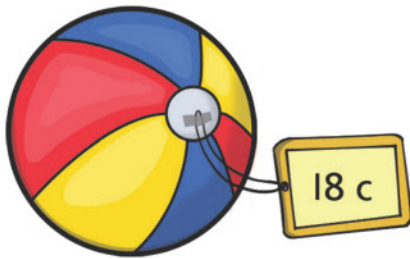
Makes \_\_\_\_\_ small cakes

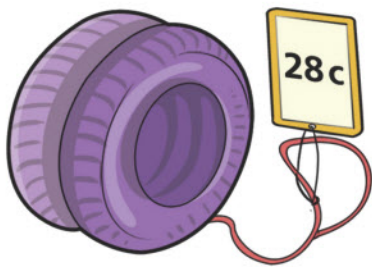
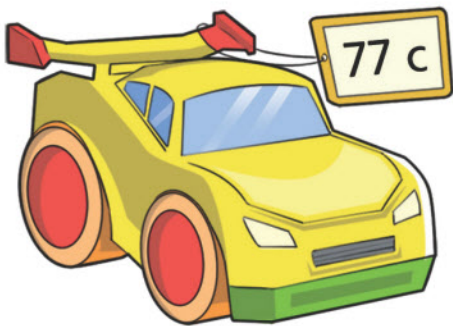
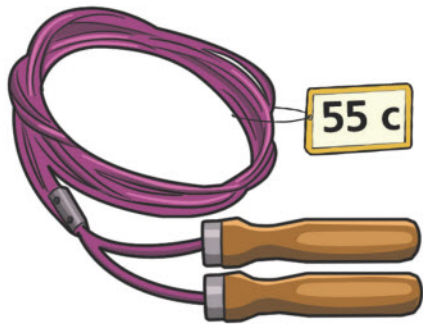
Look at the labels on some food packaging to find the weight of the contents. Draw or write the item and its weight.

# 9F Money

## Discover

Which coins could you use to pay for each toy?





Choose one of the prices above. Show a different way you could pay.

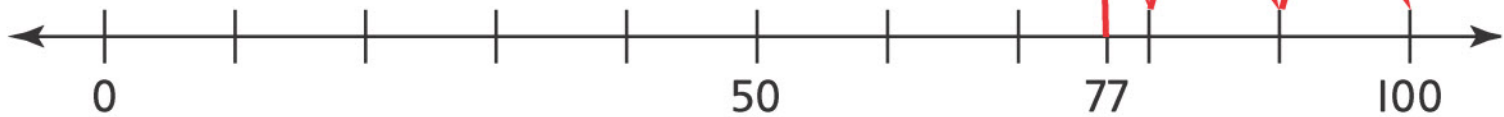
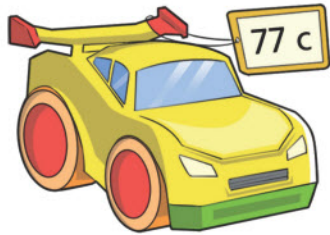
# 9F Money

## Explore

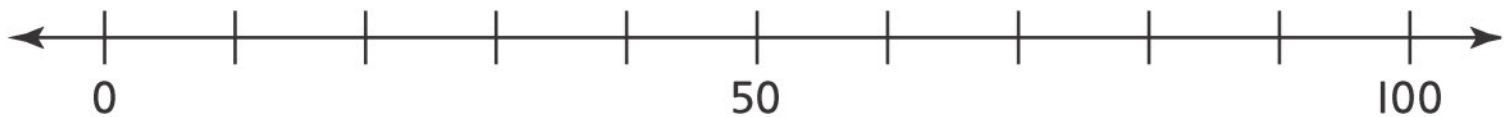
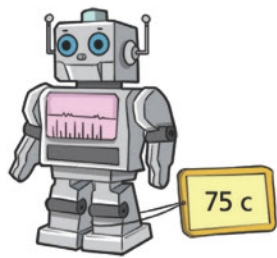
You buy each toy and pay with \$1.

Use the number line to help you work out your change.

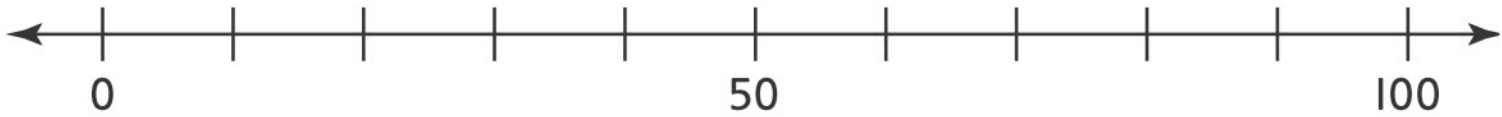
Draw the coins you might get. Remember,  $100c = \$1$



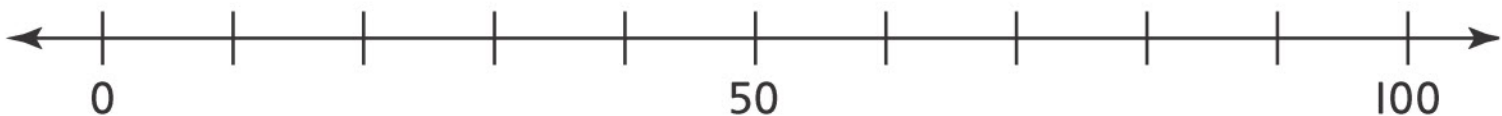
$$\$1 - 77c = 23c$$



$$\$1 - 75c =$$



$$\$1 - 82c =$$



$$\$1 - 43c =$$

Make up a story to go with one of the calculations.  
Here is an example.

My mother gave me \$1. We went to the shops and  
I bought a toy car for 77c. I got 23c change.

---

---

# 9 Measurements

## Connect

For your class party, each student will get two glasses of lemonade, a sweet cake and a flapjack. Everyone will also get a 50 g bag of fudge to take home.

### Sweet cake recipe

(makes 6 small cakes)

1 egg

100 g self-raising flour

100 g butter

100 g sugar

#### Till receipt

1 kg sugar \$2.00

500 g butter \$2.00

6 eggs \$1.20

1 kg flour \$1.00

### Flapjacks

(makes 20)

200 g rolled oats

50 g caster sugar

100 g butter

100 g golden syrup

#### Till receipt

1 kg oats \$2.00

1 kg sugar \$2.00

500 g butter \$2.00

500 g syrup \$1.50

### Lemonade recipe

1 litre water

4 lemons

100 g sugar

1 litre = 1000 ml

#### Till receipt

Pack of 4 lemons \$1.00

1 kg sugar \$2.00

## Simple fudge

(makes 500 g)

50 g butter

400 g sugar

125 ml of milk

$2\frac{1}{2}$  ml spoon vanilla essence

### Till receipt

1 kg sugar \$2.00

500 g butter \$2.00

2 l milk \$0.48

100 ml vanilla essence \$4.00

How much will these cost to make?

Write out your shopping list and work out how much you need to spend to get everything you need.

	1 kg	500 g	100 g	50 g
Oats	\$2	\$1	20c	
Sugar				10c
Butter	\$4		40c	
Syrup		\$1.50		15c

	2 litres	1 litre	500 ml	250 ml	125 ml
Milk	48c				

	100 ml	1 ml	$2\frac{1}{2}$ ml
Vanilla essence	\$4.00	4c	

## 9 Measurements

### Review

Metre Mouse has a tail 1 metre long.  $1\text{ m} = 100\text{ cm}$

How long is a Half Metre Mouse tail?

How long is a Quarter Metre Mouse tail?

How long is a Three-Quarter Metre Mouse tail?

How long is a Two-Quarter Metre Mouse tail?

Two mice put their tails end to end. If they are a Half Metre Mouse and a Two-Quarter Metre Mouse, how long are the tails altogether?

A large egg weighs 100 g. I follow Grandma's Simple Sweet Cake recipe using 2 eggs.

How much does the cake mixture weigh altogether?

Today I drank three mugs of tea, a 500 ml bottle of water and two glasses of lemonade. My mug holds 300 ml and my glass holds 200 ml. How much liquid did I drink today?

# 10 Geometry

## Engage

Cross the road by the park.

How do you get to school?

Follow the path between the two blocks of flats.

left at the crossroads

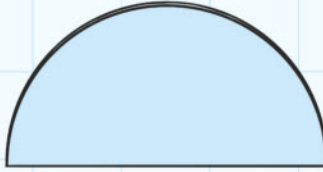
turn right at the shop

# 10A Turns and right angles

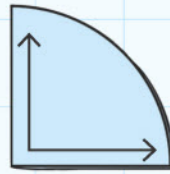
## Discover

Make a right angle checker:

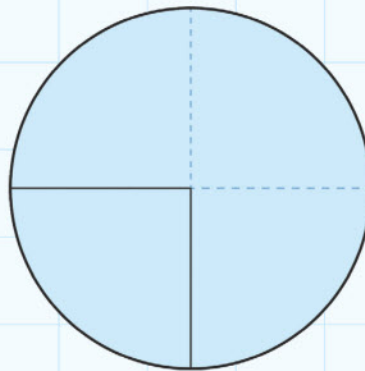
Fold a circle of card in half.



Fold it in half again to make a right angle.



Use your right angle checker to test for right angles.

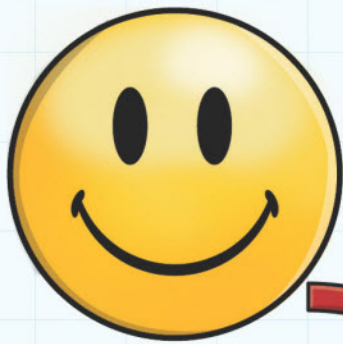


Tick ✓ the right angles.



# 10A Turns and right angles

## Explore



clockwise



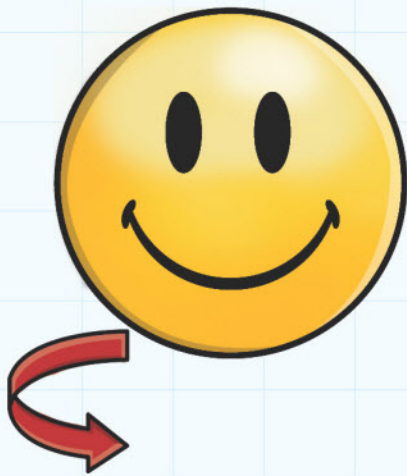
quarter turn



half turn



whole turn



anticlockwise



quarter turn



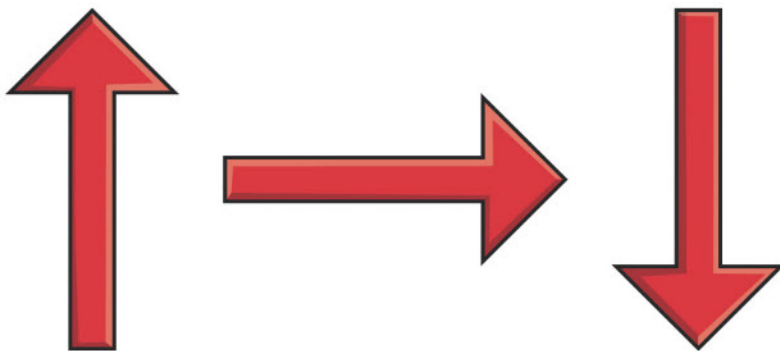
half turn



whole turn

Draw the next two shapes in each pattern.

This shape is turning clockwise, a quarter turn each time.



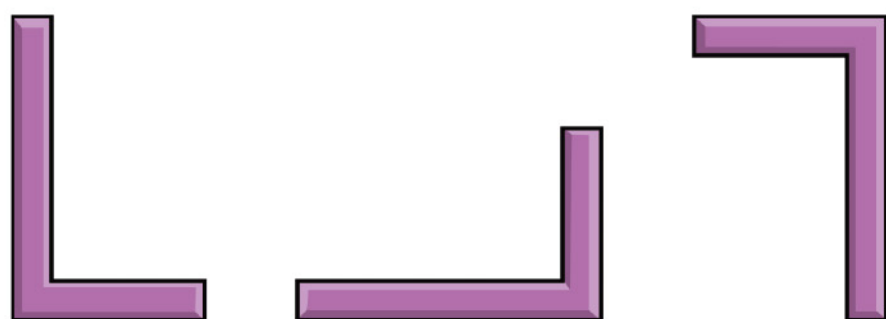
This shape is turning anticlockwise, a quarter turn each time.



This shape is turning clockwise, a half a turn each time.



This shape is turning anticlockwise, a quarter turn each time.



# 10B Travelling

## Discover



### Travel advice

- Travel from the boat in the direction shown.
- You cannot go through the swamp or lake. You must go around them.
- Always face the direction you are travelling.
- No diagonal moves.

Write the directions from the boat to:

Pointed Hill	Forward 1, $\frac{1}{4}$ turn clockwise, forward 2, $\frac{1}{4}$ turn clockwise, Forward 2. F1, $\frac{1}{4}$ C, F2, $\frac{1}{4}$ C, F2.
The Hut	
Orange trees then Coconut trees	
Coconut trees then Skull Hill	
Skull Hill then the Hut	

# 10B Travelling

## Explore



### Travel advice

- Always face the direction you are travelling.
- No diagonal moves.

Which entrance will you use to get into the fun fair?

Will you leave from the same entrance?

Write your journey around the fun fair. Make sure you visit most of the rides and stalls. Don't forget to get something to eat and drink.

# 10 Geometry

## Connect

Write the directions from the classroom door to the staff room door.

Write the directions from the playground to the classroom door.

Write the directions from the front entrance of the school to the classroom door.

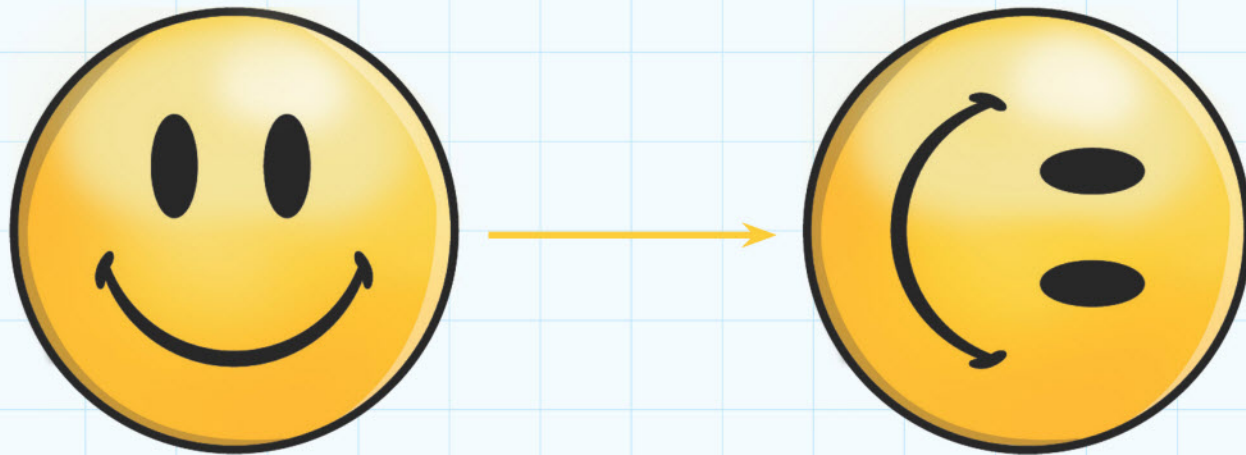
Write the directions from

Write the directions from

Tick ✓ the activity your group is working on. Record your thinking below.

# 10 Geometry

## Review



Write two different ways that the smiley face could be turned to its new position.

You might find some of these words helpful:

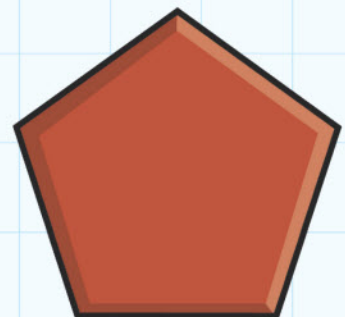
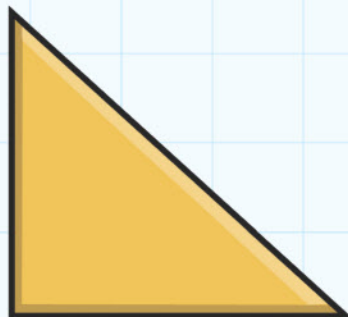
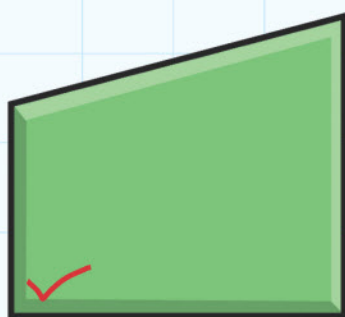
clockwise, anticlockwise, quarter turn, half turn, whole turn

---

---

---

Tick ✓ the right angles in these shapes.





# 11 Time

## Engage



JANUARY							FEBRUARY							MARCH						
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa
						1			1	2	3	4	5			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	27	28	29	30	31							
30	31																			

APRIL							MAY							JUNE											
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa					
						1			1	2	3	4	5	6	7							1	2	3	4
3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11					
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18					
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25					
24	25	26	27	28	29	30	29	30	31	26	27	28	29	30											

JULY							AUGUST							SEPTEMBER									
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa			
						1			1	2	3	4	5	6							1	2	3
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10			
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17			
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24			
24	25	26	27	28	29	30	28	29	30	31	25	26	27	28	29	30							
31																							

OCTOBER							NOVEMBER							DECEMBER								
Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa	Su	M	Tu	W	Th	F	Sa		
						1			1	2	3	4	5							1	2	3
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10		
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17		
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24		
23	24	25	26	27	28	29	27	28	29	30	25	26	27	28	29	30	31					
30	31																					

OCTOBER						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
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				

# 1 1A Seconds and minutes

## Discover

### 1 minute challenges

How many cubes can you make into a tower?

How many coins can you stack into a tower?

Start from 1 and write the numbers in order.  
Which number can you write up to in a minute?

Estimate how long it will take you to do each of these activities, then ask your partner to time you.

Activity	Estimated time in seconds	Actual time in seconds
Count to 100		
Say the alphabet		
Say the 2 times table, to $10 \times 2$		
Throw and catch a ball		

Complete these sentences.

There are \_\_\_\_\_ seconds in a minute.

There are \_\_\_\_\_ seconds in half a minute.

There are \_\_\_\_\_ seconds in a quarter of a minute.

# 1 1A Seconds and minutes

## Explore

Sort these activities into ones that take seconds and ones that take minutes.

brush  
your  
teeth

yawn

take a  
shower

clap

make  
toast

play  
football

hop

eat a  
meal

write  
your  
name

blow  
your  
nose

blink

sneeze

drink a  
glass of  
milk

seconds

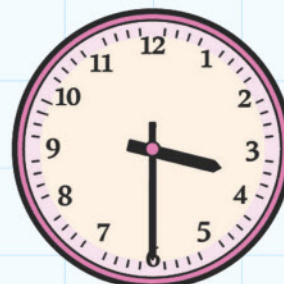
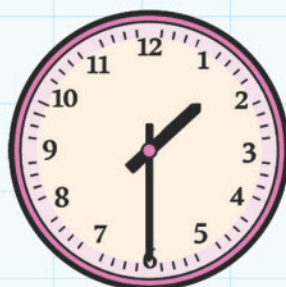
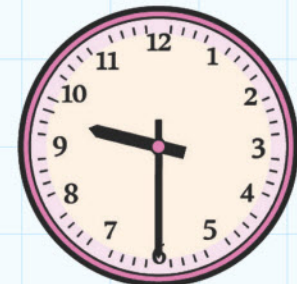
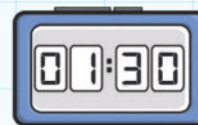
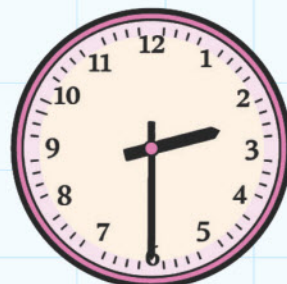
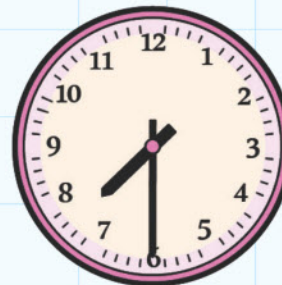
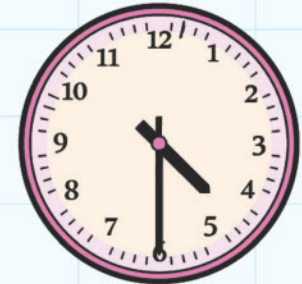
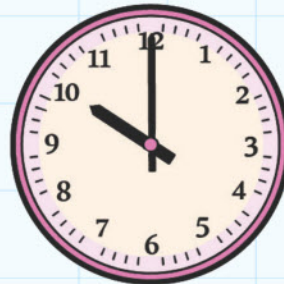
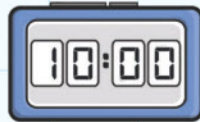
minutes

# 1 1B Half past

## Discover

Join the clocks which show the same time.

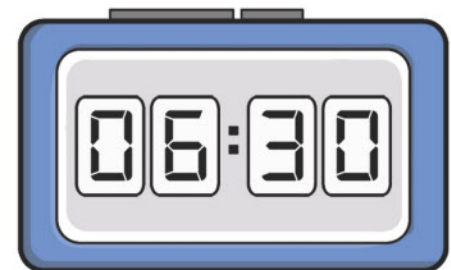
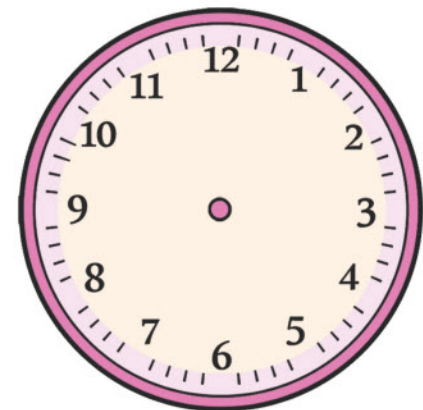
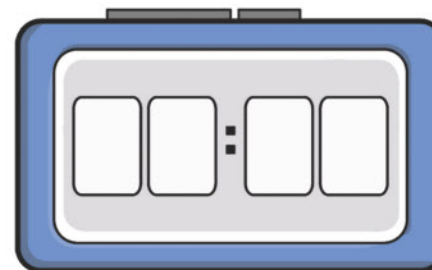
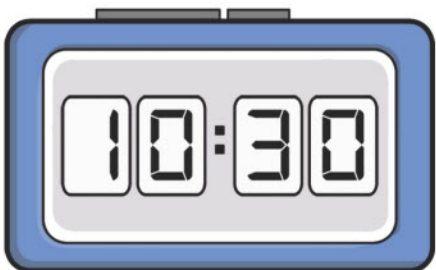
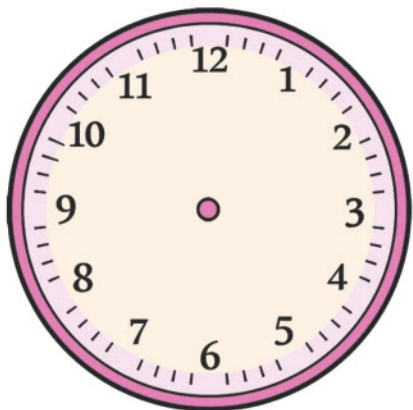
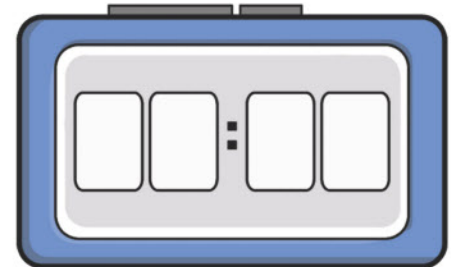
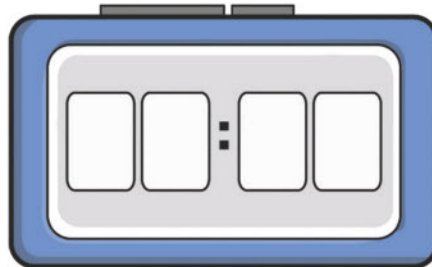
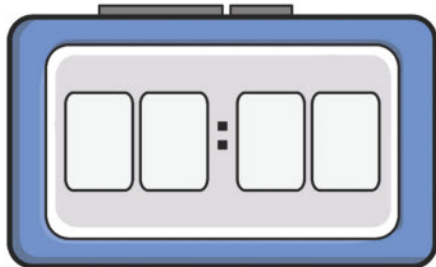
Circle the clock that does not have a partner.

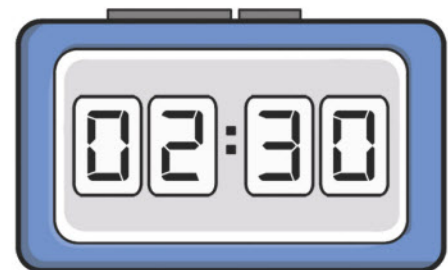
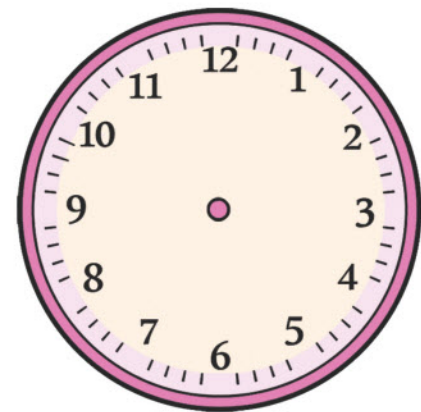
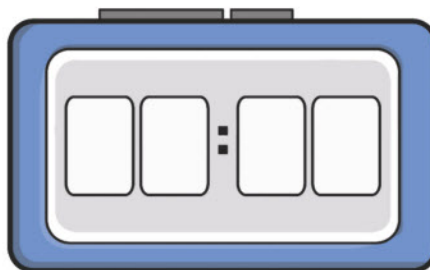
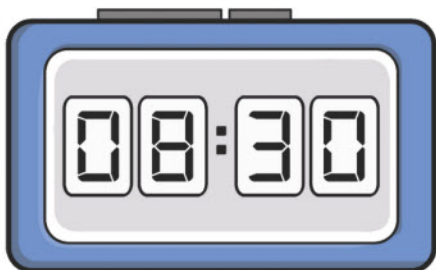
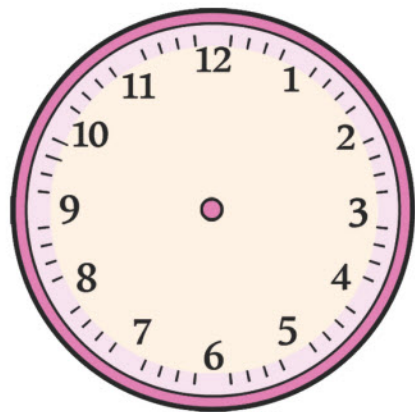
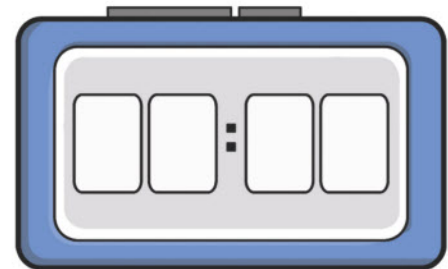
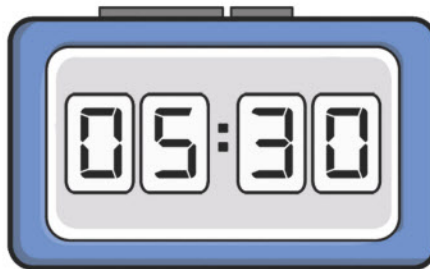
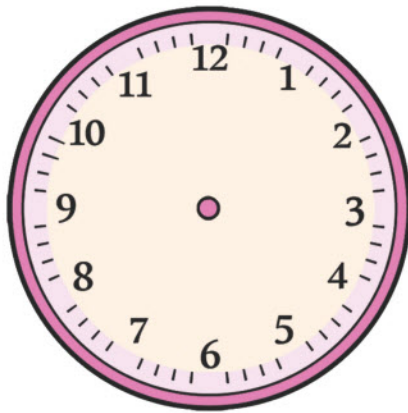
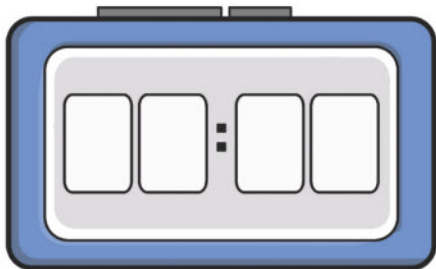


# 1 1B Half past

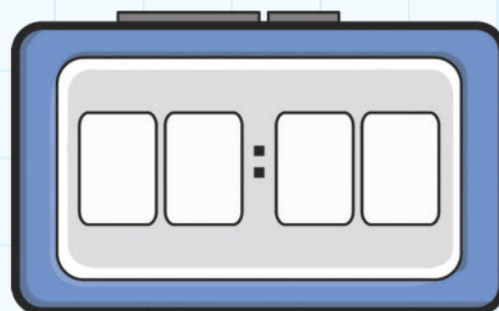
## Explore

Complete the missing times.





If it is half past 2 now, what time will it be in half an hour's time? Complete the digital clock to show the time.



# 11C Days of the week

## Discover

Put the days of the week in order, starting with Monday.

M
T
W
T
F
S
S

### Word Bank

Wednesday

Monday

Sunday

Saturday

Friday

Thursday

Tuesday

What day is it today?

\_\_\_\_\_

What day was it yesterday?

\_\_\_\_\_

Two different days begin with S. Which day comes first in the week?

\_\_\_\_\_

Two different days begin with T. Which day comes later in the week?

\_\_\_\_\_

Which day comes after Thursday?

\_\_\_\_\_

Which day comes before Wednesday?

\_\_\_\_\_

What is the 3rd day of the week?

\_\_\_\_\_

What is the 5th day of the week?

\_\_\_\_\_

Which is your favourite day of the week?  
Write or draw the reason why.

# 1 1C Days of the week

## Explore

### Days of the week game

#### Game 1

Player 1

Player 2



#### Game 2

Player 1

Player 2



Complete these sentences.

There are \_\_\_\_\_ days in a week.

Today is \_\_\_\_\_.

Tomorrow will be \_\_\_\_\_.

# 1 1D Months of the year

## Discover

Put the months of the year in order.

Write how many days are in each month.

J	31
F	
M	
A	
M	
J	
J	
A	
S	30
O	
N	
D	

## Word Bank

August

November

April

December

May

February

March

January

June

September

July

October

What is the 4th month of the year?

\_\_\_\_\_

What is the 9th month of the year?

\_\_\_\_\_

What is the 3rd month of the year?

\_\_\_\_\_

Complete the grids with the missing months.

April		June	
-------	--	------	--

January			April
---------	--	--	-------

	October		December
--	---------	--	----------

June		August	
------	--	--------	--

	December	January	
--	----------	---------	--

# 1 1D Months of the year

## Explore

Use the word bank and your months of the year wheel to help you answer these questions.

### Word Bank

August	November
April	December
May	February
March	January
June	September
July	October

Which month follows June?

---

Which month is just before May?

---

Which month follows March?

---

Which month is two months after August?

---

Which month is two months before December?

---

Three different months begin with J. Which month comes earliest in the year?

---

Two different months begin with M.  
Which month comes later in the year?

---

Two different months begin with A.  
Which month comes earlier in the year?

---

Which month is it now?

---

Which month was it before this one?

---

Which month will it be after this one?

---

Which is your favourite month of the year?  
Write or draw the reason why.

# 11 Time

## Connect

How many minutes are you at school for each day?

When is (or was) the 100th day of school this year?

When is (or was)...

How many.....

When is (or was) the 50th day of school this year?

How many days have you been at school for so far this year?

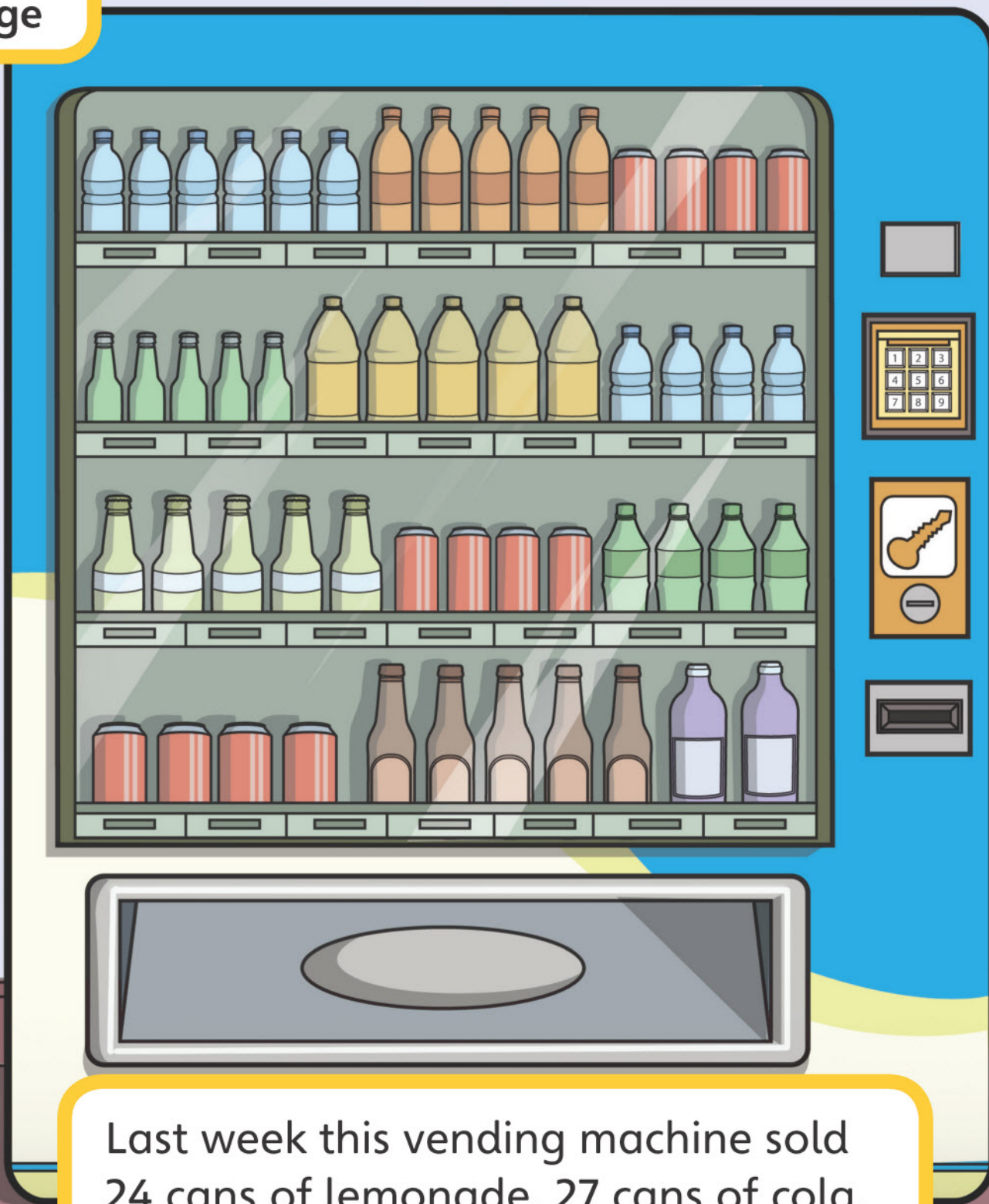
Tick ✓ the activity your group worked on.

Record your thinking below. What did you find out?



# 12 Handling Data

## Engage



Last week this vending machine sold 24 cans of lemonade, 27 cans of cola, 23 cans of orangeade, 21 cans of fruit soda, 15 bottles of sparkling water and 13 bottles of still water.

# 12A Block graphs and pictograms

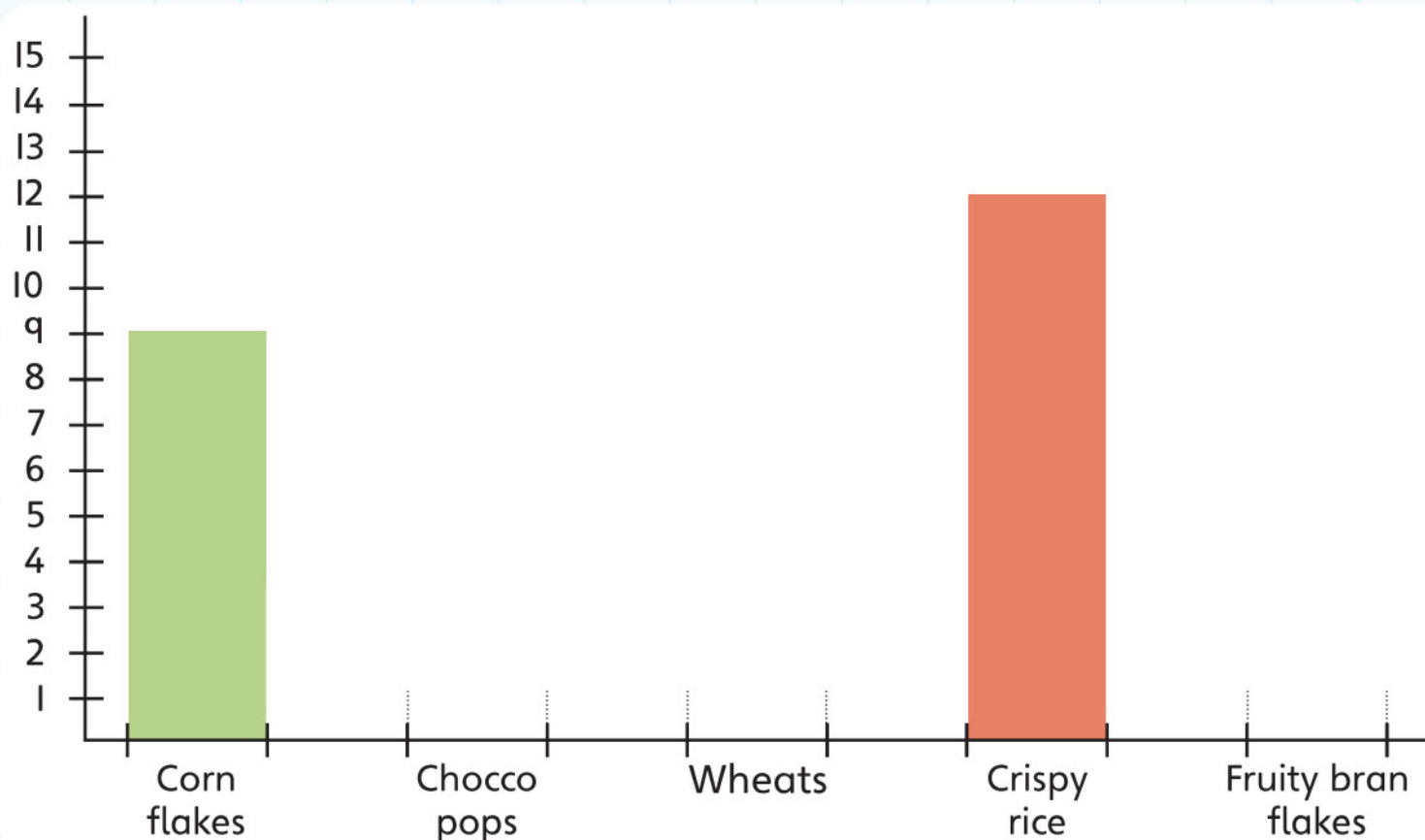
## Discover

Complete the frequency chart and block graph for favourite breakfast cereals.

### Favourite Breakfast Cereal

Cereal	Number of votes	Frequency
Cornflakes	 / / / /	
Chocco pops	 / / / /	
Wheats	 / / / /	
Crispy rice	 / / / /	
Fruity bran flakes	 / / / /	

### Favourite Breakfast Cereal



Each student had two votes. How many students were asked?

What is the most popular cereal? \_\_\_\_\_

What is the least popular cereal? \_\_\_\_\_

How many students preferred Crispy rice?

How many students preferred Chocco pops?

Which cereal received 7 votes? \_\_\_\_\_

Which cereal received 5 more votes than that? \_\_\_\_\_

How many more students like Chocco Pops than like Fruity

bran flakes?

How many more students like Cornflakes than like Wheats?

Which two cereals received 19 votes altogether?

\_\_\_\_\_

What is the difference in votes between the most popular

and least popular cereals?

How do you know?

\_\_\_\_\_

The three most popular cereals will be offered on the breakfast club menu. Which cereals are they?

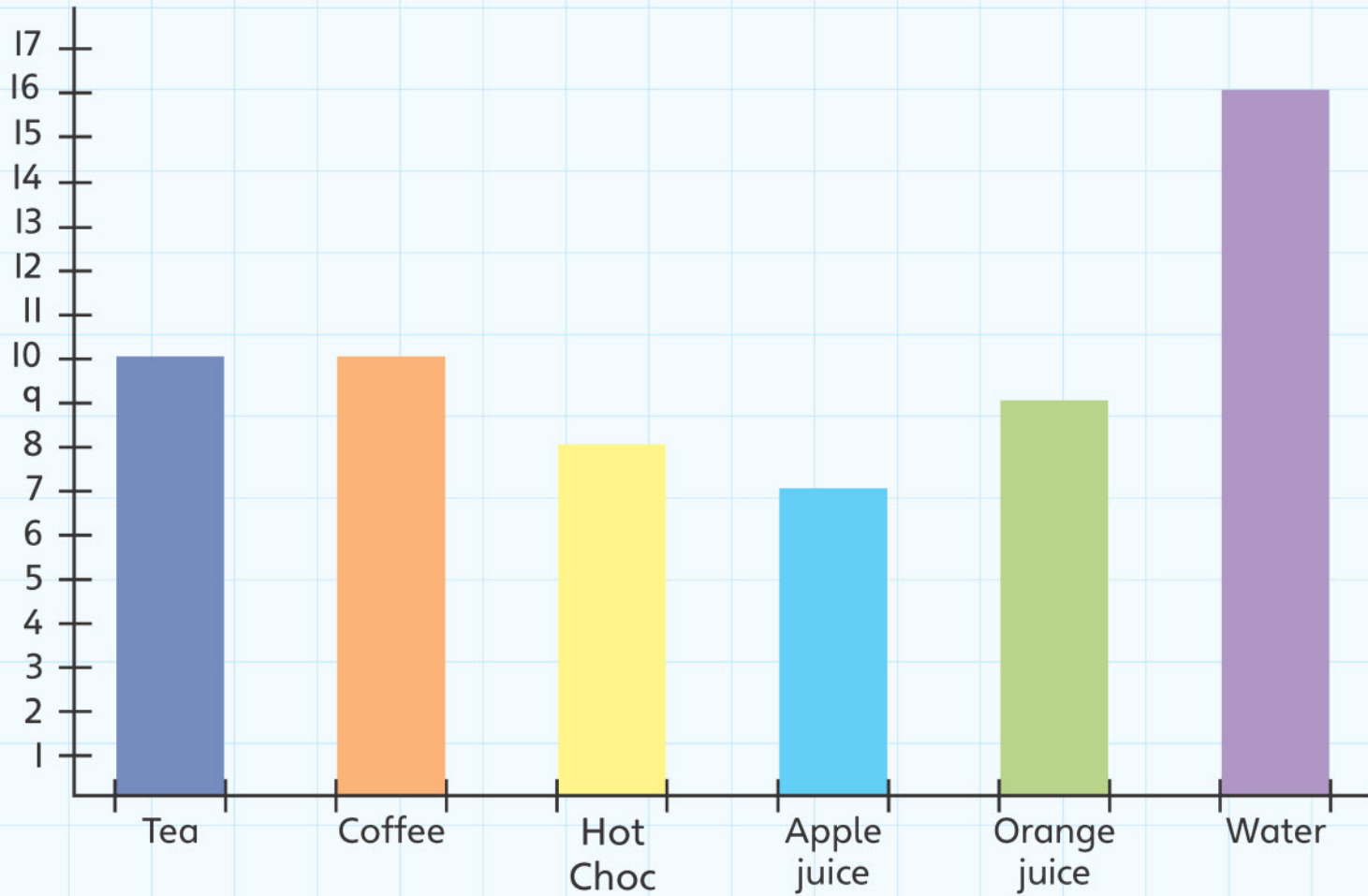
\_\_\_\_\_

# 12A Block graphs and pictograms

## Explore

Use the information in the block graph to help you complete the pictogram.

### Favourite Breakfast Drink



### Favourite breakfast drink pictogram

Tea	☺	☺	☺	☺	☺	☺	☺	☺	☺								
Coffee																	
Hot choc																	
Apple juice																	
Orange juice																	
Water																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Key ☺ = 1 vote

Each student was asked to choose their two favourite drinks at breakfast time. How many students were asked?

What is the most popular drink? \_\_\_\_\_

What is the least popular drink? \_\_\_\_\_

How many students preferred hot chocolate?

How many students preferred orange juice?

How many more students like coffee than like apple juice?

How many more students like water than like apple juice?

Which drinks received 10 votes? \_\_\_\_\_

Which drink received 6 more votes than these drinks? \_\_\_\_\_

Which three drinks received a total of 24 votes? \_\_\_\_\_

Which two drinks received a total of 24 votes? \_\_\_\_\_

Which was more popular, hot drinks or cold drinks? \_\_\_\_\_

The three most popular drinks will be on the breakfast club menu.

Which drinks are they? \_\_\_\_\_

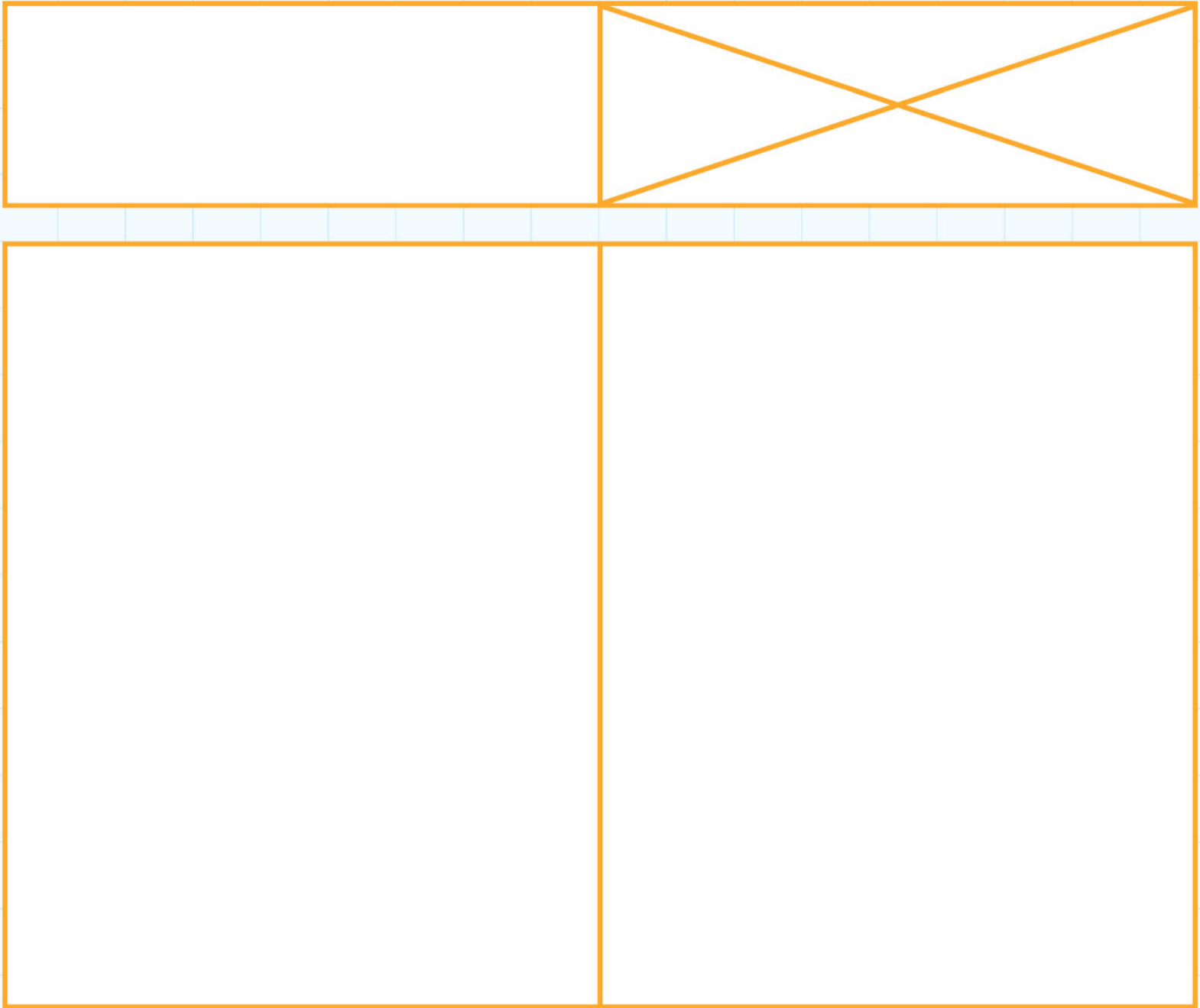
After the breakfast club opened, students complained that water was the only cold drink on the menu. Which other cold drink could be offered? Why?

\_\_\_\_\_

## 12B Sorting using Carroll diagrams

### Discover

Complete the Carroll diagram.



Complete this sentence.

I sorted numbers for \_\_\_\_\_ and \_\_\_\_\_ in the Carroll diagram.

180

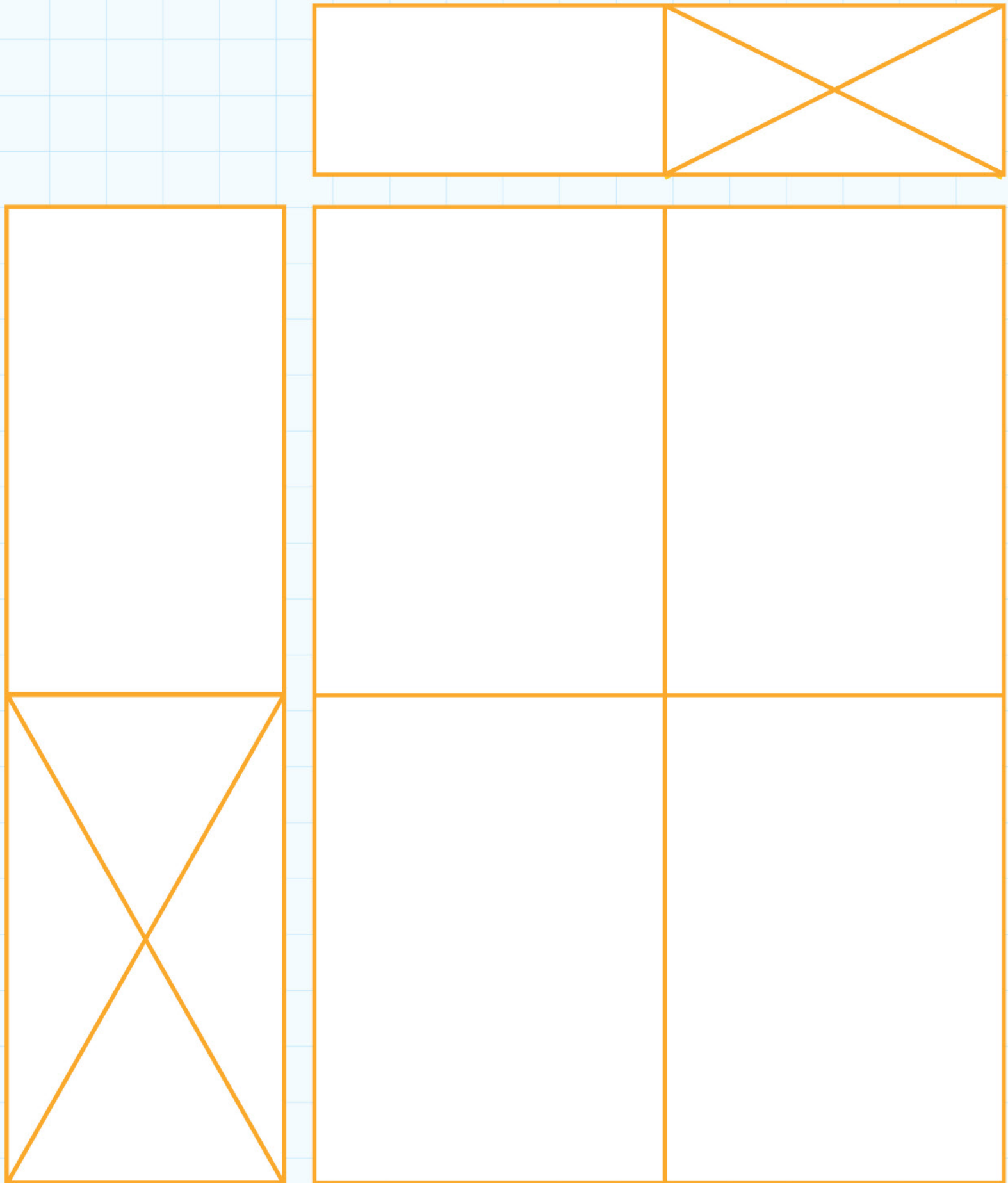
Complete this sentence using the words **do** or **do not**.

When you cross out the sorting title, it means that those numbers \_\_\_\_\_ match the sorting title.

# 12B Sorting using Carroll diagrams

## Explore

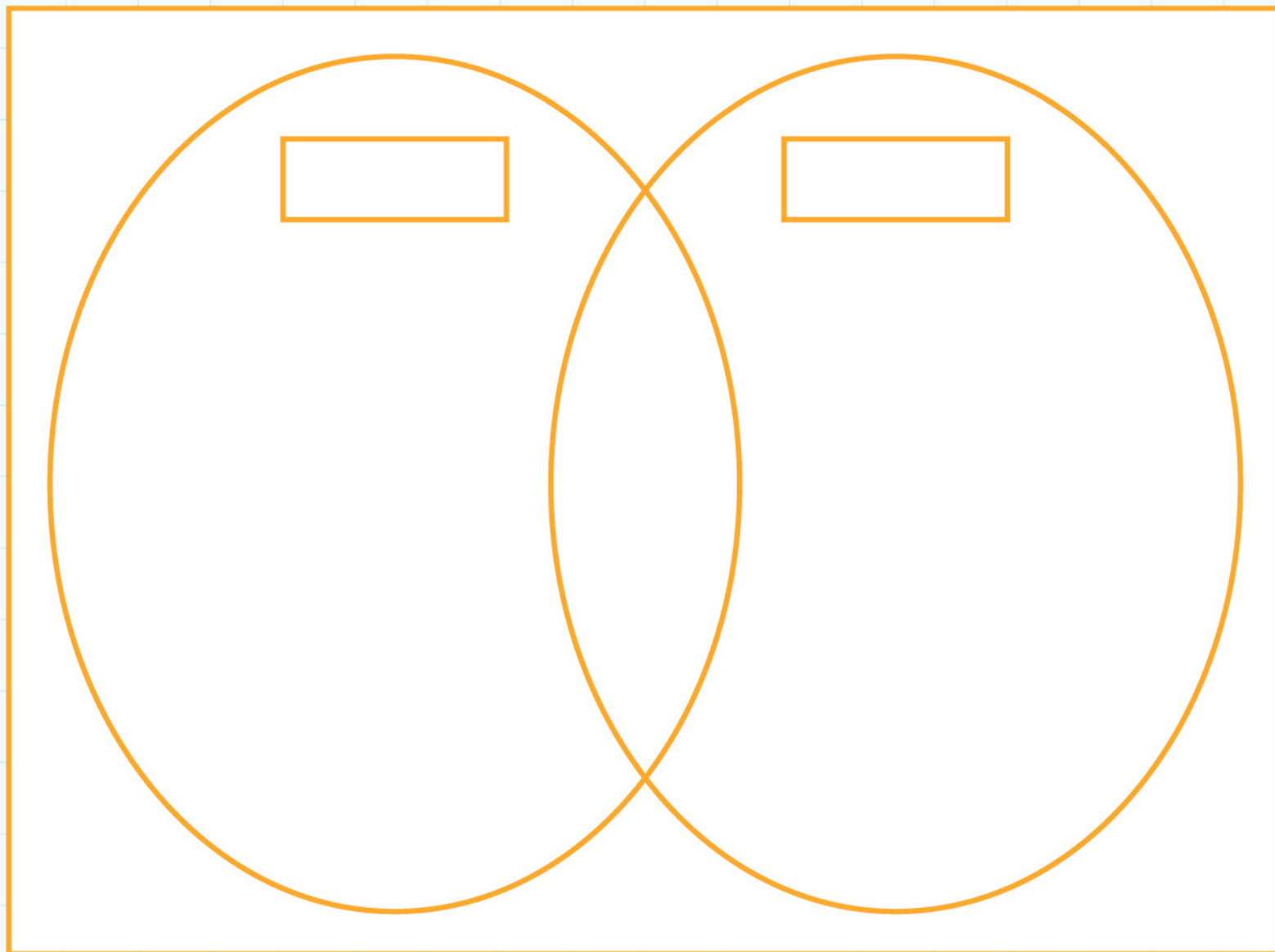
Complete the Carroll diagram.



## 12C Sorting using Venn diagrams

### Discover

Write or draw the information in the correct places.



Complete these sentences.

We are both \_\_\_\_\_.

We both like \_\_\_\_\_.

Neither of us \_\_\_\_\_.

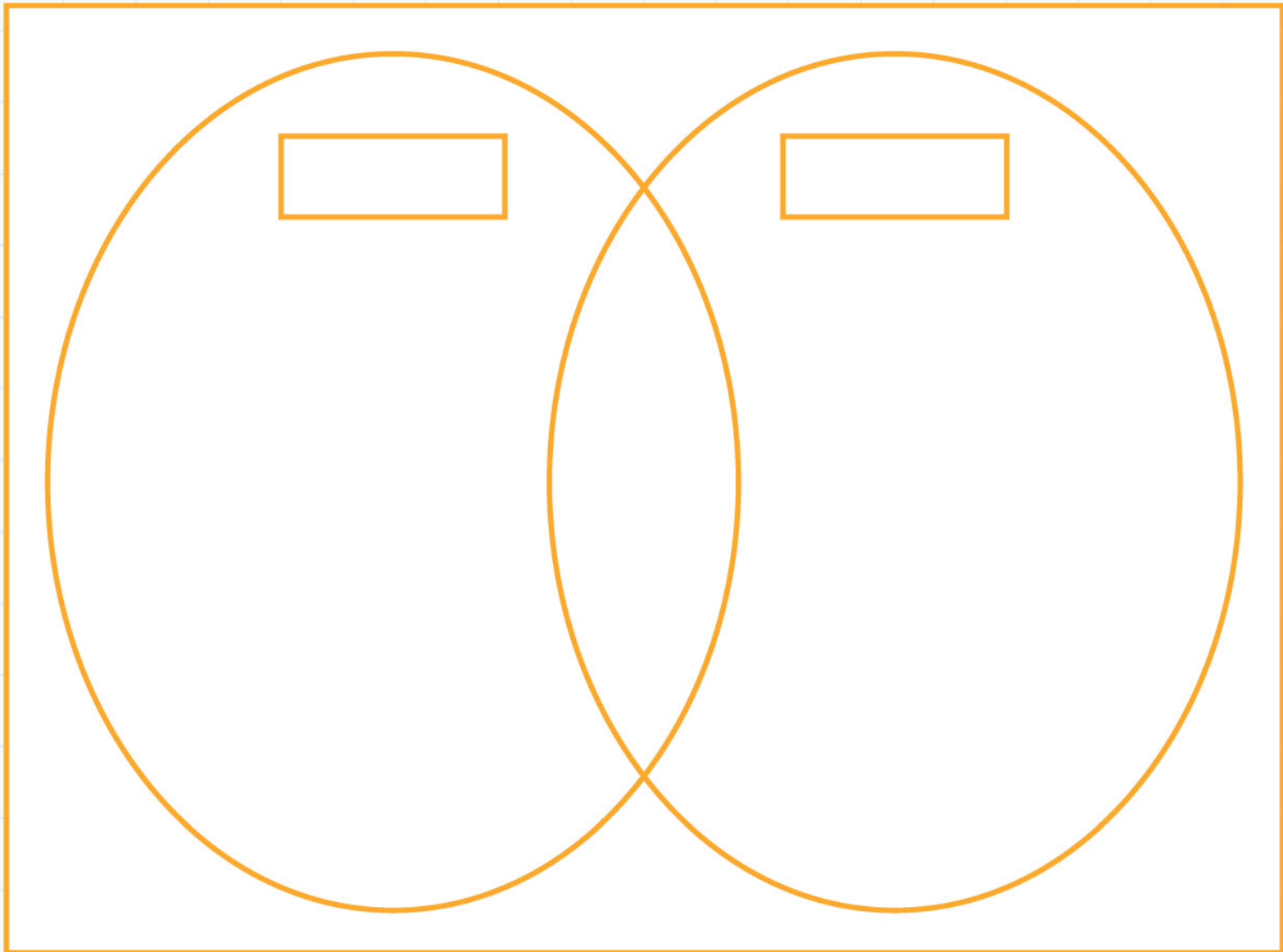
# 12C Sorting using Venn diagrams

## Explore

First, label the whole diagram with the range of numbers you want to think about.

Next, label each oval. Your labels could be odd, even, numbers over 20, multiples of 5 or something else.

Now sort your numbers.



Numbers in the overlap are \_\_\_\_\_ and \_\_\_\_\_.

## 12 Handling data

### Connect

Carry out a survey of what students in your class like to do after school. What are the favourite after-school activities? What else does the information tell you?

Use a Carroll diagram to sort for two criteria. This could be mammals/not mammals with four legs/not four legs; students who have brothers/no brothers with students who have sisters/no sisters; brown eyes/not brown eyes with fair hair/not fair hair or something else you are both interested in.

Use a Venn diagram to show how some information belongs in one oval, some information belongs in the other oval and some information belongs in both. You could explore what you and your partner like, friends who can ride a bike and/or swim, land and sea animals, straight and curved lines in capital letters, something about numbers or shapes or something else you are both interested in.

# 12 Handling data

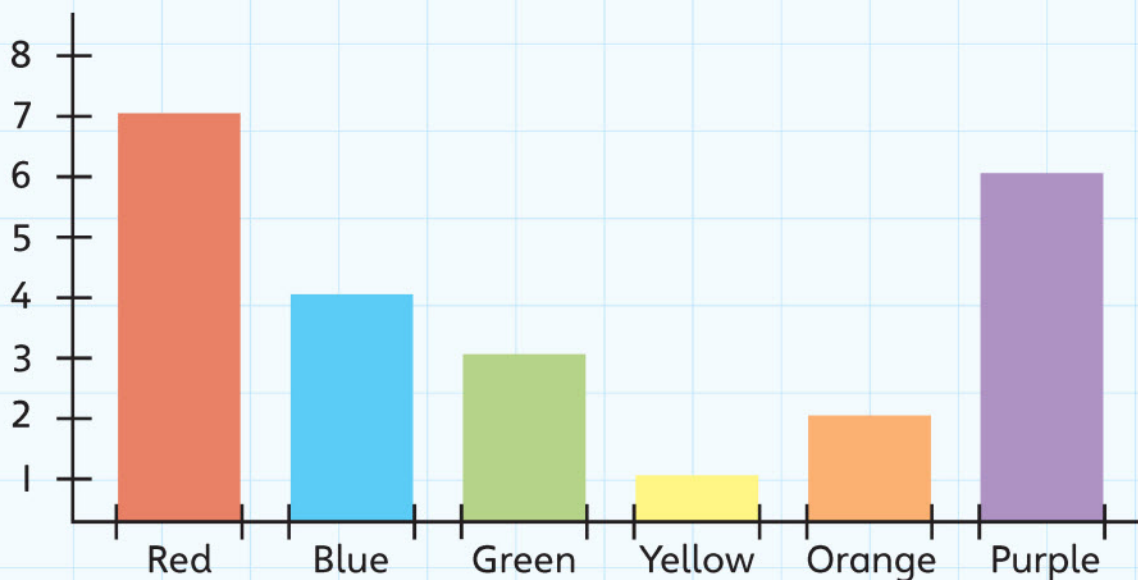
## Review

Draw a Venn diagram using the information in the Carroll diagram below. Remember to label the ovals and the box around the Venn diagram.

	Multiple of 2	Not a multiple of 2
Multiple of 5	10 50 80	45 25 5
Not a multiple of 5	42 36 28	33 27 51

All the students in Class 2 were asked their favourite colours. The teacher collected the information in a tally chart. Draw the tally chart to match the block graph.

### Favourite Colour





Now draw a pictogram showing the same information. What simple picture or shape will you use in your pictogram?



How many students were asked about their favourite colour?

What are the two most popular colours? \_\_\_\_\_

# Glossary

**addition**

---

$$4 + 6 = 10$$

This is an **addition**

**analogue clock**

---



an **analogue clock**



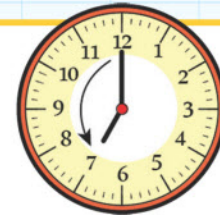
an **analogue watch**

**anticlockwise/clockwise**

---



**clockwise**



**anticlockwise**

**array**

---

an **array**

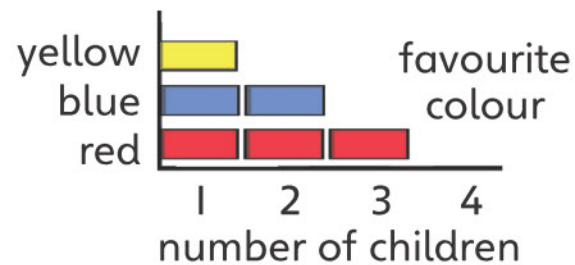


**block graph**

---

---

---



This **block graph** tells you how many children like each colour

**calculate**

---

Can you **calculate** the answers?

$$4 + 3$$

$$8 - 4$$

$$2 \times 3$$

$$9 = 3 \times 3$$

$$7 = 7 - 0$$

$$7 = 3 + 4$$

capacity

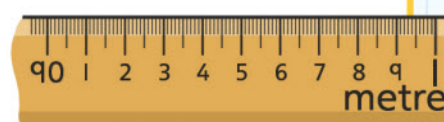
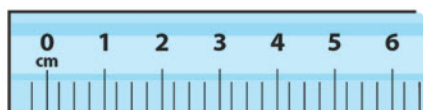
---

This bucket has a capacity of 8 litres



centimetre/metre

---



circular

---

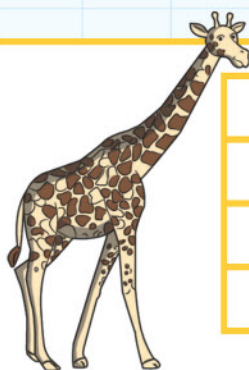
These shapes have circular tops



column

---

---

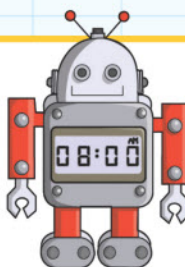


1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

a column

digital clock

---



a digital clock

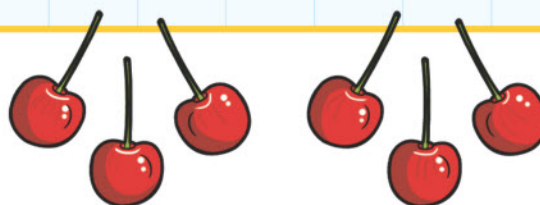


a digital watch

divide

---

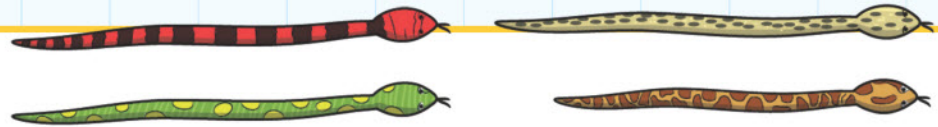
---



You can divide 6 into two equal groups of 3

**exactly**

\_\_\_\_\_



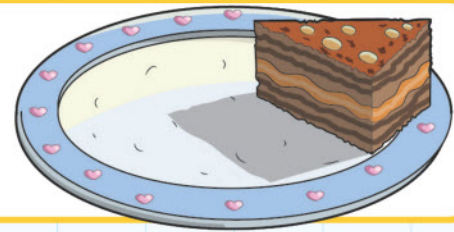
exactly the same length

nearly the same length

**fraction**

\_\_\_\_\_

a fraction of a cake

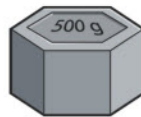


**gram/kilogram**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

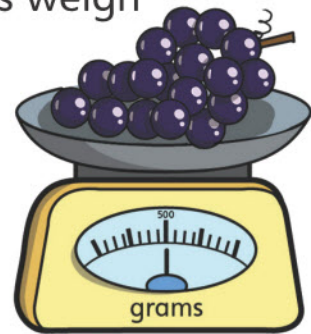


This is a 500 gram weight.



a 1 kilogram weight

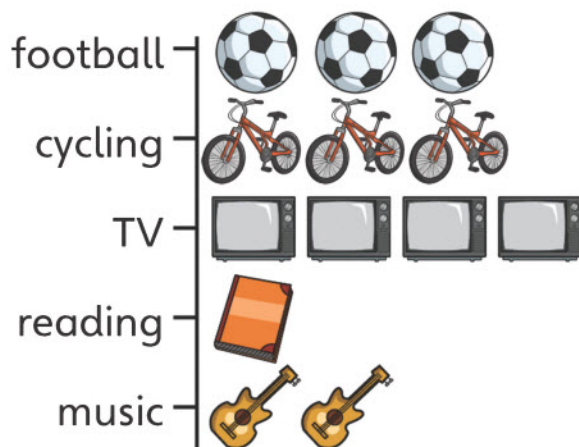
These scales weigh in grams.



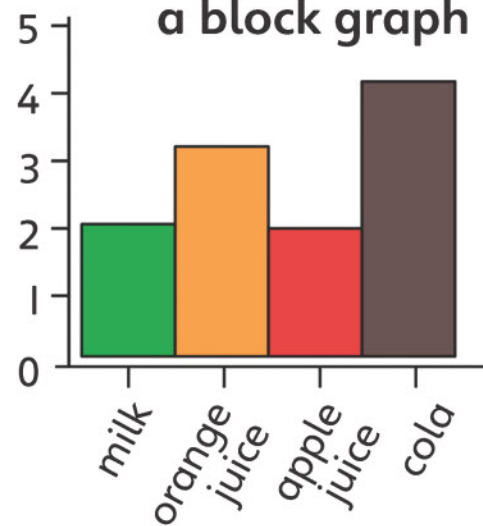
**graph**

\_\_\_\_\_

**a pictogram**



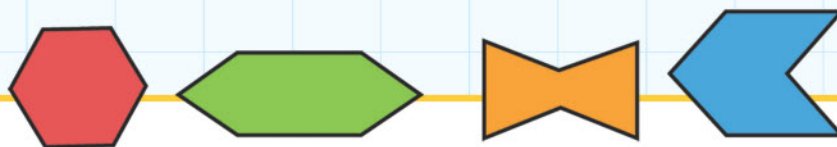
**a block graph**



Here are two different kinds of **graph**

# hexagon

---



All of these are **hexagons**. The red shape is a regular hexagon

# hundred square

---

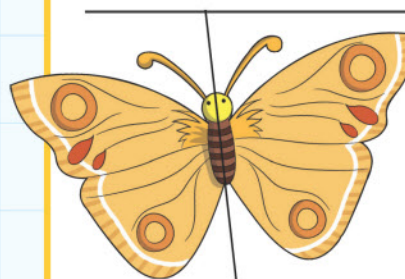
---

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

# line of symmetry/ mirror line

---

---



a line of symmetry

A line of symmetry is like a mirror because one side is a reflection of the other

# investigate

---

---

# least

---



# litre/millilitre

---

---



one litre of milk

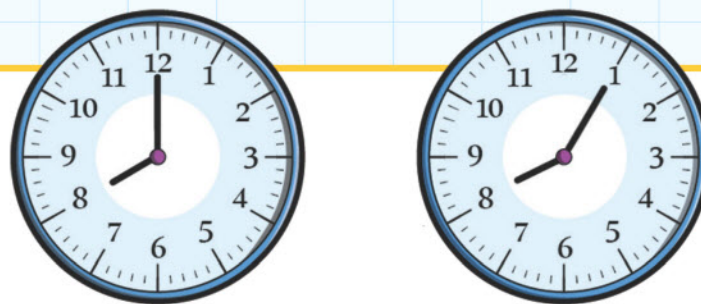


5 millilitres

**minute**

---

---



Five **minutes** have passed.

**most**

---

---



Farrah



Sara



Mustafa

Mustafa has the **most** apples

**multiple**

---

---

multiples of 2

2, 4, 6, 8, 10 ...

multiples of 5

5, 10, 15, 20, 25 ...

multiples of 10

10, 20, 30, 40, 50 ...

The **multiples** go on and on

**multiply**

---

---

**Multiply 3 by 4.** What is the answer?



3 + 3 + 3 + 3 or 4 + 4 + 4

The answer is 12.

**number bond**

---

---

addition bond

$3 + 4 = 7$

subtraction bond

$5 - 1 = 4$

multiplication bond

$2 \times 3 = 6$

division bond

$10 \div 2 = 5$

number grid

---

1	2	3
4	5	6
7	8	9

Numbers arranged in a **grid**

number pair

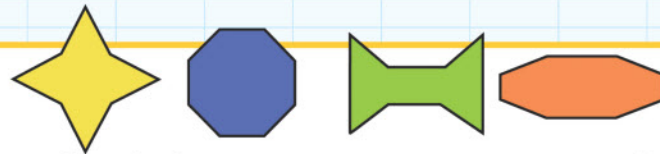
---

**5** and **0**   **3** and **2**   **4** and **1**

All these **number pairs** total 5

octagon

---



All of these are **octagons**. The blue shape is a regular **octagon**

one-digit number, two-digit number,  
three-digit number

---

---

**7**

a one-digit  
number

**36**

a two-digit  
number

**248**

a three-digit  
number

part/whole

---

---



4 equal  
**parts**



**whole**



**halves**



**1 whole**

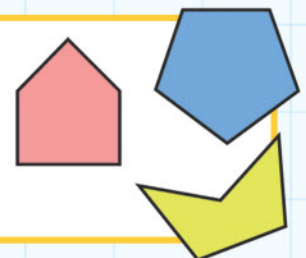


**quarters**

pentagon

---

All of these are **pentagons**.  
The blue shape is a regular  
**pentagon**



place value

---

---



predict

---

---

---

I predict that the next bead is yellow, because the pattern is yellow, blue, yellow, blue.



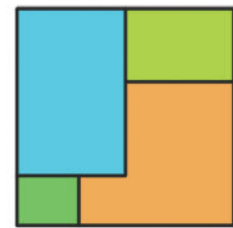
quarter

---

---



quarters



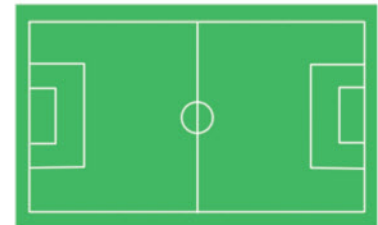
not quarters

rectangular

---

---

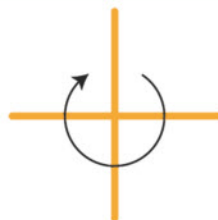
The football field is rectangular



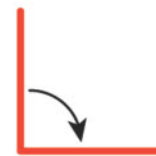
right angle

---

---



a whole turn



a quarter turn



a right angle

## round

---

---

22 rounded to the nearest ten is 20.

389 rounded to the nearest hundred is 400.

## row

---

---

a row —

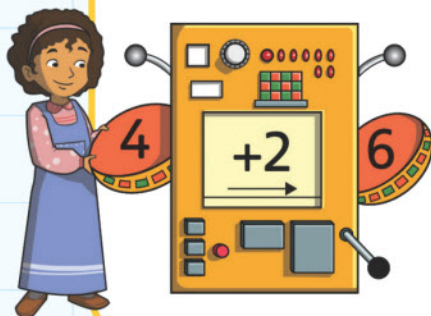
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Which are the even numbers in this row?

The answer is 6 and 8.

## rule

---



The **rule** for this machine is add 2

## sequence

---

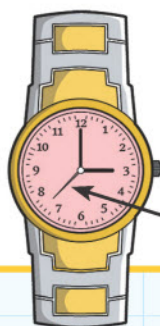
---



## second

---

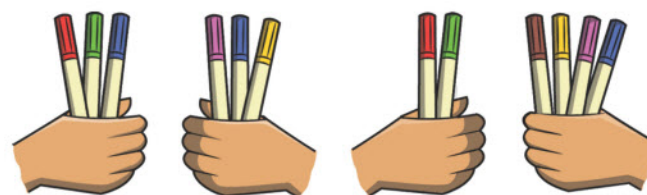
---



second hand

## share

---



6 shared equally

6 shared unequally

**solve**

---

---

Solve this problem: I have 7 sweets.  
If I eat 3 how many will I have left?

$7 - 3 = 4$ . You will have 4 left.

**straight line**

---

---

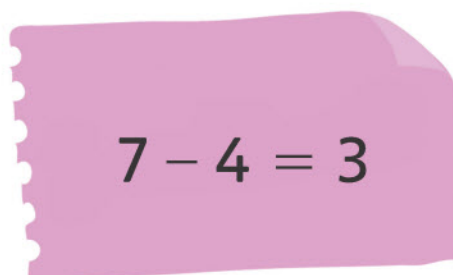


The shortest line joining two points

**subtraction**

---

---

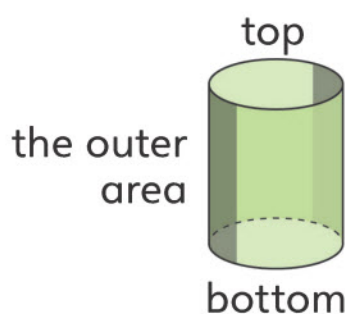


This is a  
**subtraction**

**surface**

---

---



A cylinder has  
two flat **surfaces**  
and one curved  
**surface**

**symbol**

---

---

Here are some **symbols**.  
Do you know what they all mean?

×      cm      kg      ÷

multiply ×

cm centimetre

kg kilogram

÷ divide

**symmetrical**

\_\_\_\_\_

\_\_\_\_\_

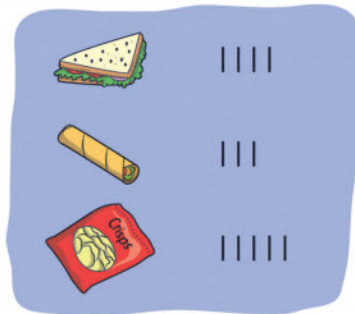


The ladybird is **symmetrical**

**tally**

\_\_\_\_\_

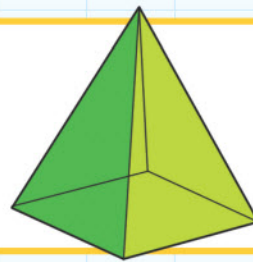
\_\_\_\_\_



The **tallies** show that 4 people ate sandwiches

**triangular**

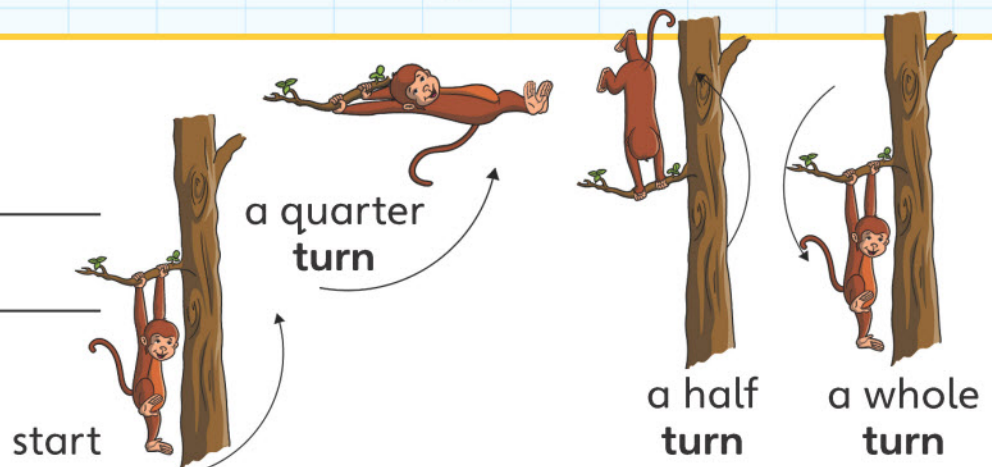
\_\_\_\_\_



**turn**

\_\_\_\_\_

\_\_\_\_\_



**whole number**

\_\_\_\_\_



2 is a **whole number**



$\frac{1}{2}$  is a **fraction**



$1\frac{1}{2}$  is a **mixed number**.

# Oxford International Primary Maths

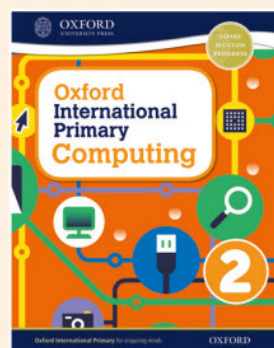
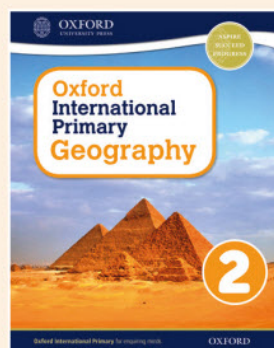
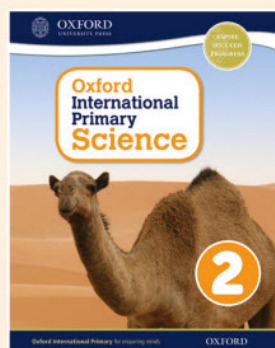
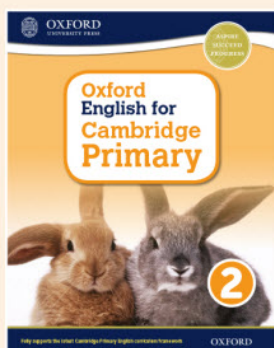
# 2

*Oxford International Primary Maths* is a complete six-year primary maths course that takes a problem-solving approach to learning maths, engaging students in the topics through asking questions, and activities that encourage them to explore and practice.

Each topic is approached using the following five steps:

- A big question to **Engage** students and get them thinking
- Starter activities to **Discover** the key elements of the topic
- Problems and practice to allow them to **Explore** how the concept is used in everyday life
- Fun, collaborative groupwork to **Connect** the topic strands, and **Review** pages that allow both student and teacher to monitor progress.

The complete enquiry-based primary course:



## Empowering every learner to succeed and progress

- ✓ Unified enquiry-based approach for all primary subjects
- ✓ Written by subject experts
- ✓ Interactive e-books for enhanced learning
- ✓ Fully matched to the Cambridge Primary Maths curriculum framework



OXFORD LEARNER'S  
BOOKSHELF

Now supported by enhanced e-books

**OXFORD**  
UNIVERSITY PRESS

### How to get in touch:

**web** [www.oxfordprimary.com](http://www.oxfordprimary.com)  
**email** [schools.enquiries.uk@oup.com](mailto:schools.enquiries.uk@oup.com)  
**tel** +44 (0)1536 452610  
**fax** +44 (0)1865 313472

ISBN 978-0-19-839460-0



9 780198 394600