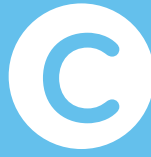


Mathletics

Series



Student



1 4 3 2 3 4 1 2 3
2 1 4 2 1 4 2

Numbers

5 4 3 5 4 4 5
4 3 5 3 4 4 5

My name _____



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- counting in quarters _____
- counting in thirds _____
- counting on a number line _____
- writing fractions _____

Series Author:

Rachel Flenley

Numbers to 100 – reading and writing teen numbers

1 Match the numbers written in numerals to the number written in words.

15

19

12

17

14

twelve

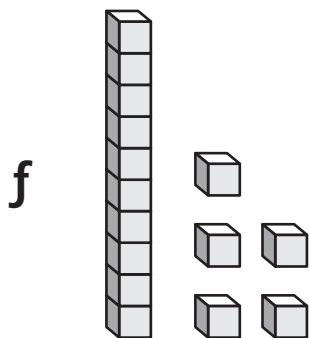
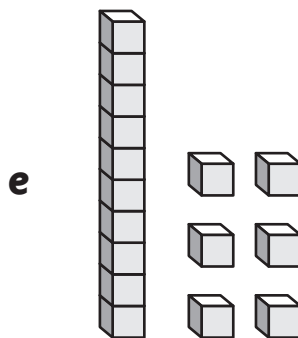
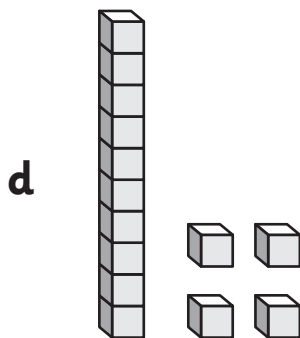
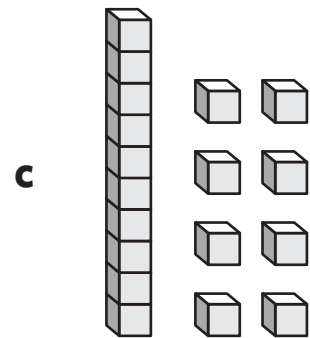
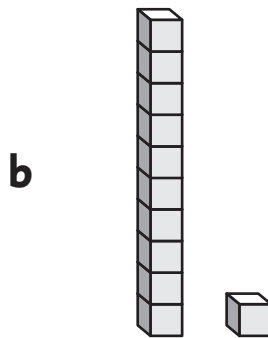
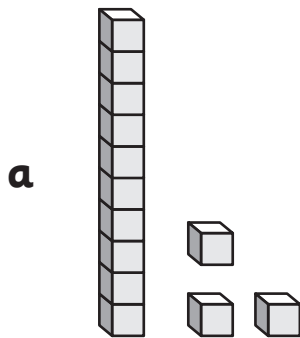
nineteen

fourteen

fifteen

seventeen

2 Write the numbers in words.



Numbers to 100 – matching numerals to words

You will need:  a partner

1 Look, cover, write and check these number words. Write the matching numerals.

ten

twenty

thirty

forty

fifty

sixty

seventy

eighty

ninety

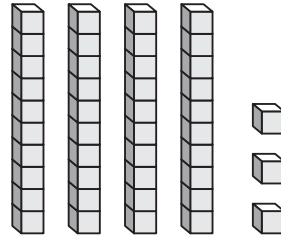
one hundred

Numbers to 100 – reading and writing numbers

To write 2-digit numbers write the tens number and then the units number.

43 is the same as 40 and 3

$$43 = 40 + 3$$



forty-three

1 Match the numbers written in numerals to the number written in words.

45

29

61

78

33

seventy-eight

sixty-one

forty-five

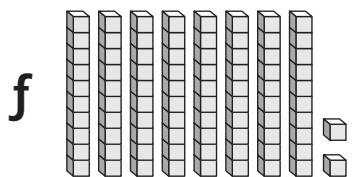
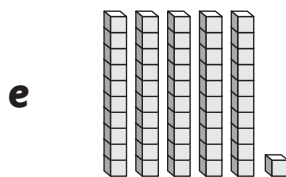
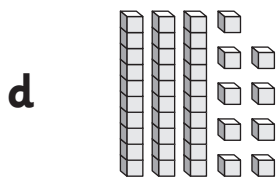
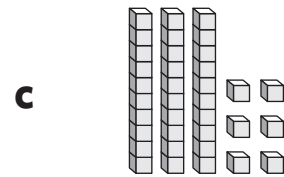
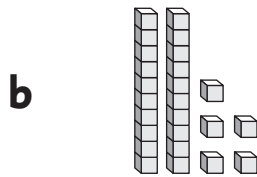
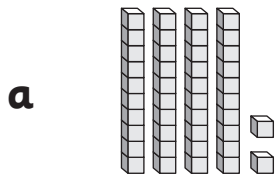
thirty-three

twenty-nine

Remember!
Teen numbers
are different

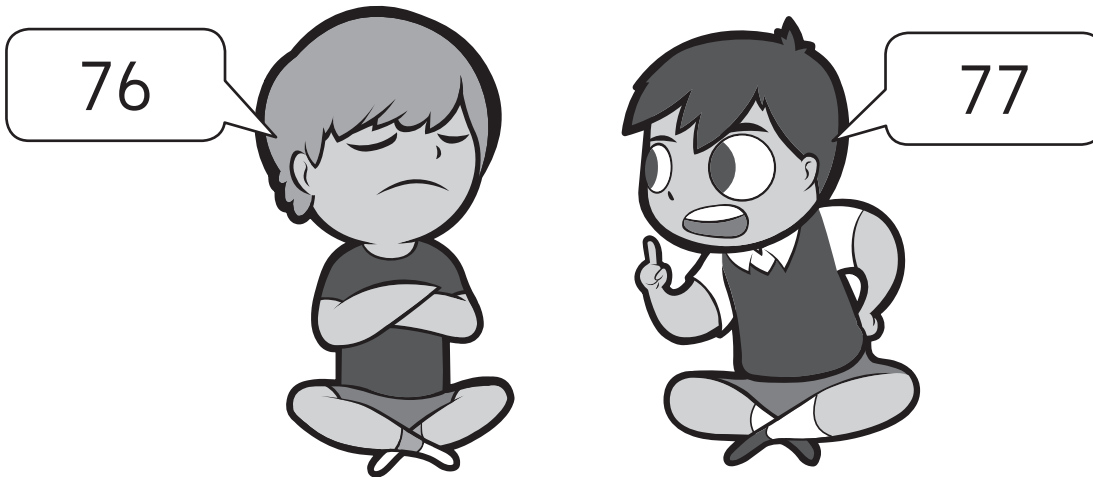


2 Write the numbers in words.



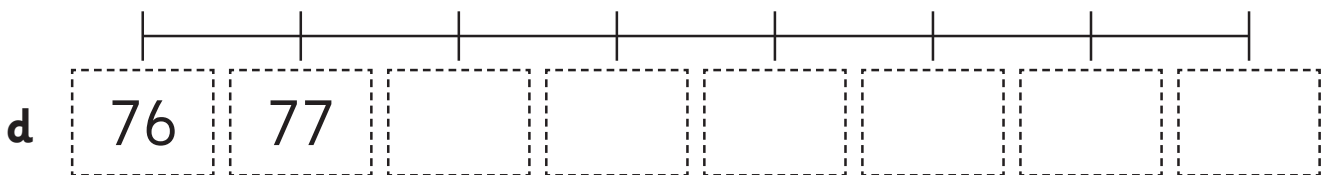
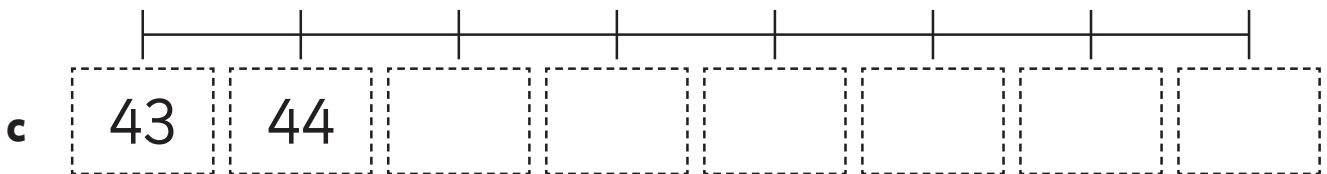
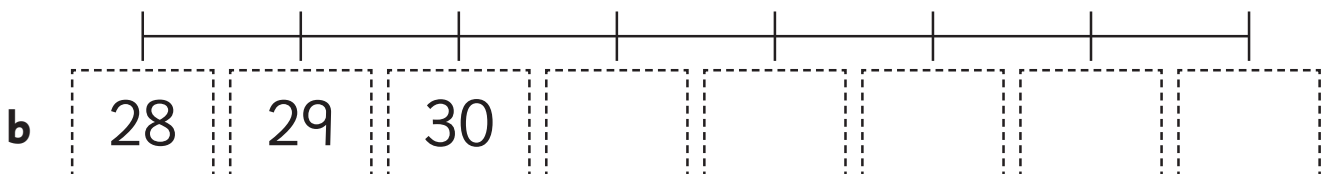
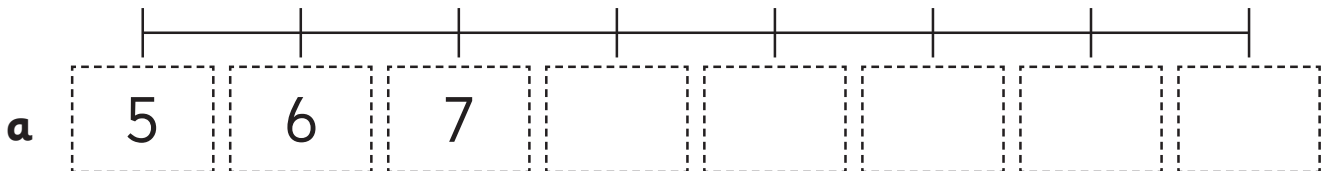
Numbers to 100 – counting in 1s

- 1 Find a partner. Face each other. Choose a number from the list. Take turns saying the next number until you reach 100. Try whispering the numbers, saying them in a squeaky voice or saying them like a robot.



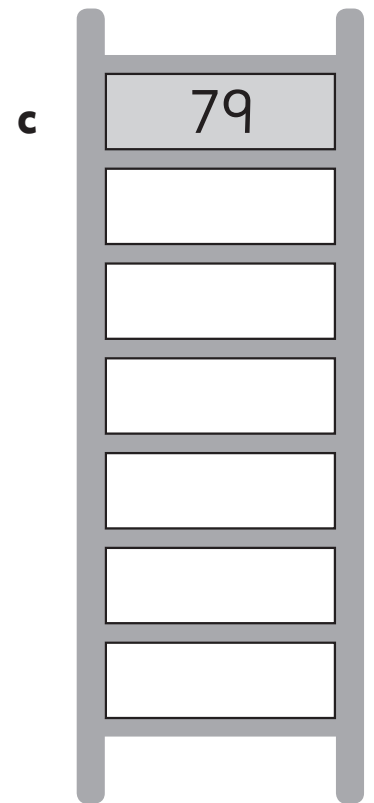
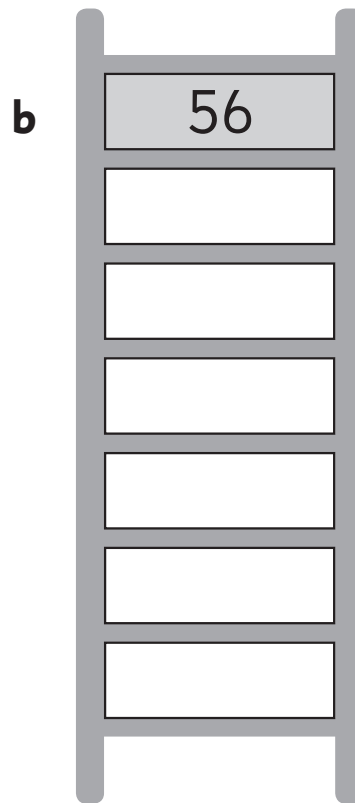
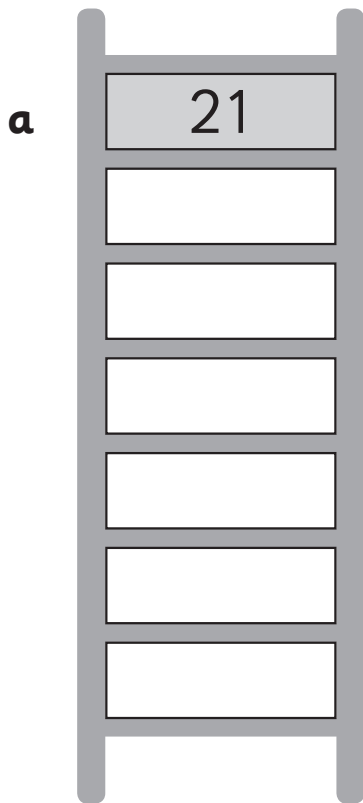
45
76
21
39
84

- 2 Complete the number lines.

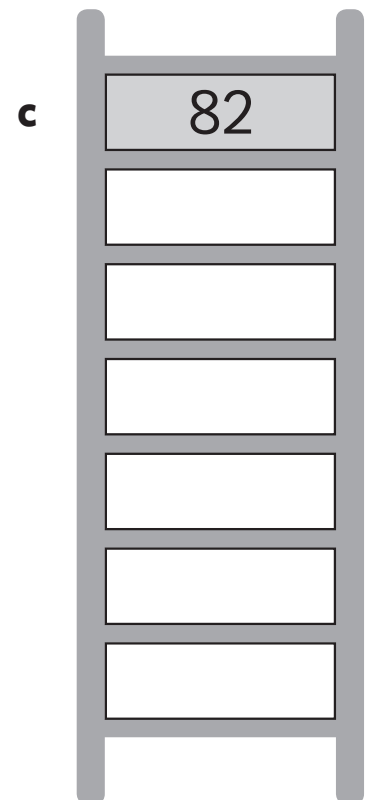
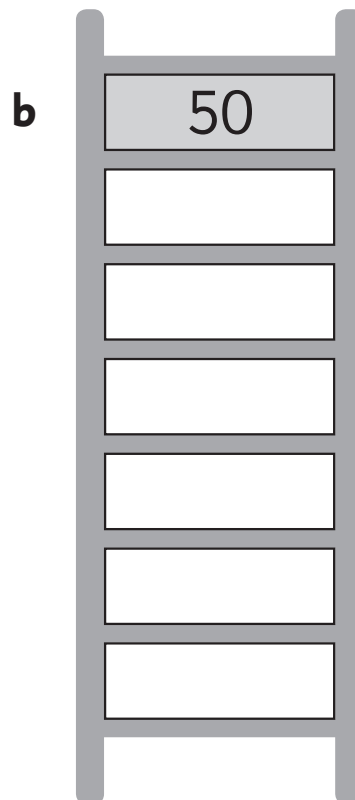
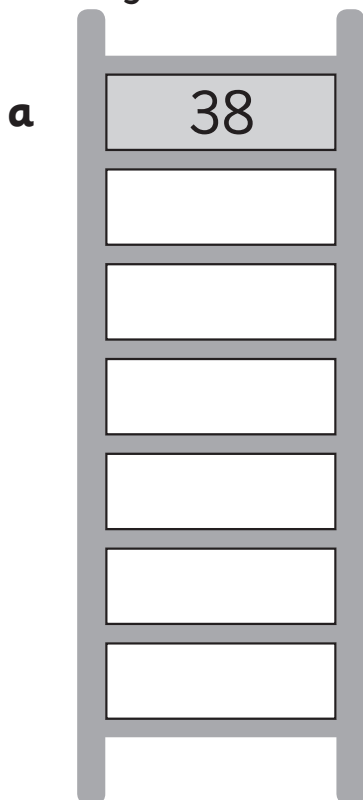


Numbers to 100 – counting in 1s

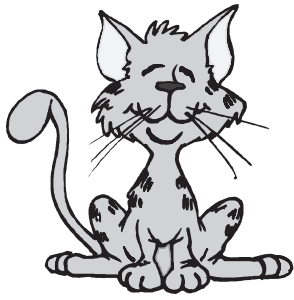
1 Climb down the counting ladders counting in 1s and fill in the missing numbers.













2 Climb down the counting ladders counting back in 1s and fill in the missing numbers.






Numbers to 100 – counting in 1s



1 Tilly the cat walked across the 100 square. Count in ones and fill in the missing numbers.

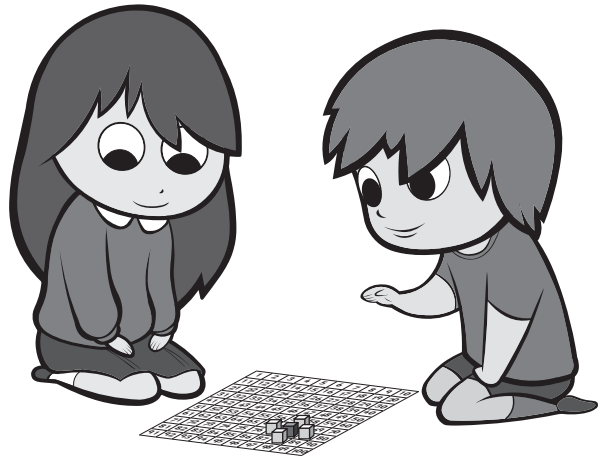
1	2	3		5	6	7	8	9	10
11	12	13	14	15		17	18	19	20
21		23	24	25	26	27	28	29	30
	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	
51	52	53	54	55	56		58	59	60
61	62	63		65	66	67	68	69	70
71	72	73	74	75	76	77		79	80
81	82	83	84	85	86	87	88		90
91	92		94	95	96	97	98	99	100

Numbers to 100 – counting in 1s

You will need:  a partner  a hundred grid
 1 red centicube and 4 green centicubes

What to do:

Cover a number on the grid with a red centicube and ask your partner to name it. If they can they score a point. Swap jobs. Who is the first person to score 10 points?



What to do next:

Too easy?
Use 1 red centicube and 4 green centicubes. Cover the mystery number with a red centicube then surround it by green centicubes. Can you guess the mystery number now?

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

Numbers to 100 – counting in 1s

1 Fill in the pieces of a 100 square.

a

1	2	
11		

b

31		
41		

c

54		
	65	

d

51	52			

e

46			
56			

f

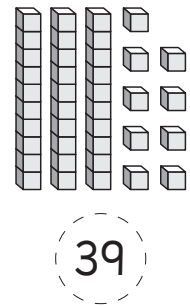
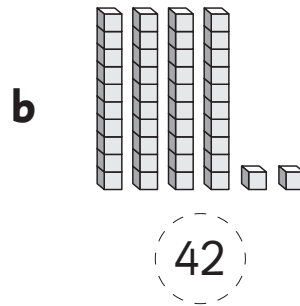
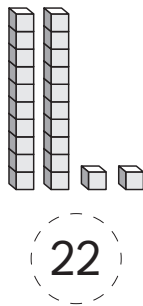
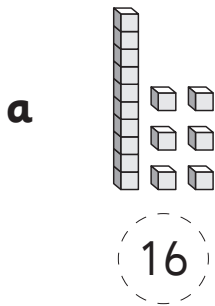
				35					

Use a 100 square to help.



Numbers to 100 – bigger or smaller

1 Circle the smaller number in each pair.



2 Circle the larger number in each pair.

a 3 10

b 11 15

c 21 7

d 55 45

e 87 95

f 91 93

g 11 21

h 46 64

i 29 52

3 Circle the smaller number in each pair.

a 3 10

b 11 15

c 5 7

d 25 45

e 87 84

f 91 85

g 48 21

h 46 26

i 29 13

Numbers to 100 – location and order

You will need:  coloured pencils

What to do:

There are 10 players on this football field, with 5 on each team. One team is called 'More', the other team is called 'Less'.

If the player's number is less than 50, colour their uniform red and white.

If the player's number is more than 50, colour their uniform green and yellow.



What to do next:

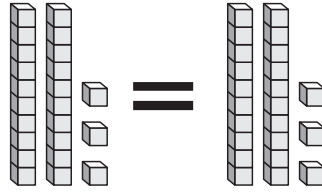
Put the players' numbers in order from the lowest number to highest.

Team More

Team Less

Numbers to 100 – more than and less than

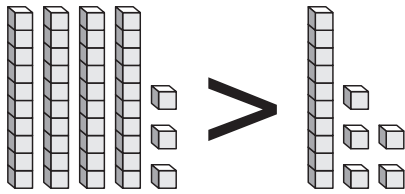
When two numbers are equal we can use the equals sign (=) to show this.



23 is **equal** to 23.

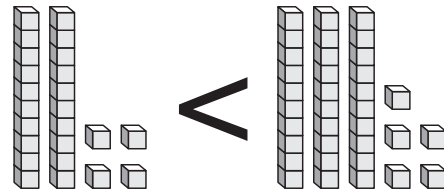
$$23 = 23$$

When two numbers are not the same, we can use symbols to show which number is bigger and which number is smaller.



43 is **more than** 15.

$$43 > 15$$



24 is **less than** 35.

$$24 < 35$$

1 Look at the pairs of numbers below. Put a < or > to show which number in the pair is greater. The first one has been done for you.

a 3 10

b 11 15

c 21 7

d 55 45

e 67 95

f 76 67

g 11 23

h 46 58

i 65 14

j 27 36

Have you noticed that the point of the symbol always points towards the smallest number?



2 Select two numbers to make complete the number sentence.

a <

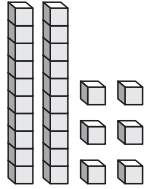
b >

c <

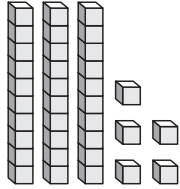
Numbers to 100 – ordering numbers

When comparing the size of numbers look at the tens digit first.

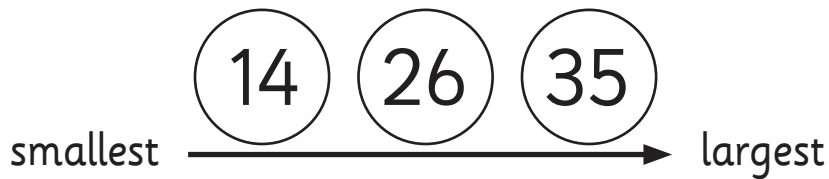
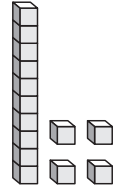
26



35



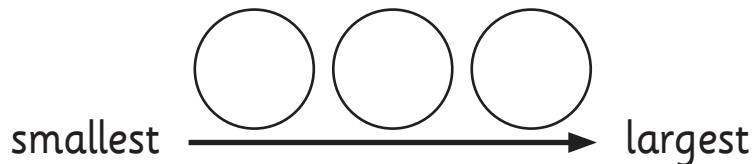
14



1 Write these numbers from smallest to largest.

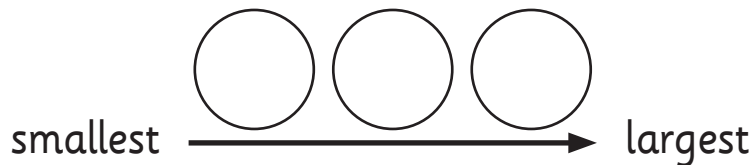
a

15 34 28



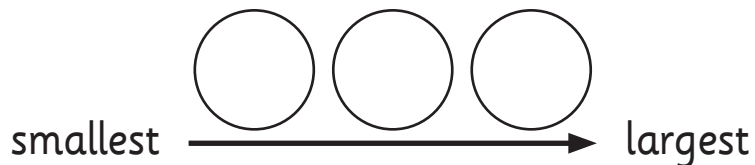
b

67 72 49



c

14 93 54



Numbers to 100 – 2-digit revision

1 Continue the counting patterns.

a

19	○	○		27	○	29		○	36	○
		22		○		○		○		
		○	24	○		○	32	○		

b

	○	80	○		○	72	○			
		82		○		○		○		
85	○	○		77	○	75		○	68	○

2 What number am I?

a

I am more than 22.
I am less than 24.
I am

b

I am less than 74.
I am more than 70.
I am an even number.
I am

c

I am a 2-digit number
with a 2 in the tens place.
I am odd.
I have a 5 in me.
I am

d

I have a 3 in the ones
place.
I am less than 40 and
more than 30.
I am

Numbers to 100 – 2-digit revision

1 Use a hundred grid to help you find the lucky numbers.

a I am in the top half of a 100s grid.
I am odd.
I am a 2-digit number and both my digits are the same.
I am not 11.

I am

b I am in the bottom half of a 100s grid.
I have a 7 in me.
I am even.
My digits add to 9.

I am

c I am in the left half of a 100s grid.
If you add my digits they equal 7.
I am odd.
My tens digit is 1 more than my ones digit.

I am

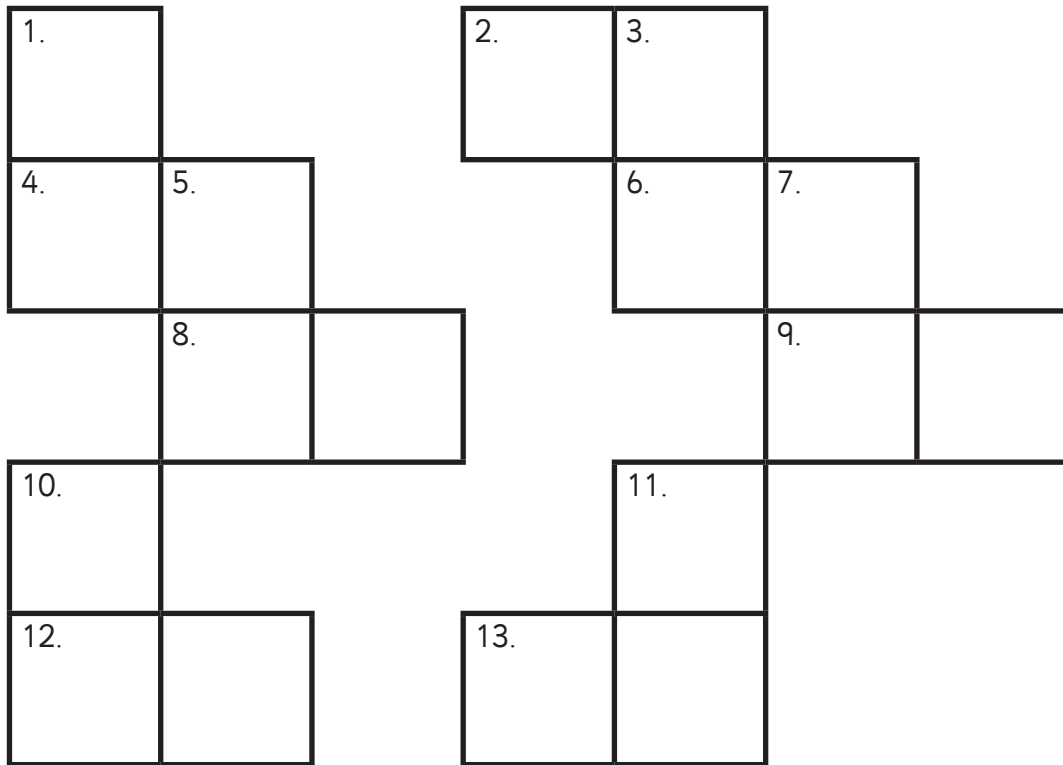
d My tens digit is double my ones digit.
Both of my digits are even.
My tens digit is 8.

I am

e I am a 2-digit number.
I have a 5 in me.
How many different numbers could I be?

Numbers to 100 – 2-digit revision

1 Complete the number crossword.



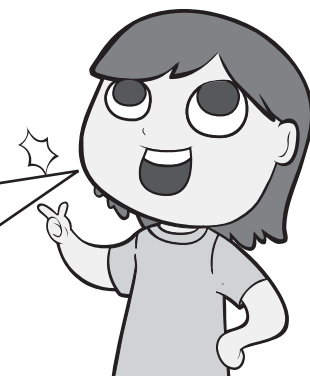
Across

2. One more than 97.
4. One less than 69.
6. Ten less than 59.
8. Ten more than 7.
9. The number before 19.
12. The number after 29.
13. Ten more than 55.

Down

1. The number after 55.
3. The number before 85.
5. Ten more than 71.
7. One less than 92.
10. Ten less than 83.
11. One more than 34.

Use a hundred square to help you.



Numbers to 100 – explore further

1 Write all of the 2-digit numbers you can make using these digits.

a

2

5

7

b

1

9

4

2 Write all of the 2-digit numbers you can make using these digits.
Then order these numbers from smallest to largest.

a

3

8

2

b

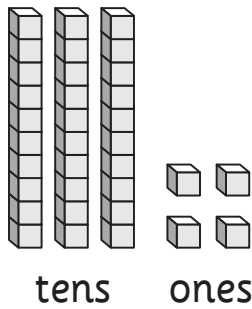
6

1

7

Place value to 100 – counting in tens and ones

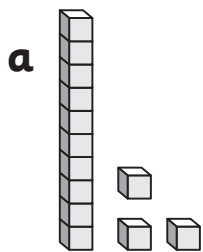
We can split 2-digit numbers in to tens and ones.



$$34 = \boxed{3} \text{ tens} + \boxed{4} \text{ ones}$$

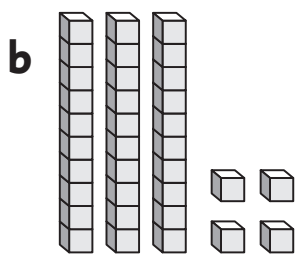
$$34 = \boxed{30} + \boxed{4}$$

1 Count the tens and the units. Fill in the whole/part model.



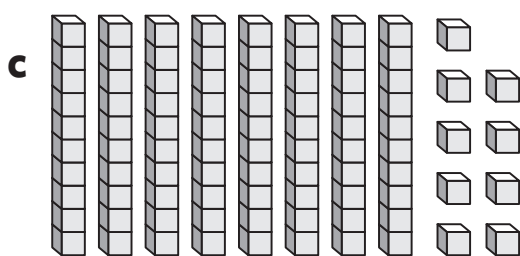
$$13 = \boxed{} \text{ tens} + \boxed{} \text{ ones}$$

$$13 = \boxed{} + \boxed{}$$



$$34 = \boxed{} \text{ tens} + \boxed{} \text{ ones}$$

$$34 = \boxed{} + \boxed{}$$



$$89 = \boxed{} \text{ tens} + \boxed{} \text{ ones}$$

$$89 = \boxed{} + \boxed{}$$

Place value to 100 – matching numbers to amounts

We can use base-10 blocks like these to make and show amounts.



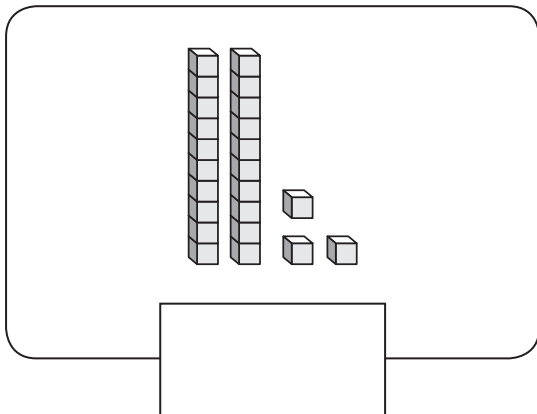
ten



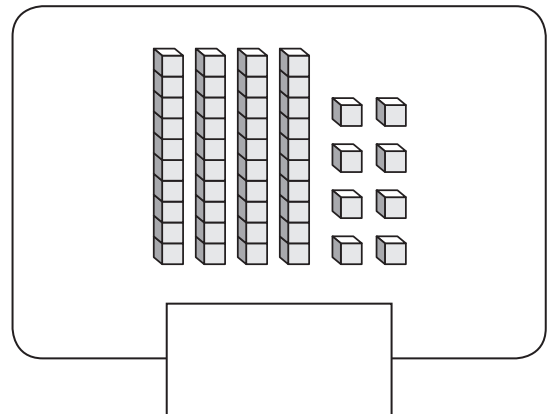
one

1 What number is shown here? Count in tens and ones and write the amount.

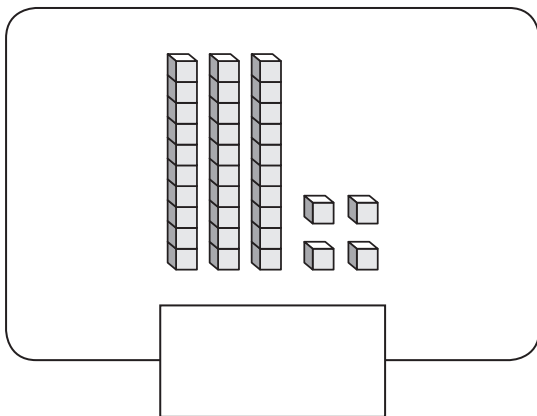
a



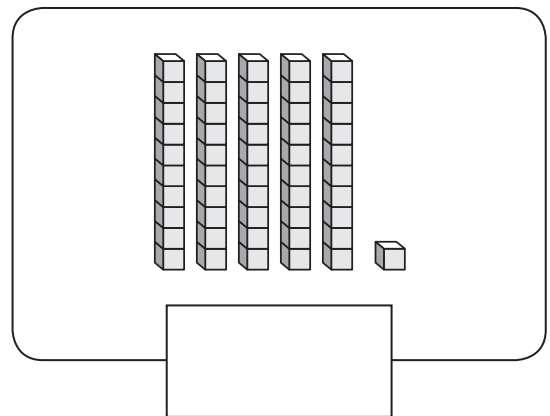
b



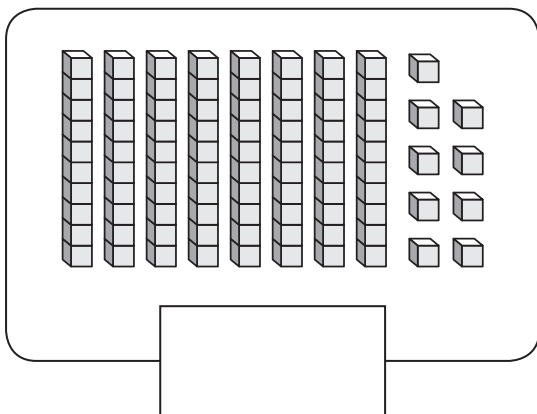
c



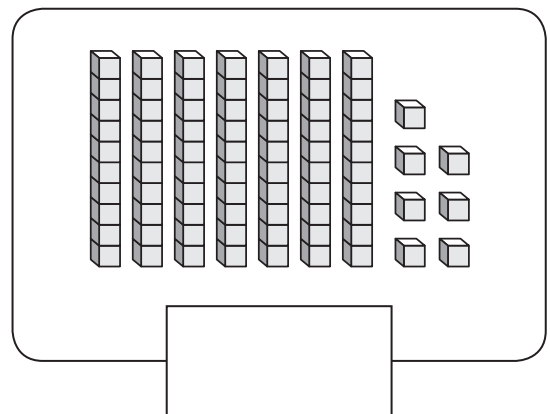
d



e



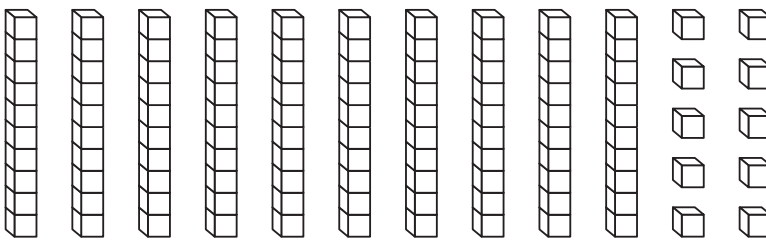
f



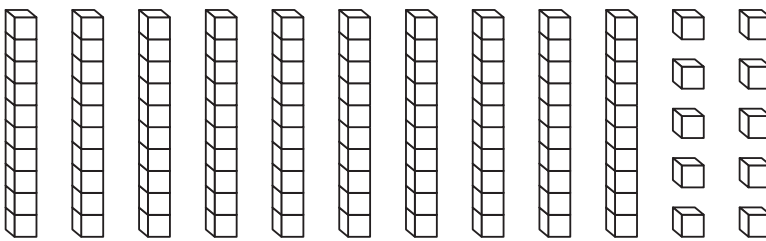
Place value to 100 – matching numbers to amounts

1 Colour the right number of blocks to match the number.

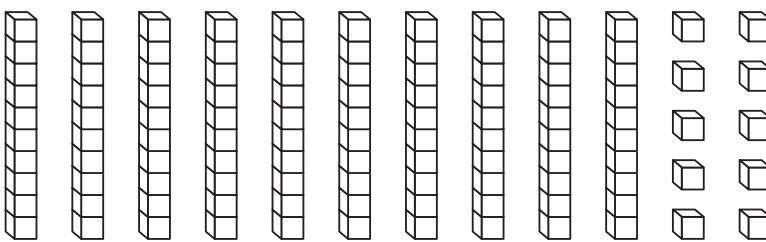
a 45



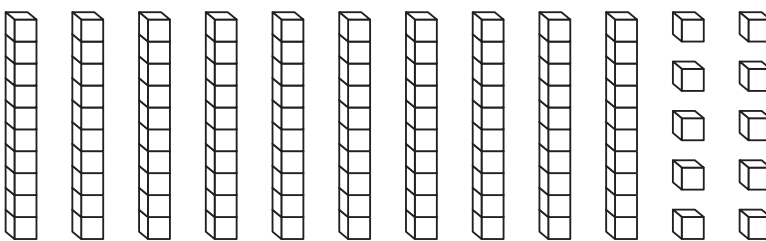
b 63



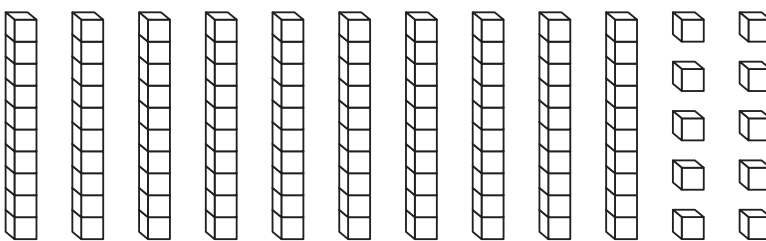
c 28



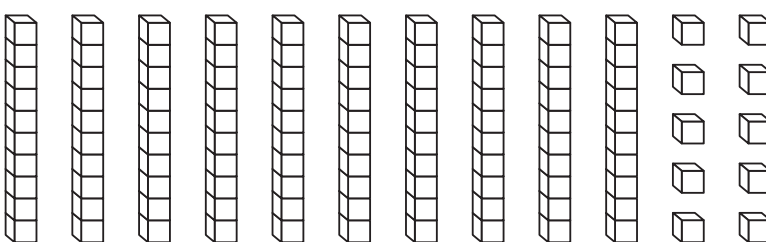
d 91



e 57



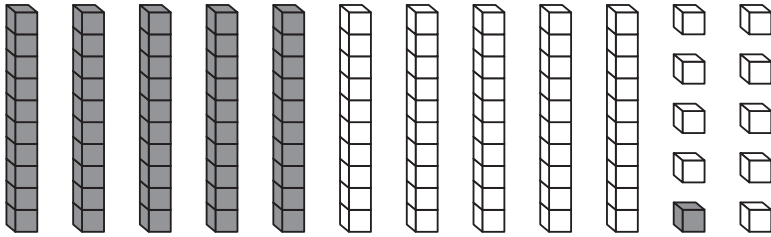
f 40



Place value to 100 – matching numbers to amounts

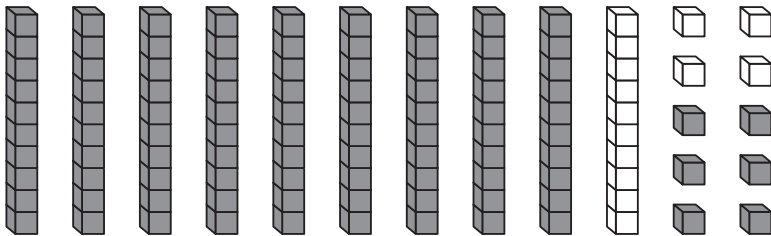
1 Theo thinks he coloured in too many blocks. Check his colouring matches the number and cross out any extra blocks.

a



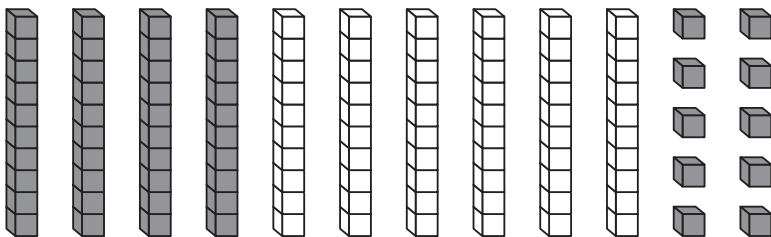
41

b



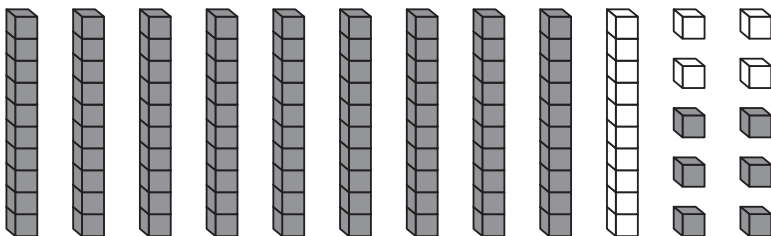
63

c



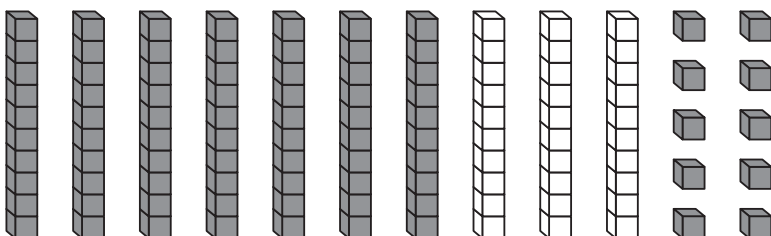
28

d



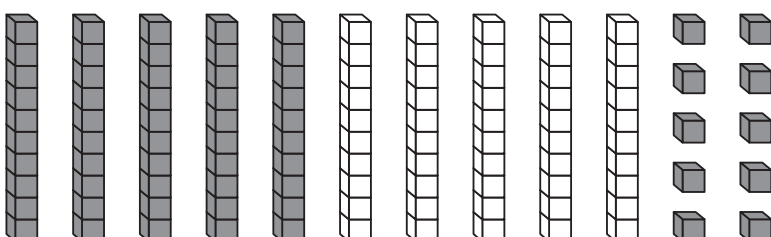
91

e



57

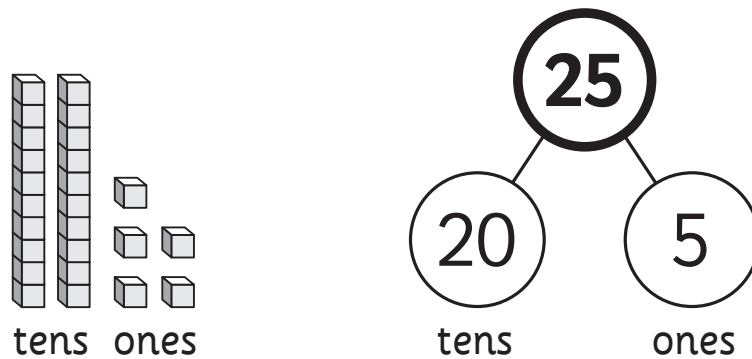
f



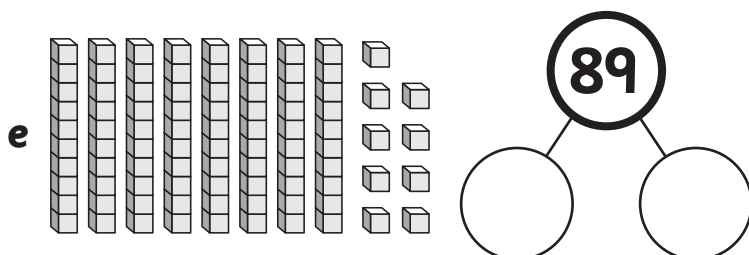
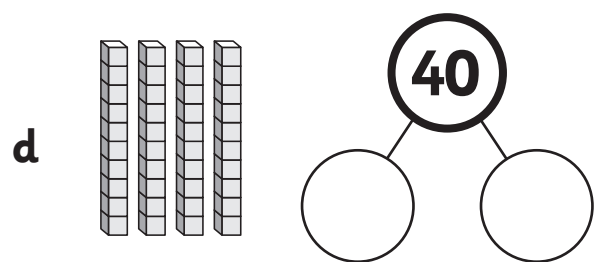
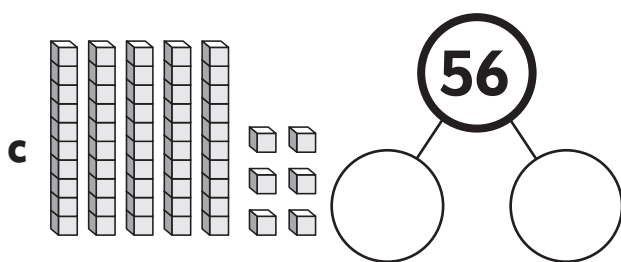
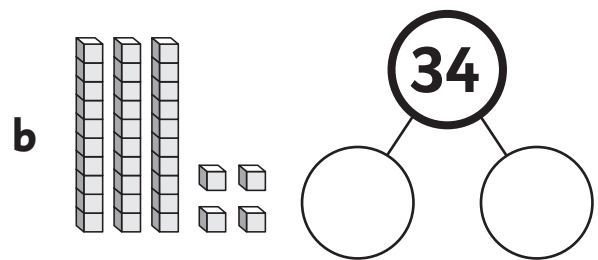
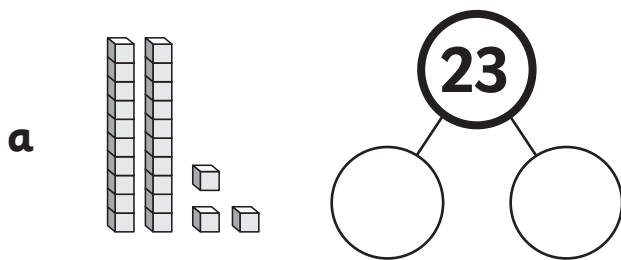
40

Place value to 100 – counting in tens and ones whole/part

Tens and ones can be used showing this model.

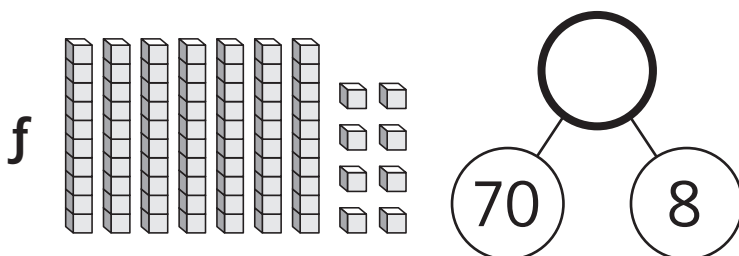
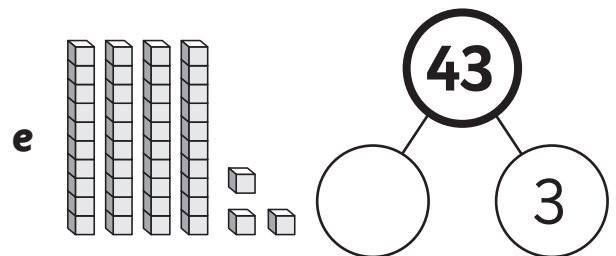
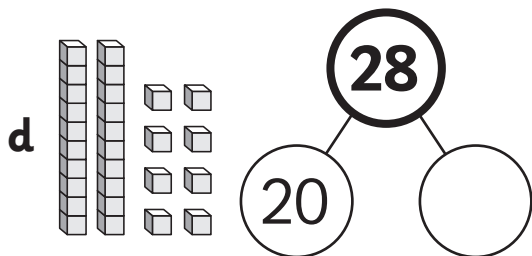
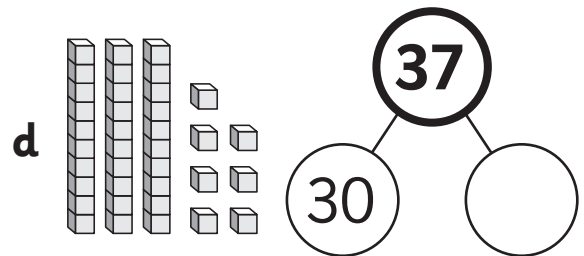
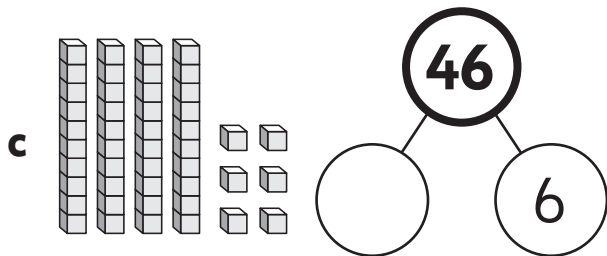
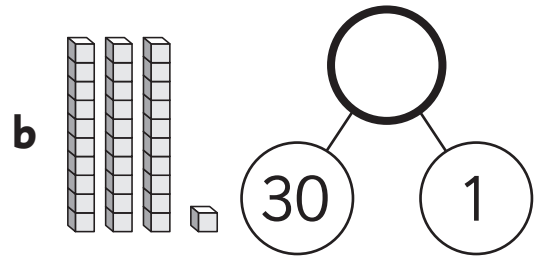
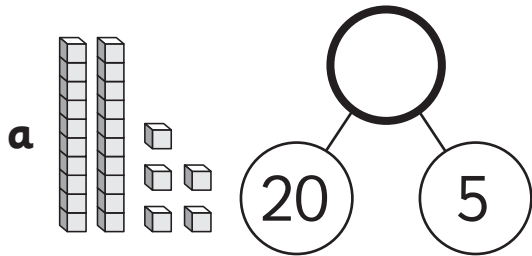


1 Count the tens and the ones. Fill in the whole/part model.



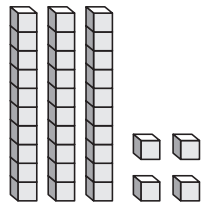
Place value to 100 – counting in tens and ones whole/part

1 Count the tens and the ones. Fill in the whole/part model.



Place value to 100 – using place value cards

We can use place value cards to help us show how much each digit is worth in a number.



$$\begin{array}{|c|c|} \hline 3 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 4 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 3 & 4 \\ \hline \end{array}$$

1 Combine the tens and ones to write the total.

a $\begin{array}{|c|c|} \hline 2 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 7 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

b $\begin{array}{|c|c|} \hline 1 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 6 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

c $\begin{array}{|c|c|} \hline 4 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 4 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

d $\begin{array}{|c|c|} \hline 9 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 3 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

e $\begin{array}{|c|c|} \hline 7 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 8 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

f $\begin{array}{|c|c|} \hline 5 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline 1 \\ \hline \end{array} = \begin{array}{|c|c|} \hline & \\ \hline \end{array}$

Place value to 100 – using place value cards

1 Fill in the missing numbers.

a $\begin{array}{|c|c|} \hline 2 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 2 & 3 \\ \hline \end{array}$

b $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline 6 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 8 & 6 \\ \hline \end{array}$

c $\begin{array}{|c|c|} \hline 3 & 0 \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 3 & 5 \\ \hline \end{array}$

d $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline 2 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 7 & 2 \\ \hline \end{array}$

e $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 9 & 4 \\ \hline \end{array}$

f $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline 1 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 6 & 1 \\ \hline \end{array}$

g $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 4 & 8 \\ \hline \end{array}$

h $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 5 & 7 \\ \hline \end{array}$

i $\begin{array}{|c|c|} \hline & \\ \hline \end{array} + \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|c|} \hline 1 & 9 \\ \hline \end{array}$

Place value to 100 – exploring further

1 How many numbers less than 100 contain the digit 4? List them all.

.....

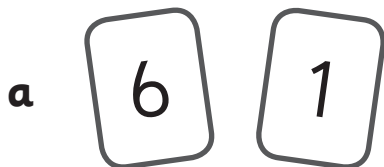
2 I am thinking of a number between 20 and 50. Its tens digit is more than its units digit. What numbers could it be?

.....

3 A 2-digit number contains only one 7 digit. What number could it be?

.....

4 How many 2-digit numbers can you make by ordering these digit cards.



Numbers to 1,000 – matching numerals to words

You will need:  a partner



What to do:

Finish writing the matching numbers. Cut out the boxes, mix them up and turn them face down. Take turns choosing 2 cards to turn over. If they match, you keep them. Who can collect the most pairs?

four hundred and ninety-six	496
three hundred and twenty-three	323
seven hundred and seven	
five hundred and thirty-five	
seven hundred and seventy	
two hundred	
eight hundred and seven	
six hundred and ninety-eight	
six hundred and eighty-nine	

Numbers to 1,000 – counting in 1s

1 Complete the grid.

101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122				126			129	
				135			138		
141	142					147		149	
		153	154	155					160
			164			167		169	
171		173				177			180
	182			185					
			194				198		

2 How did you complete the grid? Did you count across in 1s or did you follow other patterns?

3 Write the 3 numbers that come after me.



--	--	--

Numbers to 1,000 – counting in 1s

1 Use the grid on page 27 to help you fill in the puzzle pieces.

a

111	112	
121		

b

121		

c

163		

d

128		

e

151		

f

	182	

2 Use what you know about number patterns to fill in these puzzle pieces.

a

212	213	

b

325		
335		

c

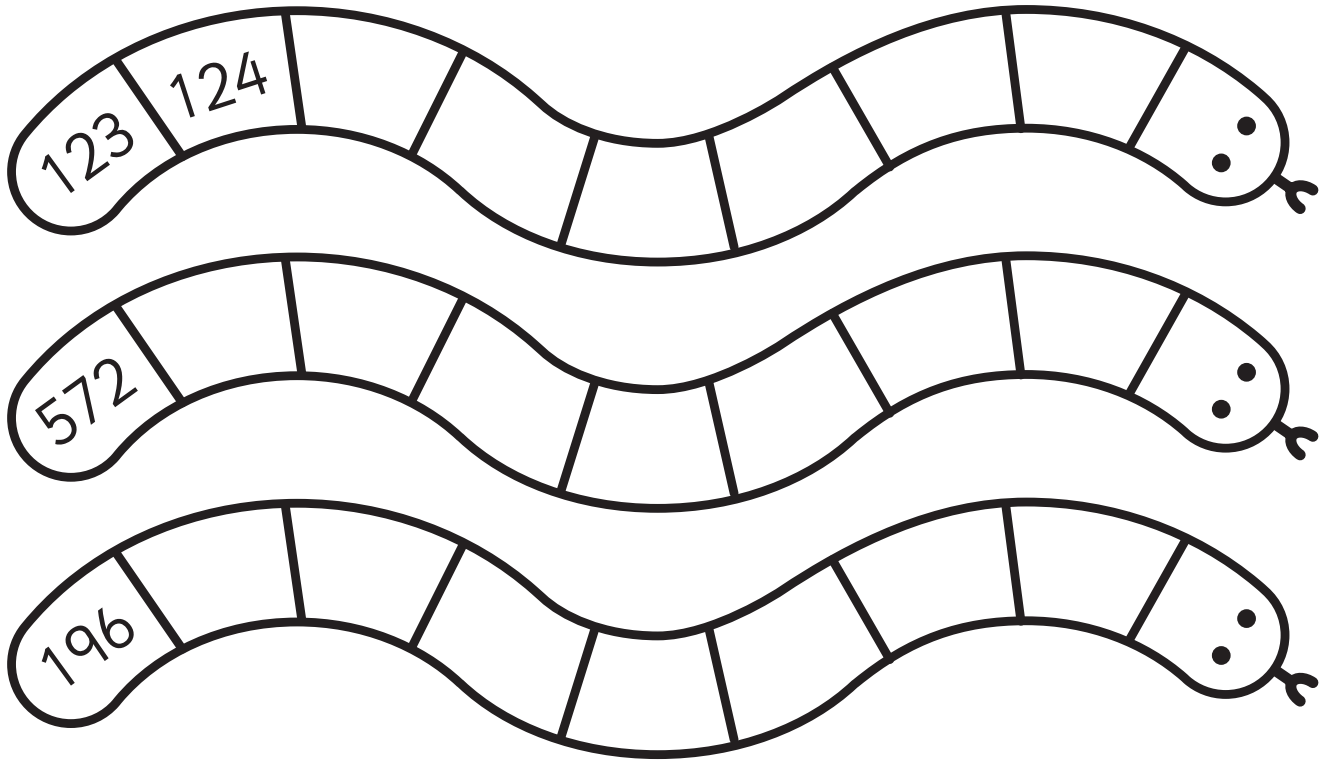
	507	508

These numbers are much bigger. How can the grid on page 27 help me with this?

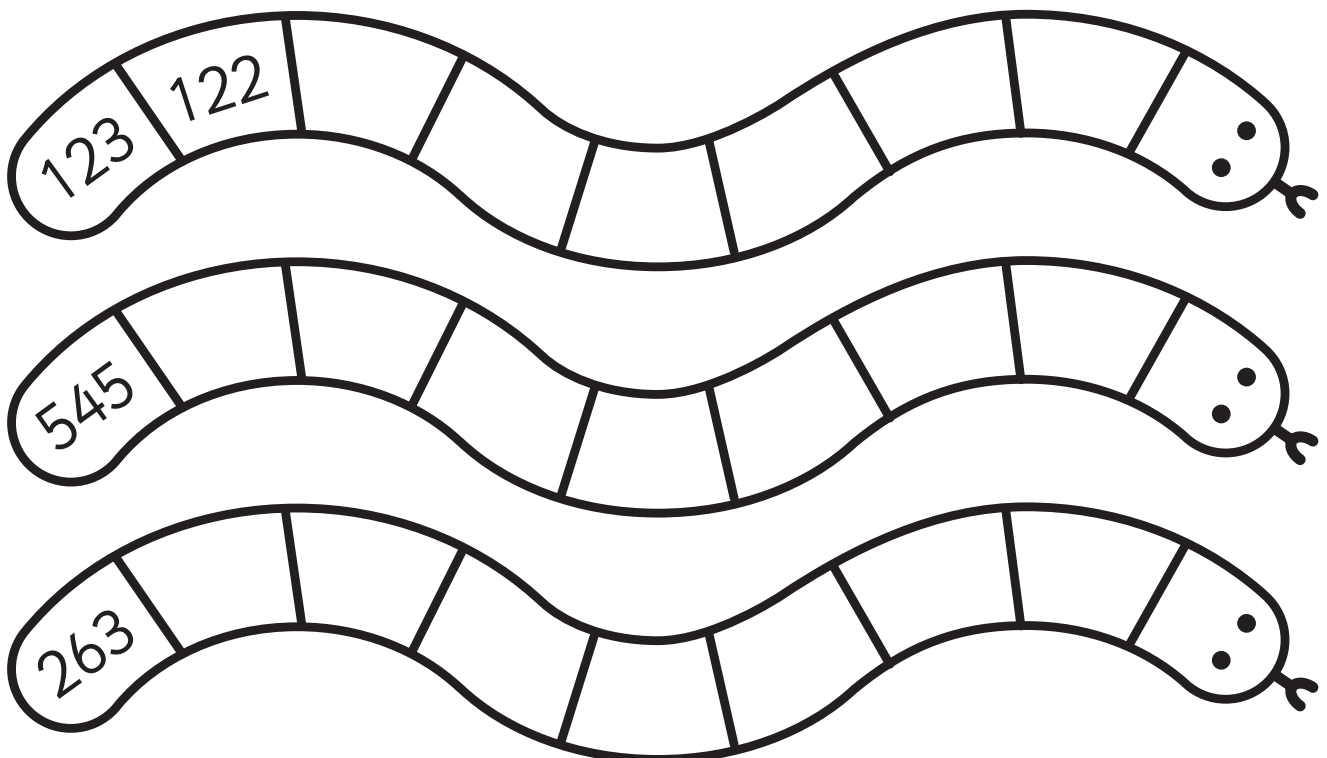


Numbers to 1,000 – counting in 1s

1 Count forwards in ones to fill in the spaces on the number snakes.

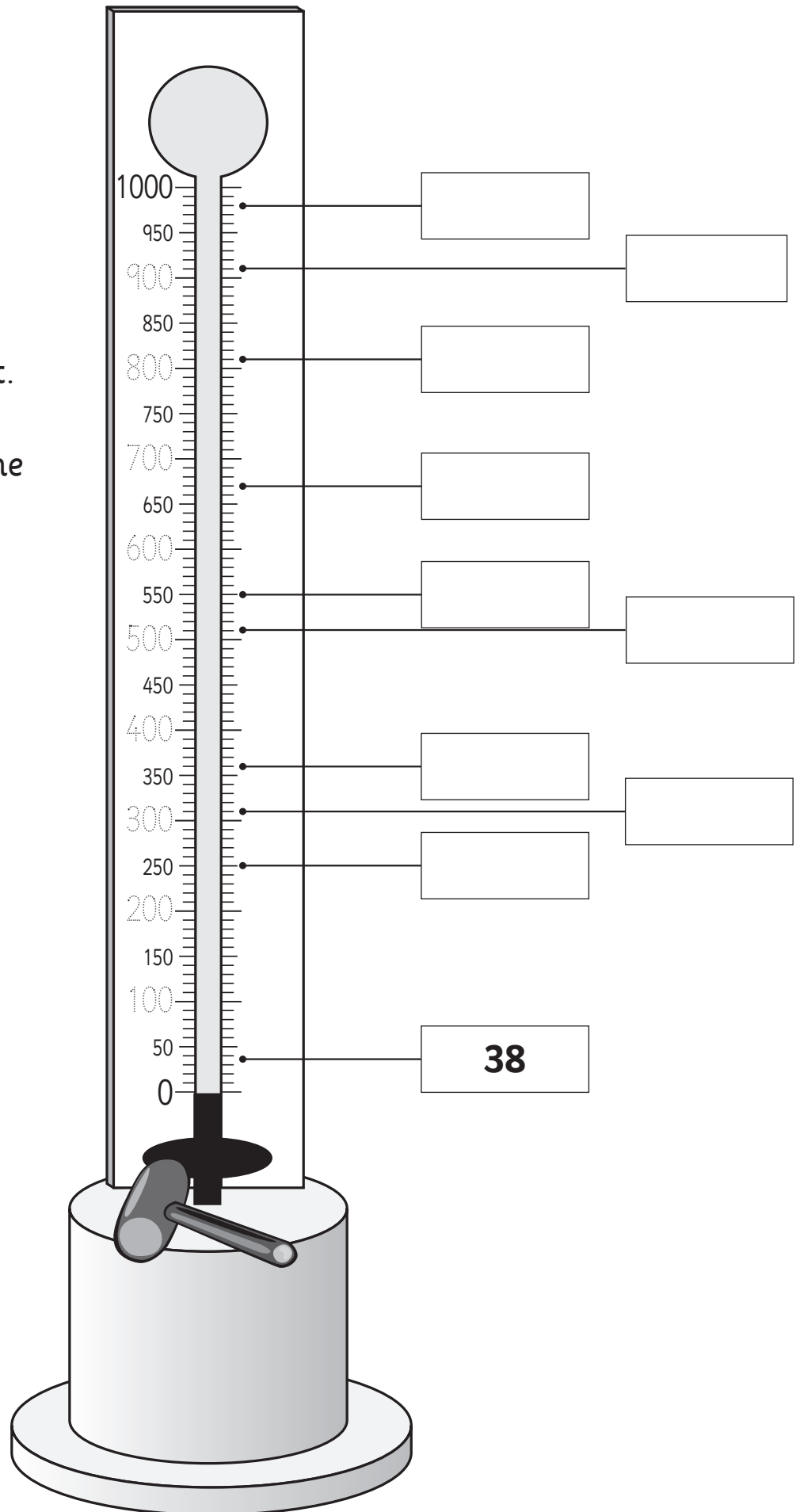


2 Count backwards in ones to fill in the spaces on the number snakes.



Numbers to 1,000 – counting in 1s

- 1 a** Trace over the dotted numbers on this Strong Kid Striker.
- b** In the boxes write a score that might fit. The first one has been done for you.



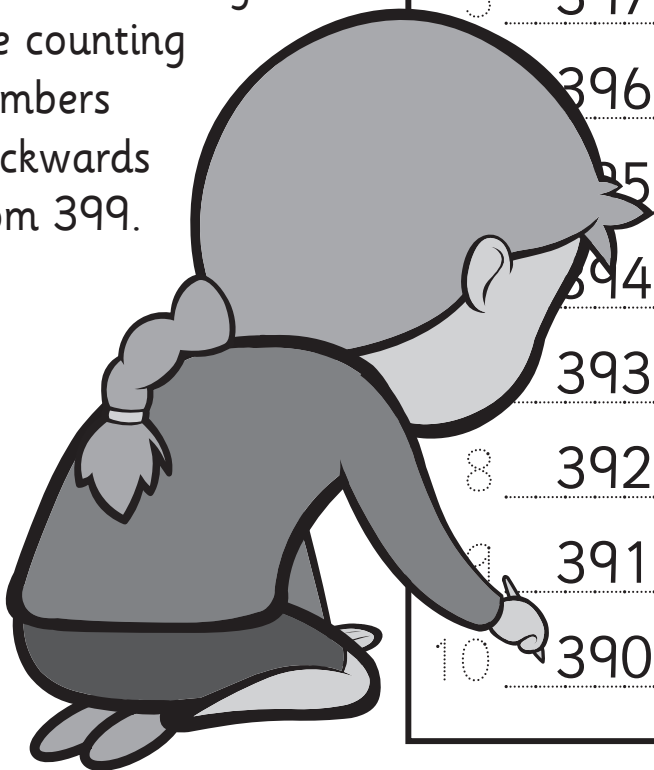
Numbers to 1,000 – counting backwards

You will need:  a partner

What to do:

Work with your partner to solve this problem.

Qin was writing all the counting numbers backwards from 399.



1	399	11	_____
2	398	12	_____
3	397		_____
	396		_____
	395		_____
	394		_____
	393	27	_____
8	392		_____
9	391		_____
10	390		_____

She took a break after writing 27 digits. What was the last number she wrote?

What to do next:

Can you work out what the 57th number would be? You may need to use another piece of paper to record the numbers as you count.

Place value to 1,000 – identifying the value of digits

1 What are these worth? Can you see the patterns?

a 1 one = <input type="text" value="1"/>	b 1 ten = <input type="text" value="10"/>	c 1 hundred = <input type="text" value="100"/>
2 ones = <input type="text" value="2"/>	2 tens = <input type="text" value="20"/>	2 hundreds = <input type="text" value="200"/>
3 ones = <input type="text"/>	3 tens = <input type="text"/>	3 hundreds = <input type="text"/>
4 ones = <input type="text"/>	4 tens = <input type="text"/>	4 hundreds = <input type="text"/>
5 ones = <input type="text"/>	5 tens = <input type="text"/>	5 hundreds = <input type="text"/>
6 ones = <input type="text"/>	6 tens = <input type="text"/>	6 hundreds = <input type="text"/>
7 ones = <input type="text"/>	7 tens = <input type="text"/>	7 hundreds = <input type="text"/>
8 ones = <input type="text"/>	8 tens = <input type="text"/>	8 hundreds = <input type="text"/>
9 ones = <input type="text"/>	9 tens = <input type="text"/>	9 hundreds = <input type="text"/>

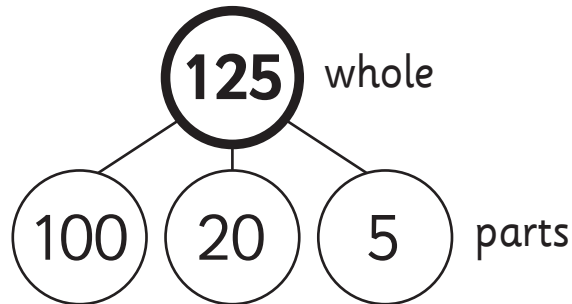
2 Play this game with a partner.

Take turns asking each other questions such as, “What number is 4 hundreds?”

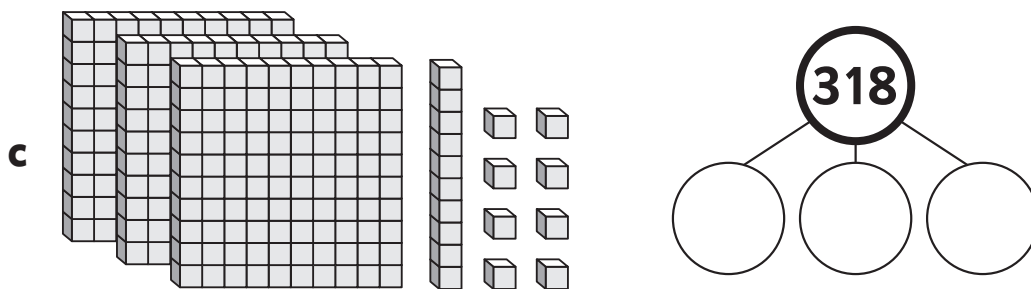
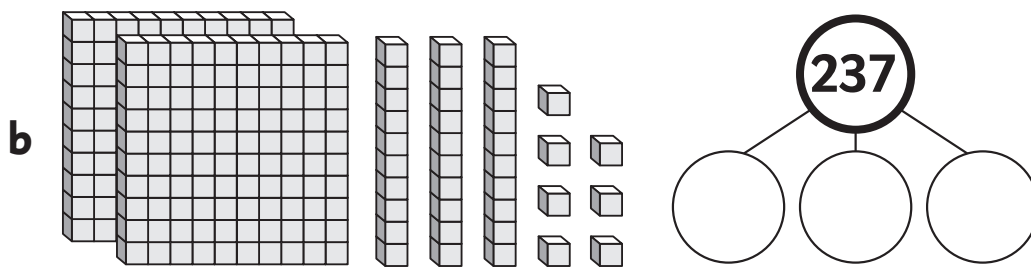
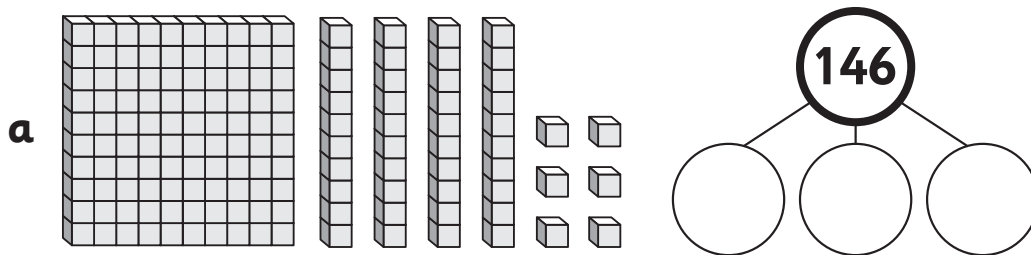
Each time you say an answer correctly, your partner will record a tick for you. Can you score 20 ticks?

Place value to 1,000 – whole/part model

Hundreds, tens and ones can be used showing this model. The whole, or total is shown in the top circle. The parts are shown below and are grouped in hundreds, tens and ones.

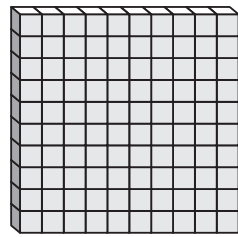


1 Complete the whole-part model by counting the hundreds, tens and ones.



Place value to 1,000 – matching numbers to amounts

We can use base-10 blocks like these to make and show amounts.



hundred



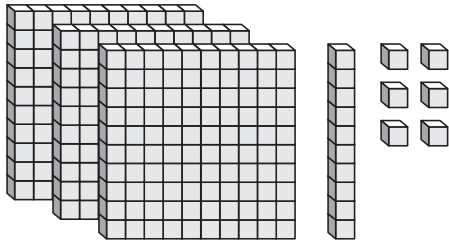
ten



one

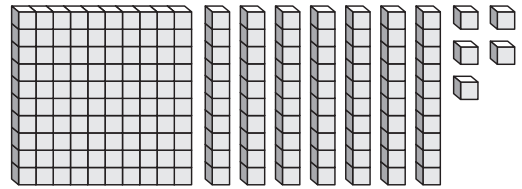
1 How many? Write the number to match the amount.

a

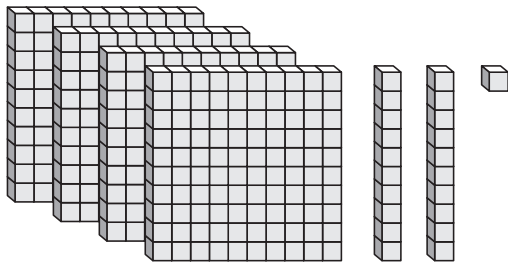


316

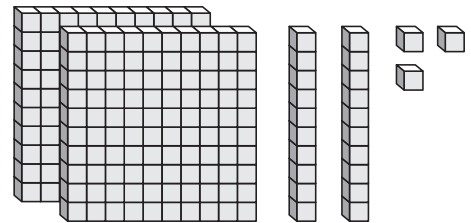
b



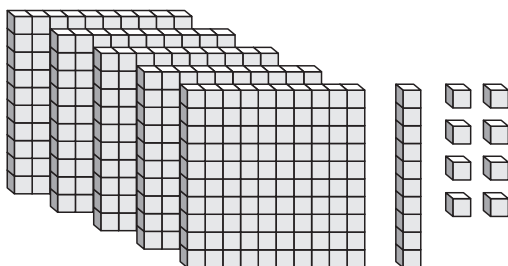
c



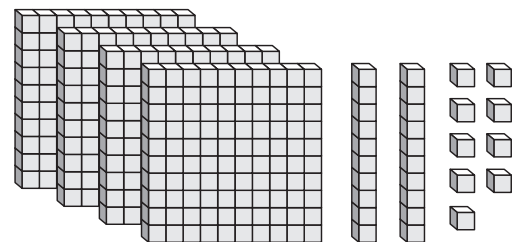
d



e



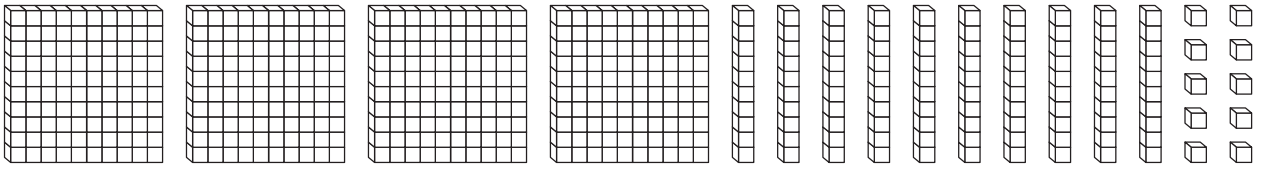
f



Place value to 1,000 – matching numbers to amounts

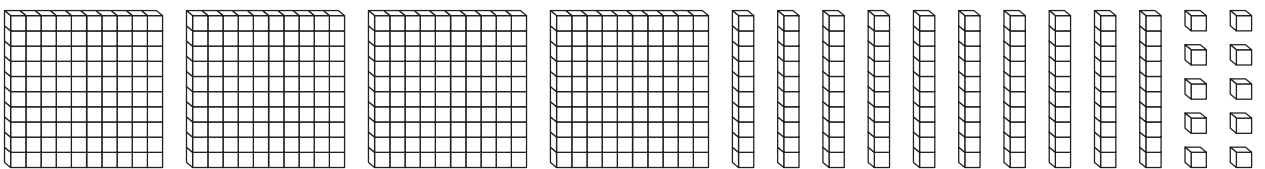
1 Colour the right number of blocks to match the number.

a



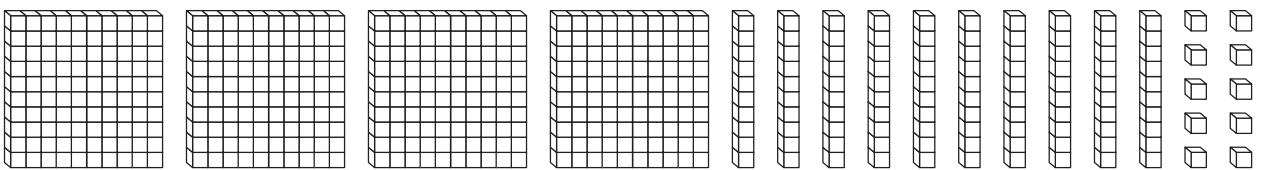
286

b



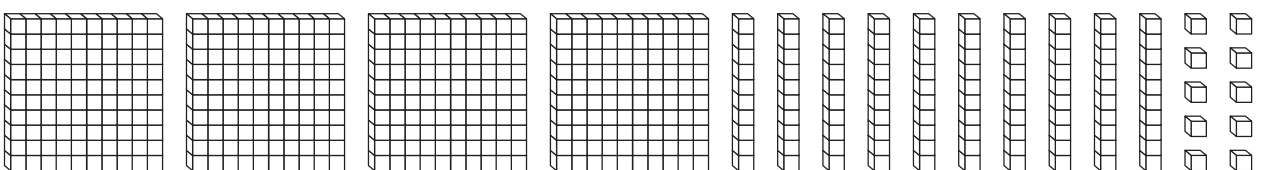
425

c



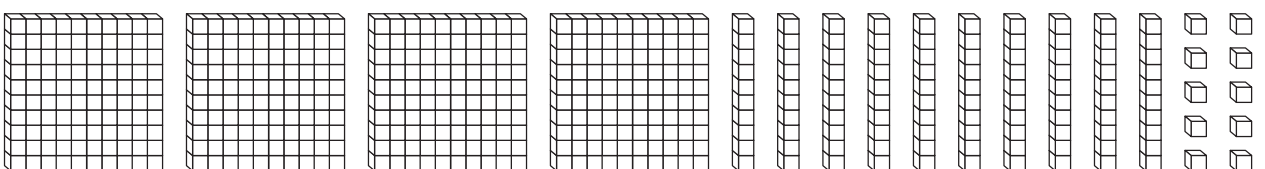
198

d



295

e



331

Place value to 1,000 – matching numbers to amounts

You will need:  a partner  base-10 blocks

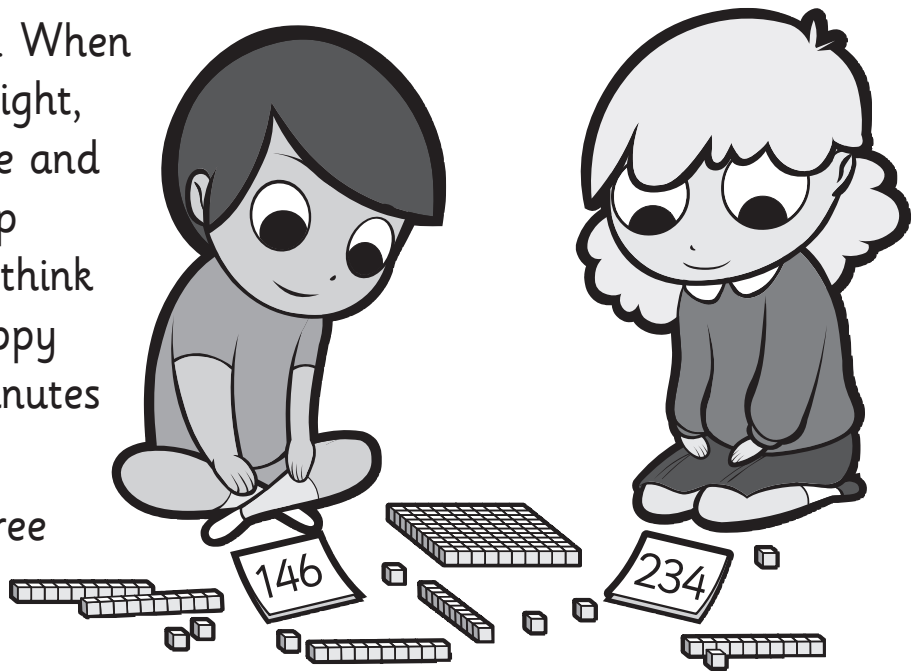


What to do:

Write a number with hundreds, tens and ones in each box and then cut out the boxes. Give your boxes to your partner. Make each other's numbers using the base-10 blocks.

Check each other's work. When you think you are both right, ask your teacher to come and check. If your partnership scores 10 out of 10, we think your teacher may be happy to give you at least 3 minutes of free time.

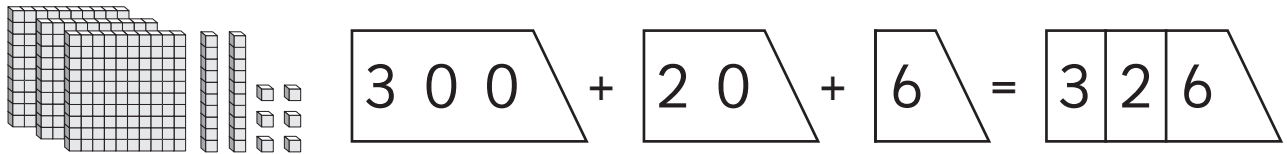
If you need to, use the free point card to help you score an extra point!



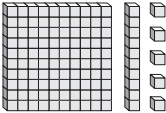




____ _	____ _	____ _
____ _	____ _	Free point

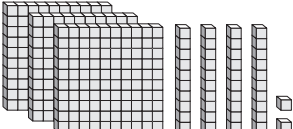

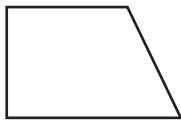

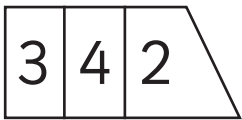
Place value to 1,000 – using place value cards

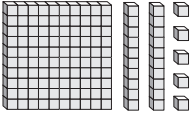

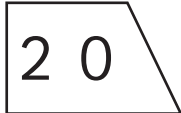


We can use place value cards to help us express the value of digits in numbers.

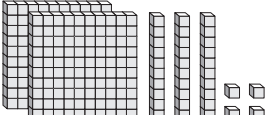



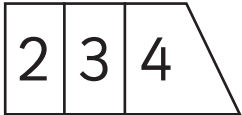


1 Fill in the missing information.

a   +  +  = 

b   +  +  = 

c   +  +  = 

d   +  +  = 

e   +  +  = 

Place value to 1,000 – using place value cards

1 Fill in the missing information.

a

3	0	0
---	---	---

 +

--	--	--

 +

--	--	--

 =

3	4	9
---	---	---

b

--	--	--

 +

1	0	
---	---	--

 +

--	--	--

 =

5	1	0
---	---	---

c

--	--	--

 +

--	--	--

 +

4		
---	--	--

 =

7	2	4
---	---	---

d

--	--	--

 +

6	0	
---	---	--

 +

--	--	--

 =

1	6	5
---	---	---

e

--	--	--

 +

--	--	--

 +

--	--	--

 =

8	3	6
---	---	---

f

--	--	--

 +

--	--	--

 +

--	--	--

 =

2	9	1
---	---	---

g

--	--	--

 +

--	--	--

 +

--	--	--

 =

9	5	2
---	---	---

Place value to 1,000 – location and order

1 Complete the number crossword.

1	2			3				4		5			6					
															7			
8									9									
10																		

Across

- The number after 285
- The number before 400
- The number before 463
- The number before 790
- The number after 888
- The number after 499
- The number after 109
- The number before 1,000

Down

- The number between 849 and 851
- The number after 344
- The number before 222
- The number after 729
- The number before 520

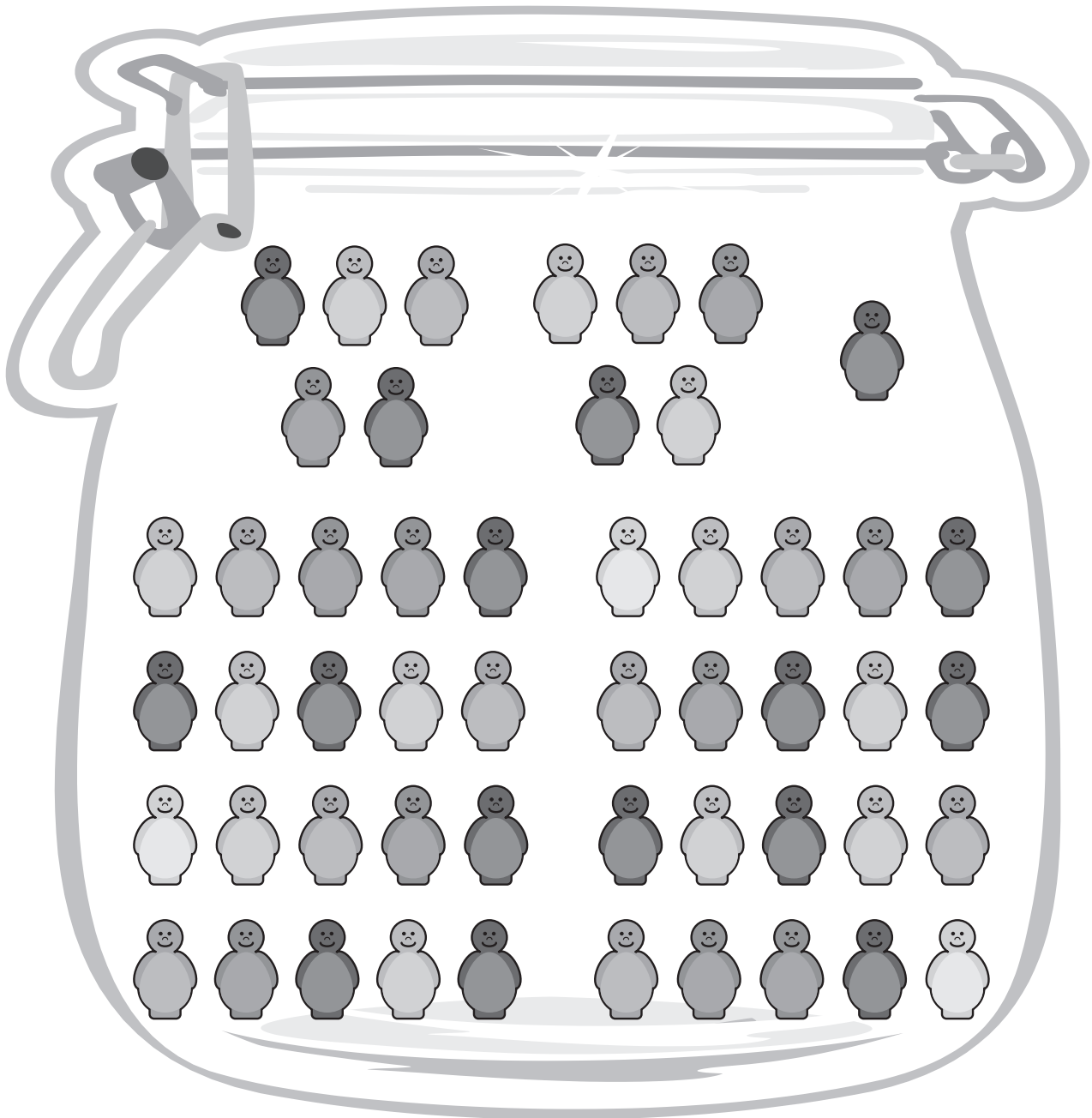
2 Play this game with a partner. On each other's page, write a number between 0 and 99 in the grey area of each box. When you are both ready, swap papers and as quickly as you can, write the numbers that come before and after. Who finishes first? Who has all the numbers correct?

Number sense – estimate

We estimate when we guess what a number may be instead of counting exactly. We estimate a lot in daily life.

- 1 Estimate how many jelly babies are in the jar. Use the clue to guide you. Circle groups of 5 to check.

This is what 5 jelly babies look like.



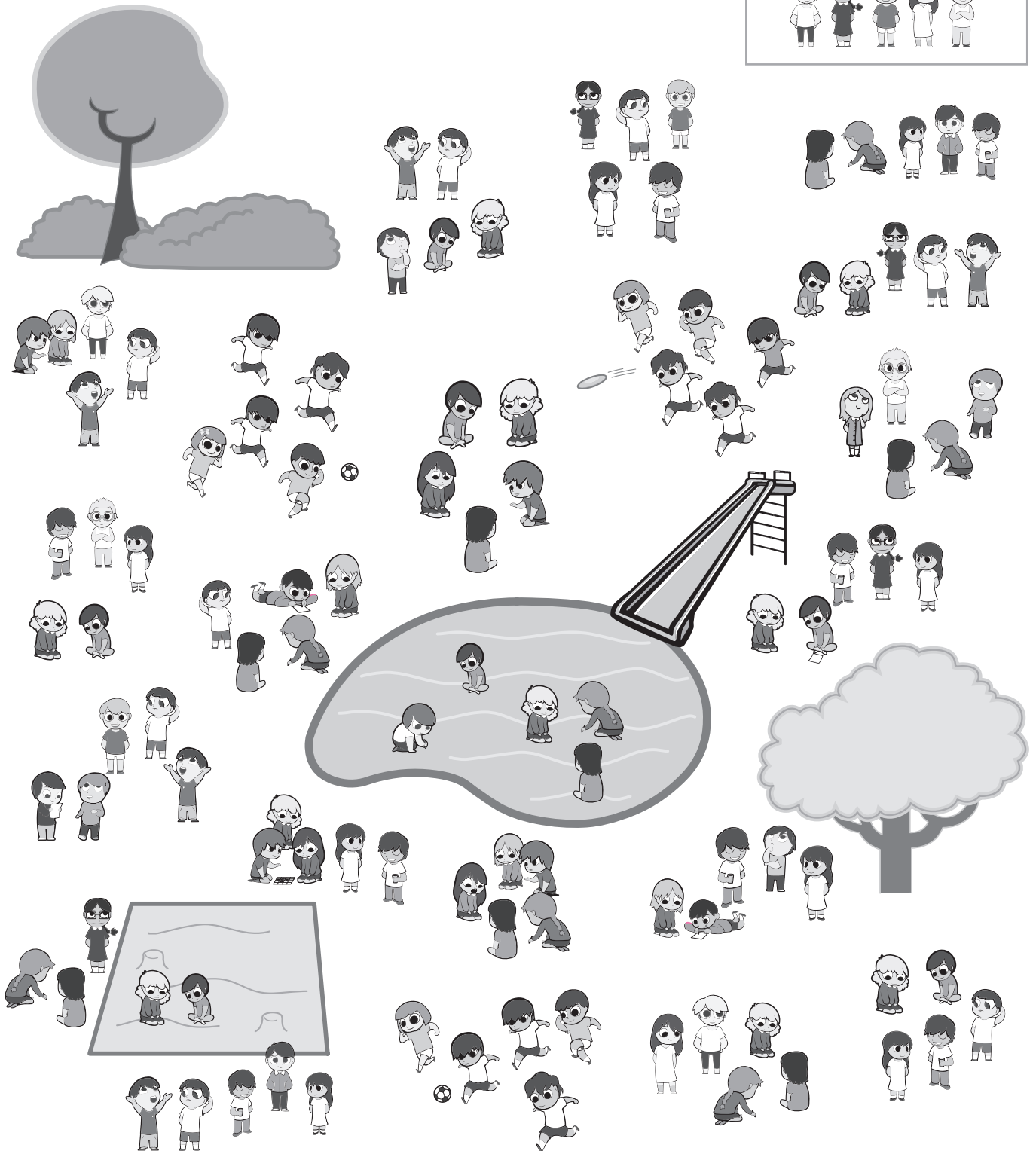
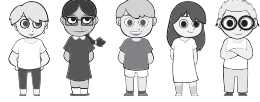
estimate

check

Number sense – estimate

1 Estimate how many children are in the park.
Circle groups of 5 to check.

This is what
5 children look like.



estimate

check

Number sense – estimate

You will need:  a partner  20 cubes  a cover

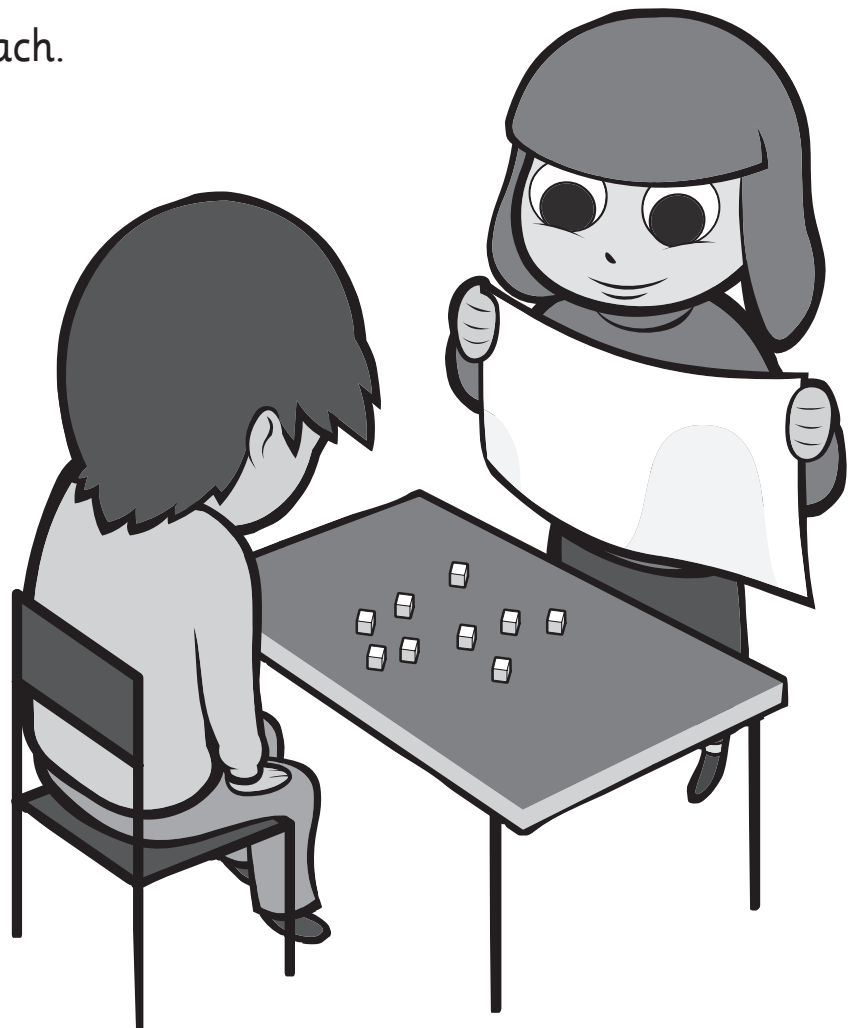
What to do:

Decide who will go first. Player 2, close your eyes. Player 1, spread out up to 20 cubes on the table. Have something nearby to cover the cubes such as a tea towel or a maths book.

Player 1, tell Player 2 to open their eyes and look at the cubes for 5 seconds. They have to guess how many cubes they think are there. Player 1, cover the cubes after 5 seconds so they don't have time to count.

Player 2, say your estimate. Player 1, take off the cover and count. How close was your estimate, Player 2? Remember, estimates want to be close, they don't have to be right!

Swap jobs. Play 5 rounds each.



Number sense – estimate

You will need:



2 or 3 partners



scissors



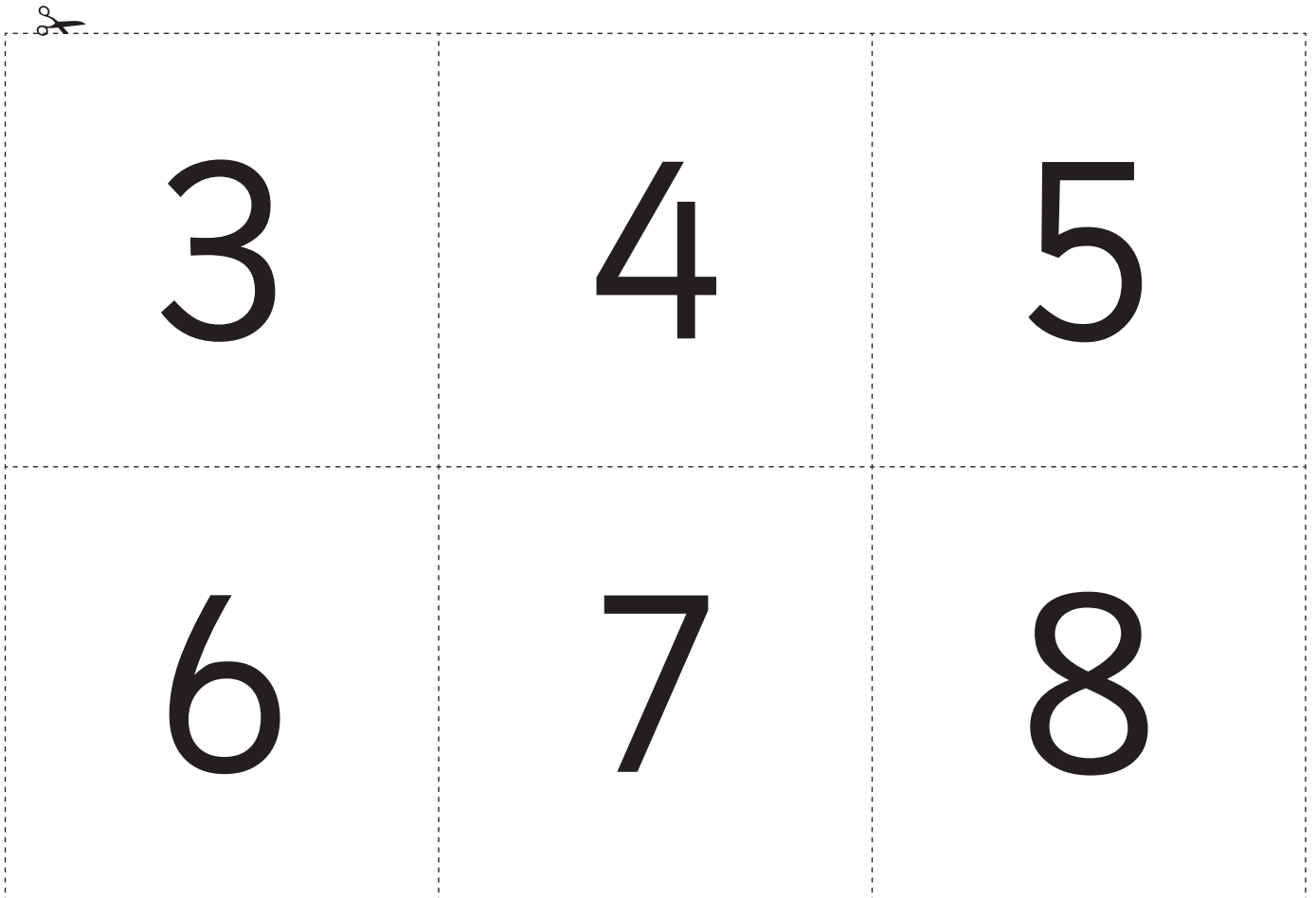
copy

What to do:

Cut out the number cards and the dot cards (on the next 2 pages). Spread all the dot cards out on the ground, face up. One person holds the number cards. They are the dealer.

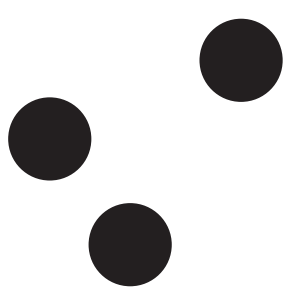
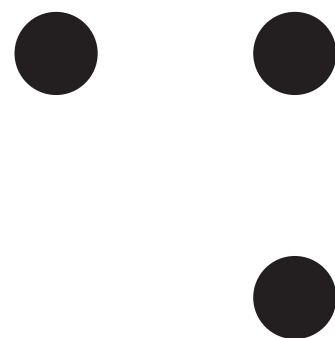
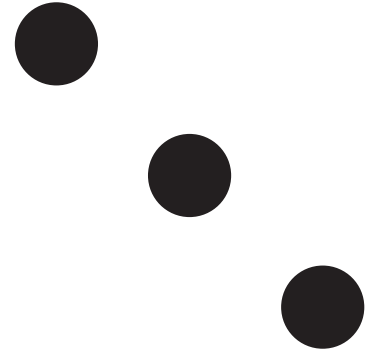
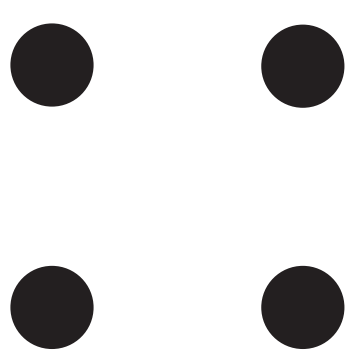
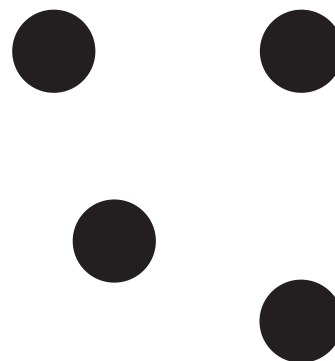
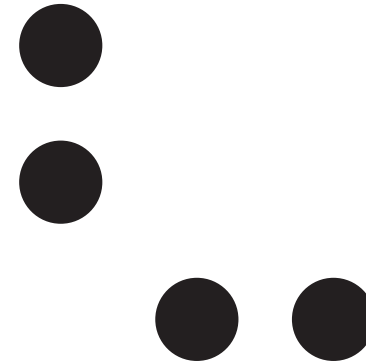
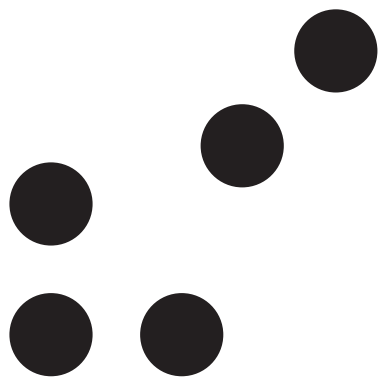
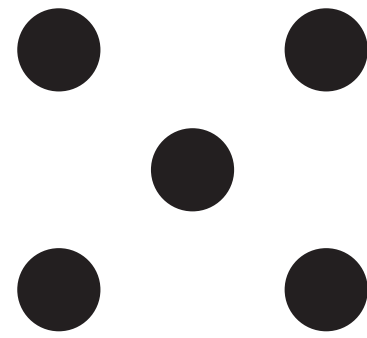
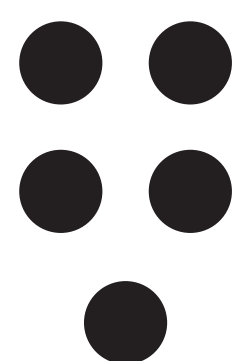
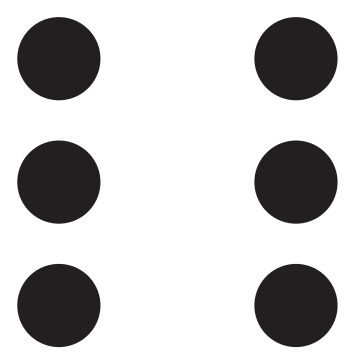
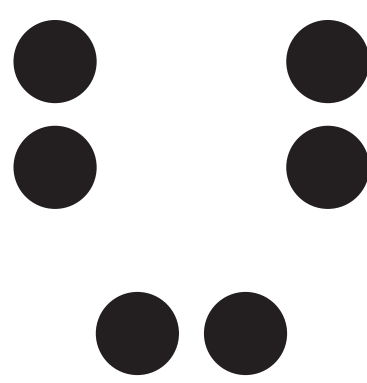
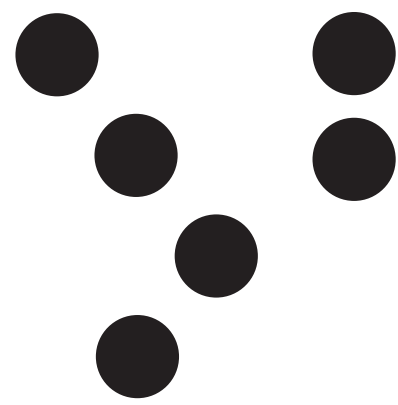
The dealer holds up a number card to the players. The first person to find and hold up a dot card that matches the number is the winner of that round. They keep that dot card.

Play till all dot cards are gone. Once the dealer knows all 3 dot cards for each number are gone, they take the number card out of the pack. The player with the most dot cards at the end is the winner.



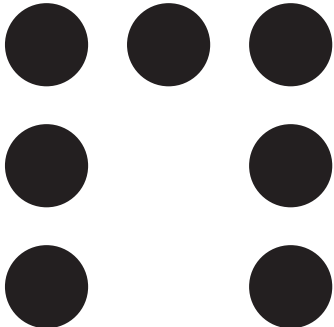
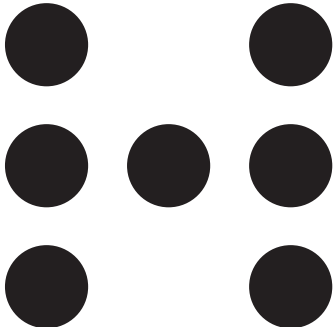
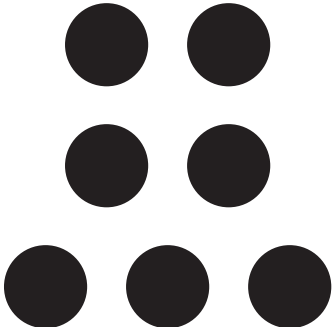
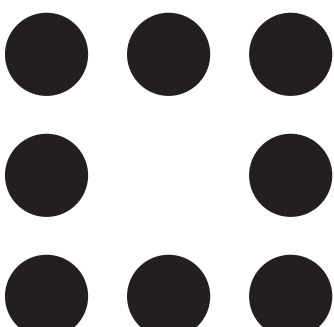
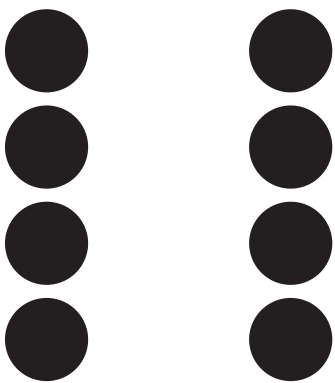
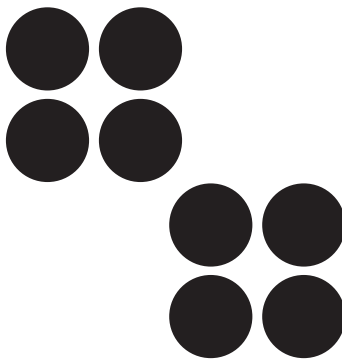
Number sense – estimate (continued)



 A rectangular box containing three black dots arranged in a triangle.	 A rectangular box containing four black dots arranged in a 2x2 square.	 A rectangular box containing four black dots arranged in a diamond shape.
 A rectangular box containing four black dots arranged in a 2x2 square.	 A rectangular box containing four black dots arranged in a diamond shape.	 A rectangular box containing four black dots arranged in a diamond shape.
 A rectangular box containing five black dots arranged in a pentagon.	 A rectangular box containing five black dots arranged in a diamond shape.	 A rectangular box containing six black dots arranged in a hexagon.
 A rectangular box containing six black dots arranged in a 3x2 grid.	 A rectangular box containing six black dots arranged in a diamond shape.	 A rectangular box containing seven black dots arranged in a heptagon.

Number sense – estimate (continued)



Watch out!
This game is
fast and furious.

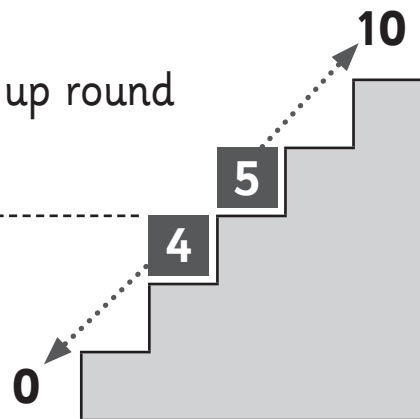


Number sense – rounding

When we estimate we often **round** to a number ending in zero. When we round to the nearest 10, 5 is our middle point.

Numbers 5 and up round up to 10.

Numbers 4 and down round down to 0.



1 Round to 10 or 0.

a 6 rounds to

b 3 rounds to

c 2 rounds to

d 8 rounds to

e 5 rounds to

f 7 rounds to

2 Write the numbers on the eggs so each egg is in the right basket.

1 2 3 4 5
6 7 8 9

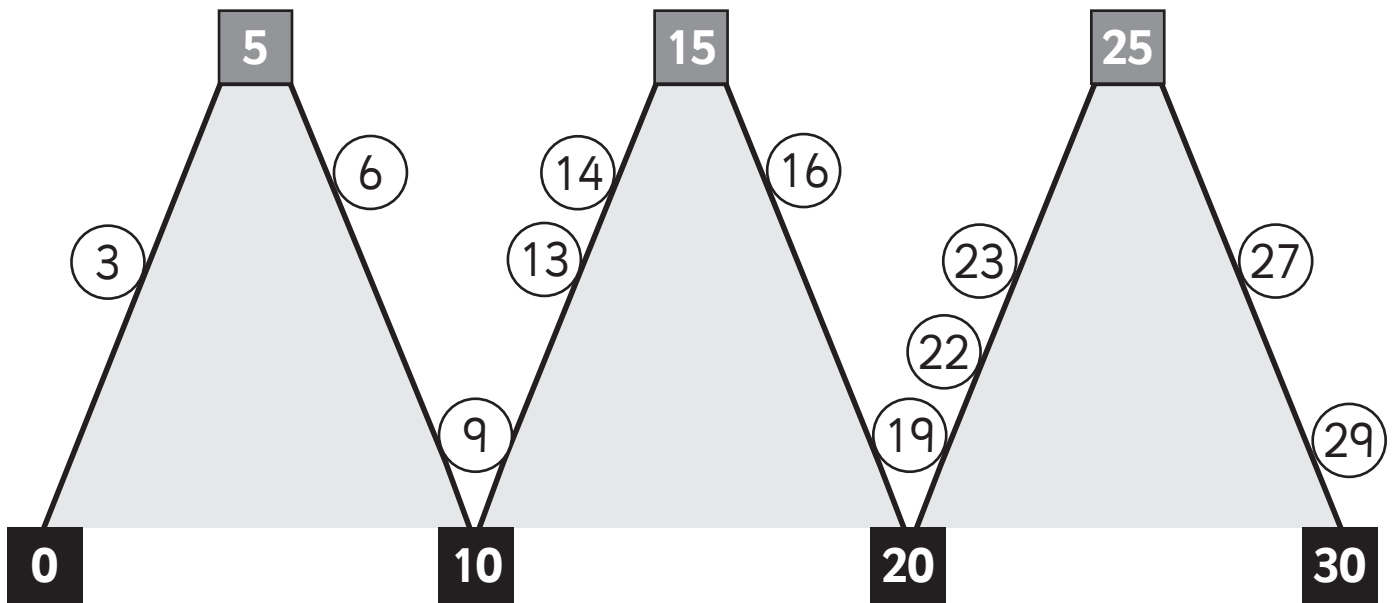


zero



ten

Number sense – rounding



1 Which **ten** would the balls roll to?

a (3) rounds to

b (6) rounds to

c (9) rounds to

d (13) rounds to

e (16) rounds to

f (14) rounds to

g (19) rounds to

h (29) rounds to

i (22) rounds to

j (27) rounds to

2 Round these to the nearest ten following the same rules.

a (33) rounds to

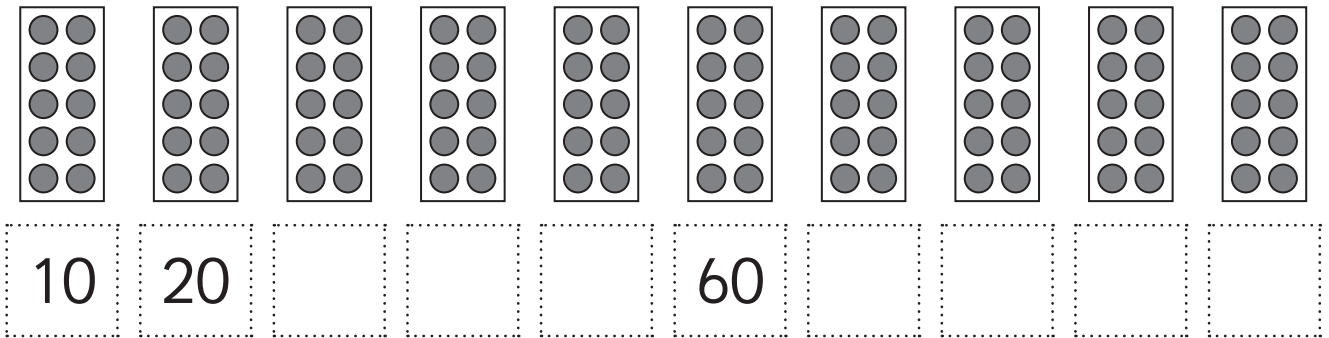
b (36) rounds to

c (42) rounds to

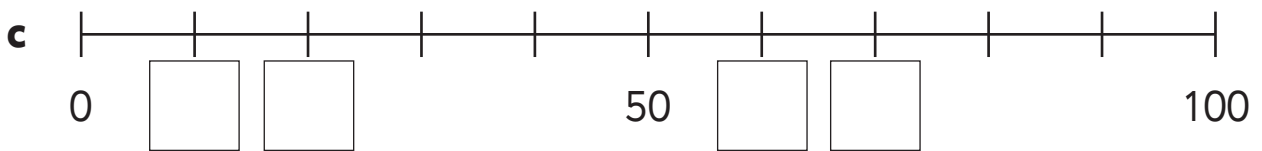
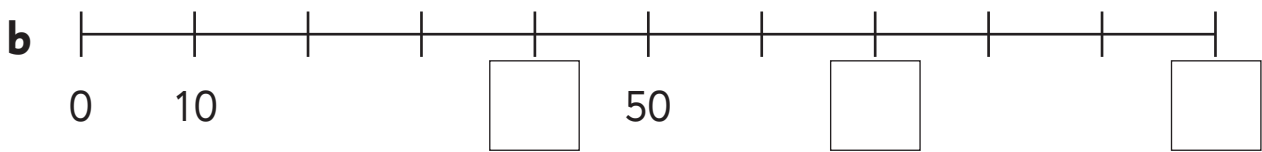
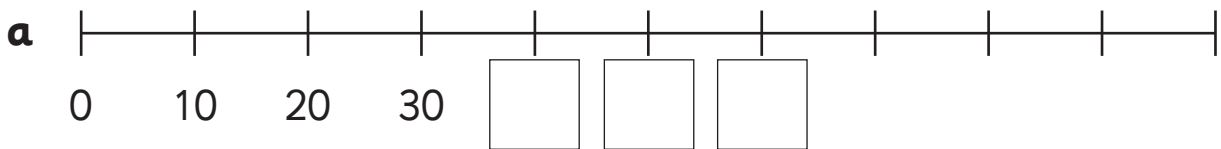
d (28) rounds to

Skip counting – counting in 10s on decade

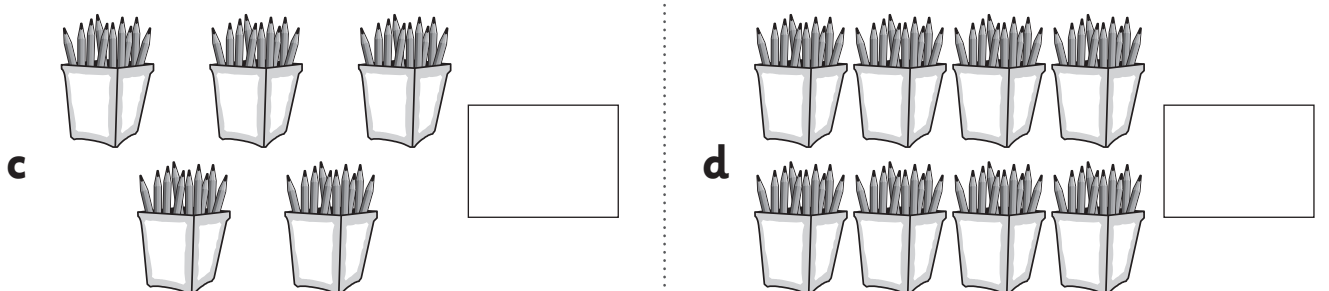
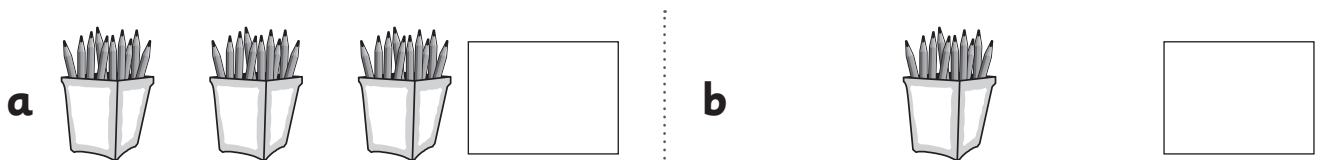
1 Count in 10s to find how many counters altogether.



2 Count in **tens** to write in the missing numbers on the number line.



3 There are 10 pencils in each pot. How many pencils are there?



Skip counting – counting in 10s on decade

1 You have been hired by the Footloose Toes Factory to help them work out how many toes they have in stock. Count in 10s to find the number of toes.

Number of toes



2 How else could you count the toes? How many different ways can you find?

Skip counting – counting in 10s off decade

You will need:  a partner  2 different coloured pencils

What to do:

Decide who will go first. Player 1, point to a square somewhere in the grid. Player 2, count in 10s from the matching column in the top line to work out what the number in that square would be. If you get it right you claim that square by writing the number in it with your coloured pencil. If you get it wrong, Player 1 gets a chance to name the number and claim the square. The first person to claim 10 squares wins.

1	2	3	4	5	6	7	8	9	10
	12								
			34				38		40
								59	
		63							
				75		77			
81								89	

Skip counting – counting in 2s

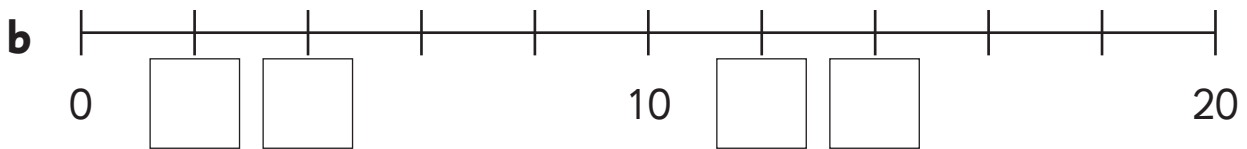
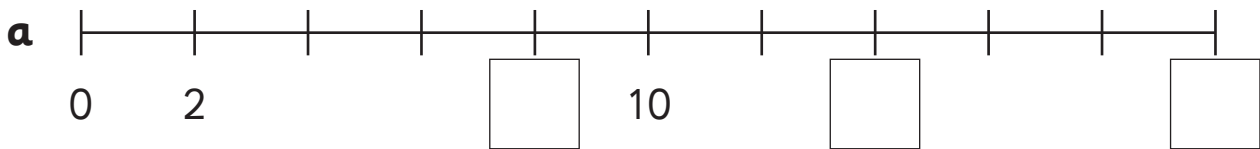
1 Some numbers are missing. Write them in and say them out loud as you go.

Start and go



1	2	3	4	5		7		9	
11		13		15		17		19	
21		23		25		27		29	




2 Count in **twos** to write in the missing numbers on the number line.



3 How many people are at the party? Circle groups of two.



Skip counting – counting in 2s

You will need:  a partner  lots of counters or blocks
 sticky notes

What to do:

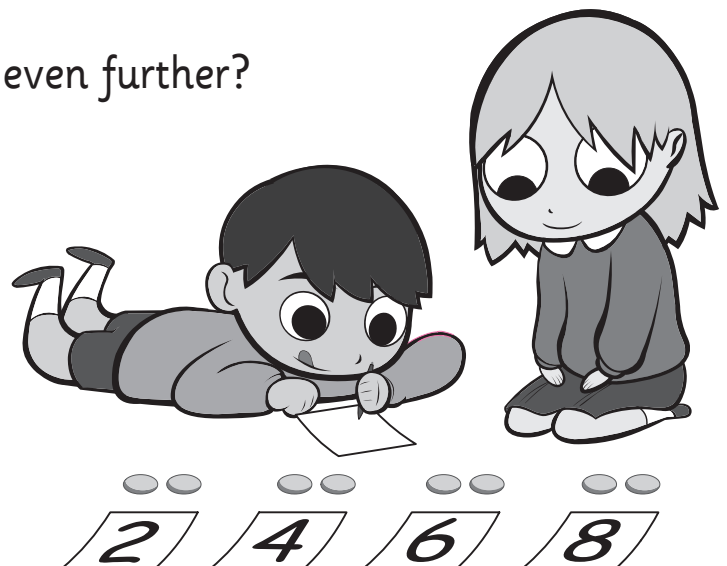
Work with your partner to make a 2s pattern with your counters all the way across the classroom floor.

What to do next:

a Look at your pattern. How many counters do you think you have used? Write your predictions here.

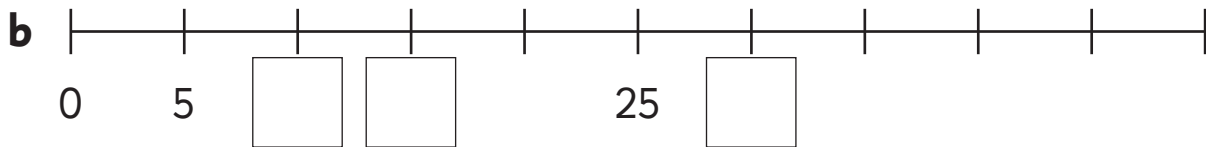
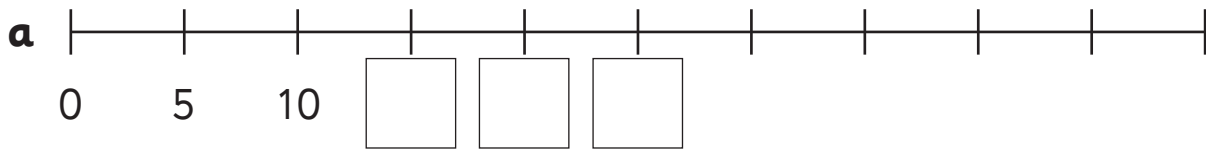
b Use sticky notes or paper squares to label each pair of counters. How many counters have you used?

c Can you continue your pattern even further? How far can you go?



Skip counting – counting in 5s

1 Count in **fives** to write in the missing numbers on the number line.



2 Help! These ladybirds have lost their spots.

a Give each ladybird 5 spots.



b Count in 5s to find how many spots altogether.

c If 5 ladybirds fly away, how many spots will go?

d How many spots will be left?

Skip counting – counting in 2s, 5s and 10s

- 1 a Complete the grid. Try going **down** the columns, not **across** the rows. Can you find and follow the patterns?

1	2	3	4	5		7		9	
11	12	13	14	15	16	17	18	19	
21		23	24	25				29	
31	32	33		35		37		39	
41		43		45		47		49	
	52		54		56		58		60
	62	63			66	67			
71			74				78		80
			84		86				
	92			95		97		99	100

- b Now colour the chart like this.
- If you say the number when you count in 2s give it a yellow stripe.
 - If you say the number when you count in 5s give it a green stripe.
 - If you say the number when you count in 10s give it a red stripe.

2 What do you notice

- a about the numbers that have 3 stripes?
- b about the numbers that only have a green stripe?
- c about the numbers that have a yellow stripe?

Skip counting – counting in 2s, 5s and 10s

1 Continue these backwards patterns. Count in

a **10s**

100

90

80

b **5s**

50

45

40

c **2s**

20

18

16

2 Close your eyes and say the patterns out loud to a partner.
Your partner can give you clues when you need them.

a Count back in 10s from 100

b Count back in 5s from 50

c Count back in 2s from 20

I can

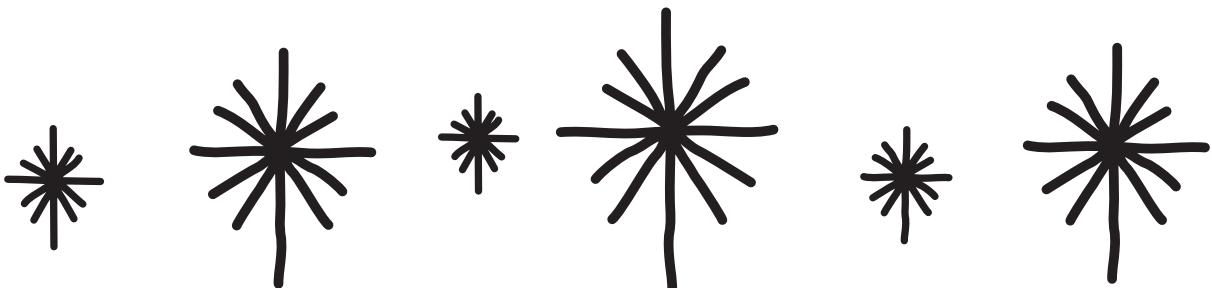
Skip counting – counting in 2s, 5s and 10s

You will need:  a partner

What to do:

Count to 20. As you say a number, clap. If the number is in the 2s pattern, clap loudly. If it is not in the 2s pattern, clap softly.

This is what the pattern might look like if you recorded the pattern without using numbers or words.



What to do next:

What would a 5s pattern look and sound like? Try it out and record it below.

Try:

Choose a different pattern such as a 3s, 10s or 4s pattern. Don't tell your partner what it is. Draw it using stars on another piece of paper and see if they can work out what it is. Say and clap it together.

Skip counting – odd and even numbers

Even numbers can be put into pairs.

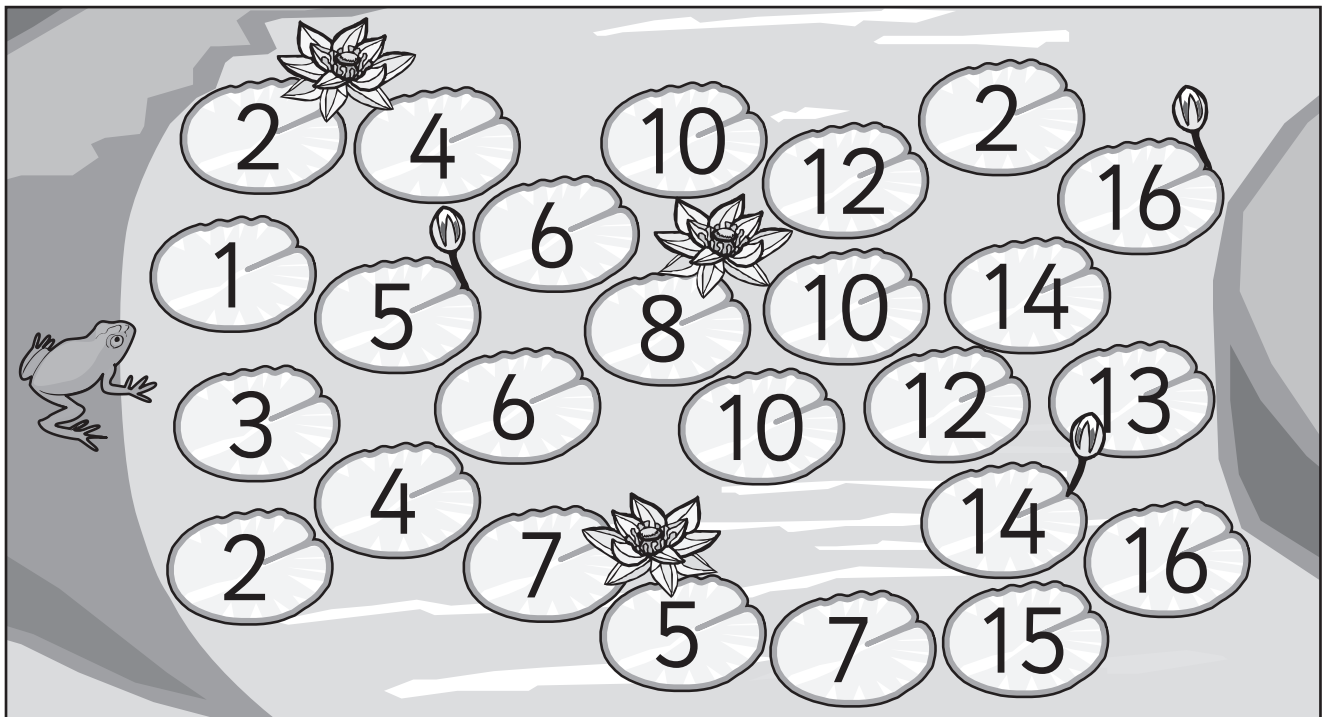


Odd numbers can't.



We say even numbers when we count the 2s pattern.

- 1 Froggo can only jump on lily pads with even numbers.
Colour a path he could take to get across the river.



- 2 Is there only one path? How many paths can you find?

- 3 What are the odd numbers less than 20? Write them. Can you keep going past 20?

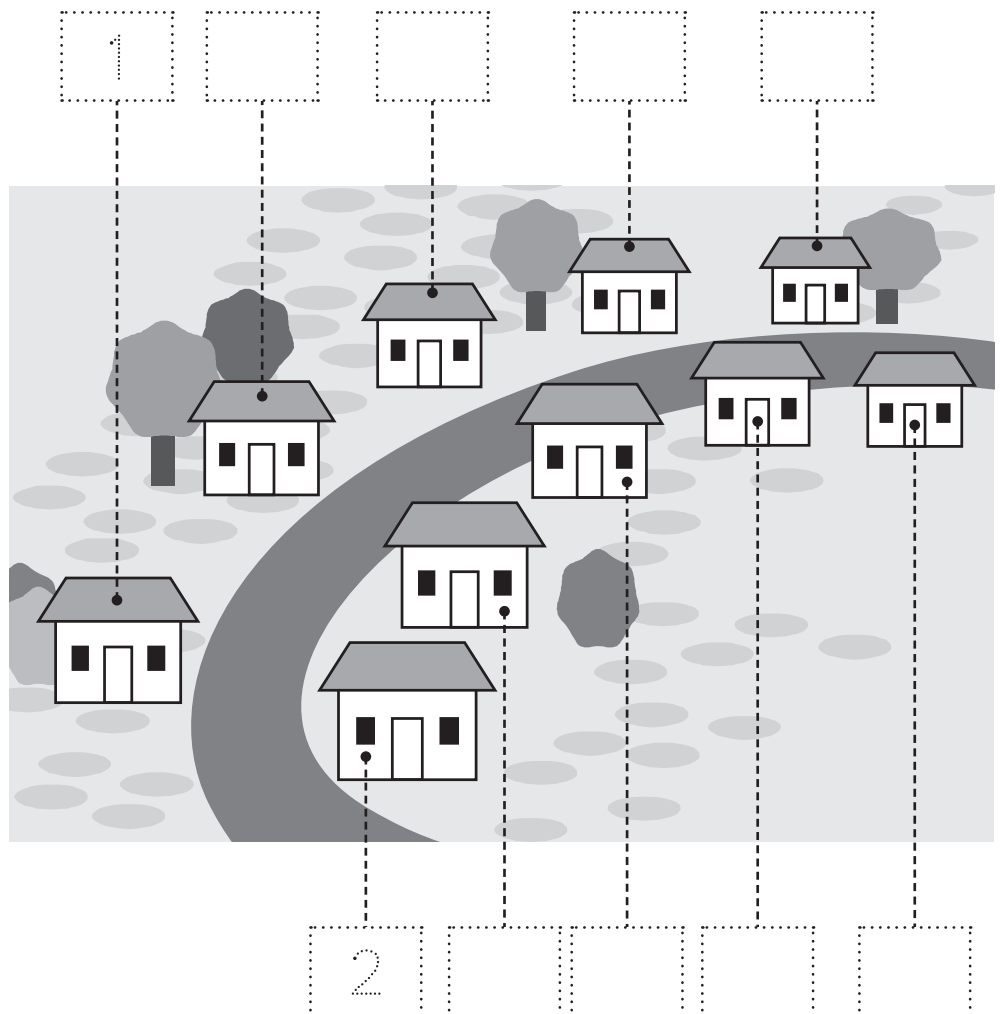
Skip counting – odd and even numbers

You will need:  a partner

What to do:

Work with your partner to solve this problem.

On Main Street there are 10 houses. The even numbered houses are on one side of the street. The odd numbered houses are on the other side of the street. Put numbers above or below each house to show this.



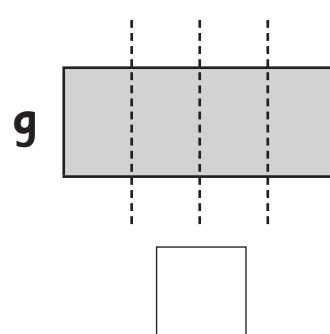
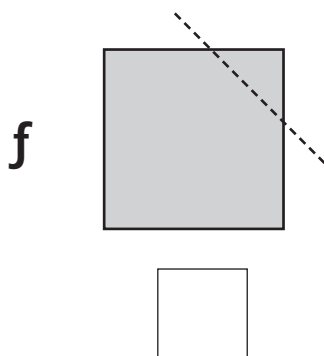
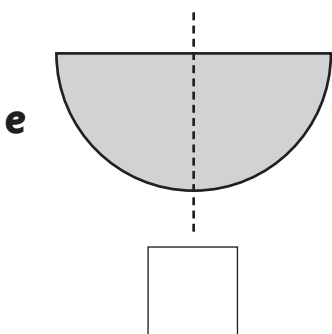
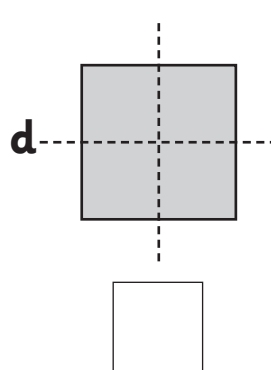
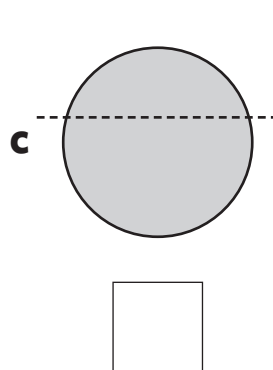
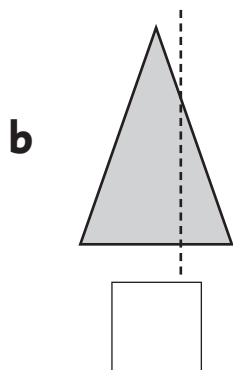
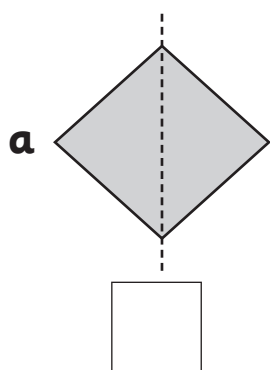
What to do next:

The even numbered houses have 3 bedrooms. The odd numbered houses have 2 bedrooms. How many bedrooms are there on Main Street?

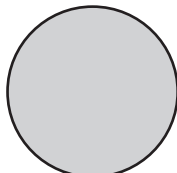
There are bedrooms on Main Street.

Fractions – equal parts

1 the shapes that have been divided into **equal** parts.

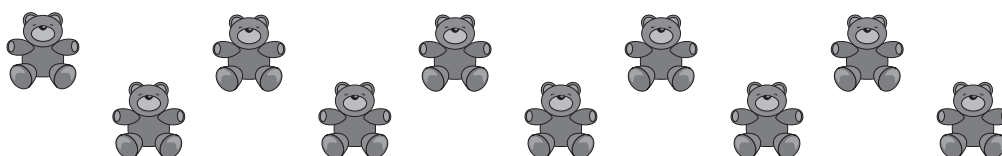


2 Divide these shapes into equal parts.



Is there only one way to do this? Compare your shapes with someone else at your table. Have you divided them the same way? Is one of you wrong or can you both be right?

3 You and your partner have been given these teddies. Divide the group into 2 equal parts so you each get a fair share.

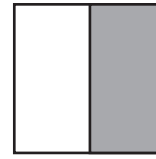


Fractions – writing fractions

When we divide a whole into 2 equal parts, we call each part a half.



This is one whole shape.

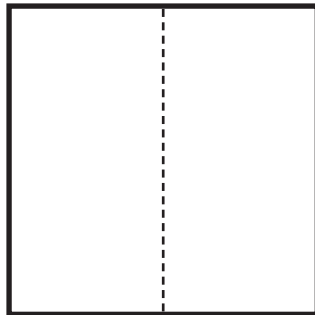


Half has been shaded.

We can write half as $\frac{1}{2}$ $\frac{\text{Number of shaded parts}}{\text{Number of equal parts}}$

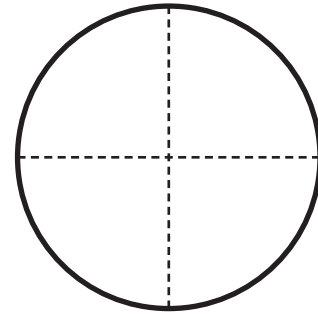
1 Shade **one** equal part of each shape and write the fraction.

a



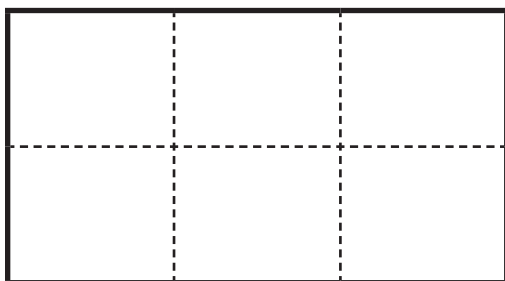
Number of shaded parts
Number of equal parts

b



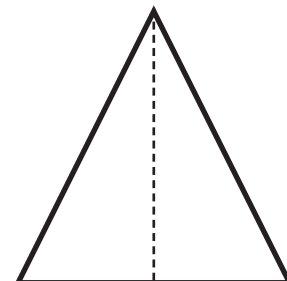
Number of shaded parts
Number of equal parts

c



Number of shaded parts
Number of equal parts

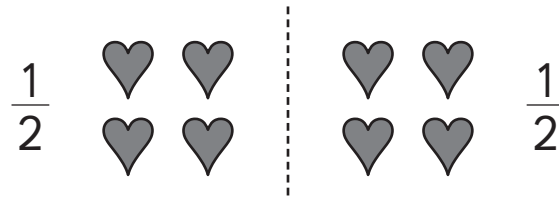
d



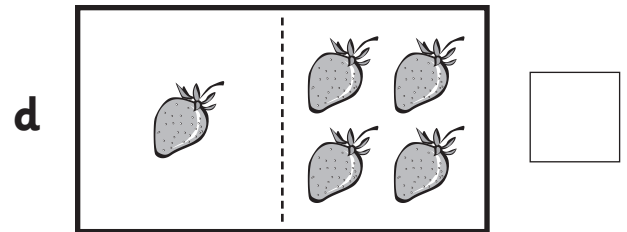
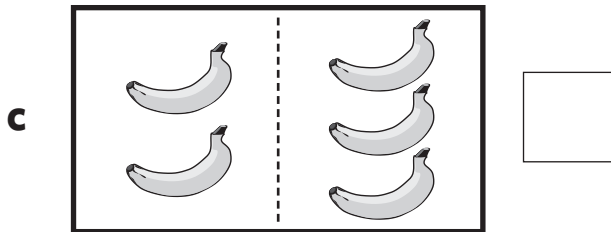
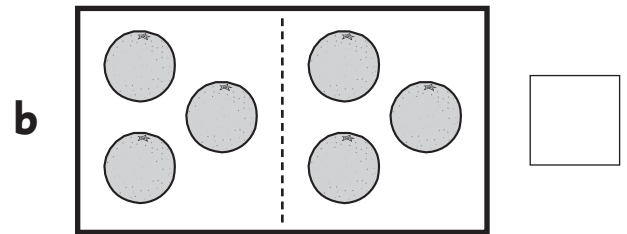
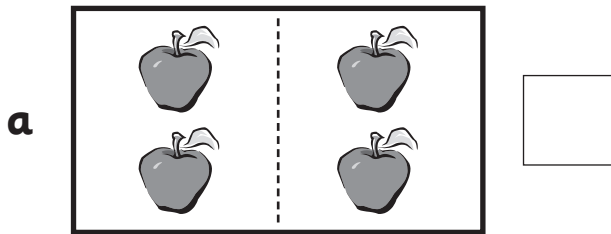
Number of shaded parts
Number of equal parts

Fractions – half of a group

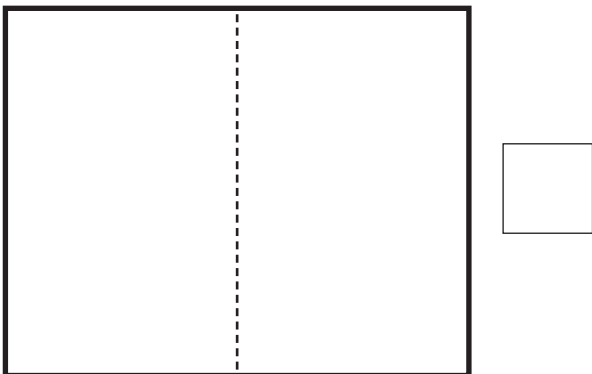
When we divide a group into 2 equal parts, we call each share or part a half. When they are equal, each share is fair.



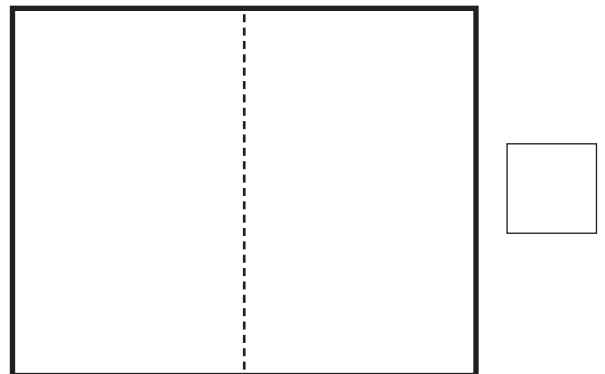
1 Tick all the groups that have been divided into 2 equal parts. Cross them if the parts are not equal.



2 Draw a group of hats in the box. Put half on one side of the line and half on the other. Are the parts equal? If so, tick the box.



3 Draw a group of stars in the box. Make the two parts unequal. Do you tick or cross the box?



Fractions – half of a group

You will need:  a partner  counters

What to do:

- a** Start with 2 counters. Divide the 2 counters into 2 equal groups. How many counters are in each group? Draw them.

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

- b** Now take 4 counters. Divide the counters into 2 equal groups. How many counters are in each group? Draw them.

$$\frac{1}{2} \text{ of } 4 \text{ is } \square$$

- c** Now take 6 counters. Divide the counters into 2 equal groups. How many counters are in each group? Draw them.

$$\frac{1}{2} \text{ of } 6 \text{ is } \square$$

- d** Now take 8 counters. Divide the counters into 2 equal groups. How many counters are in each group? Draw them.

$$\frac{1}{2} \text{ of } 8 \text{ is } \square$$

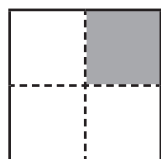
- e** Can you see the pattern? Continue it on another piece of paper. How high can you and your partner go?

What to do next:

Can you make 2 equal groups out of 3, 5, or 7 counters? What happens?

Fractions – quarters

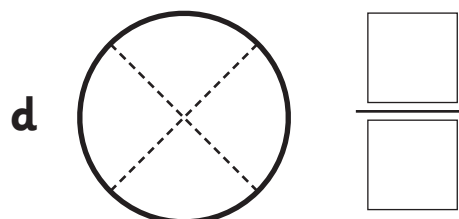
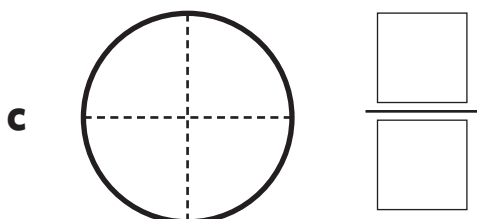
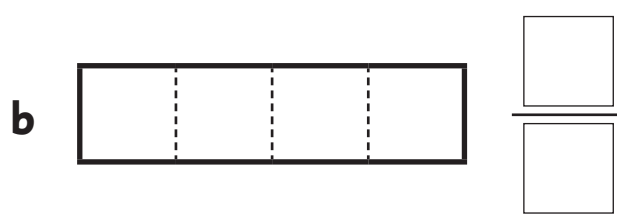
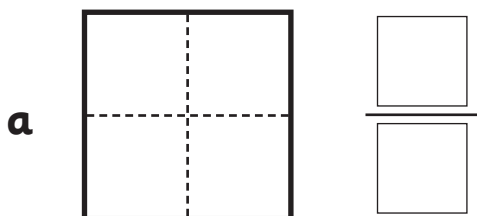
When we divide a shape or group into 4 equal parts, we call each part a **quarter**. We can write this as:



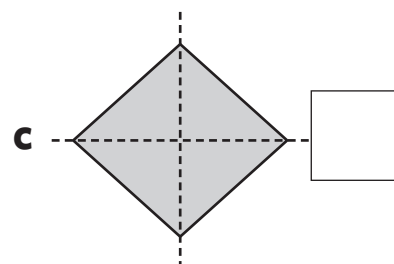
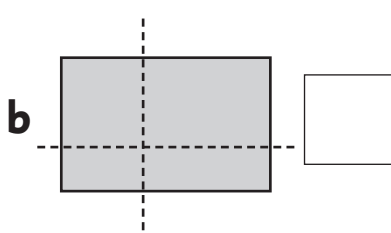
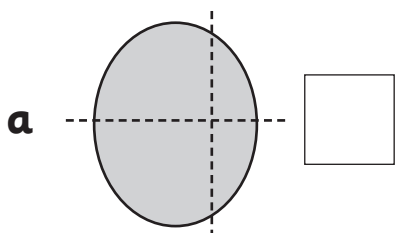
$$\frac{1}{4} \quad \frac{\text{Number of shaded parts}}{\text{Number of equal parts}}$$

- 1 Can you think of 3 places or times you hear the word quarter?
Discuss this with the people at your table.

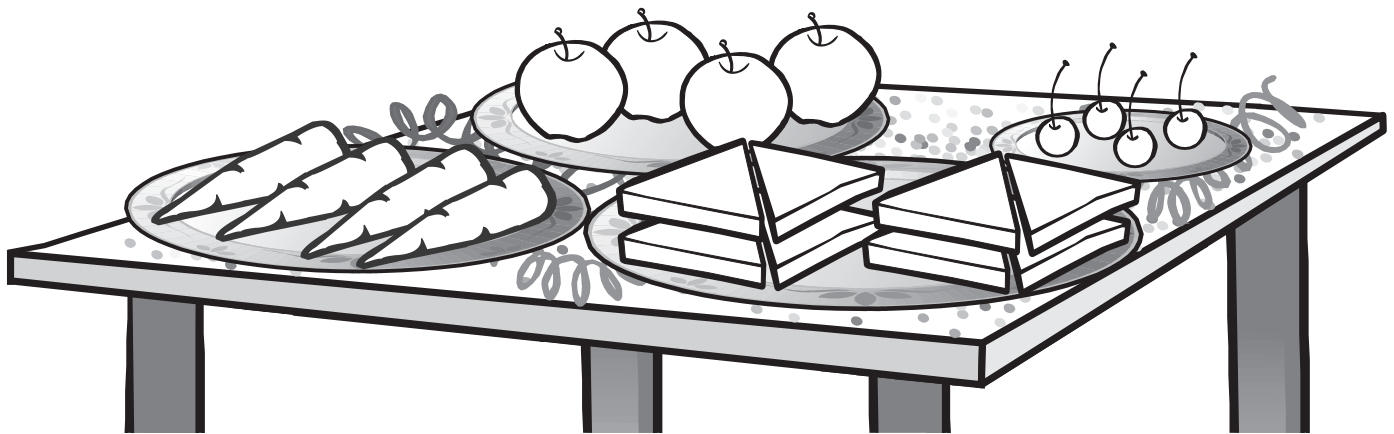
- 2 Shade one quarter of each shape and write the fraction.



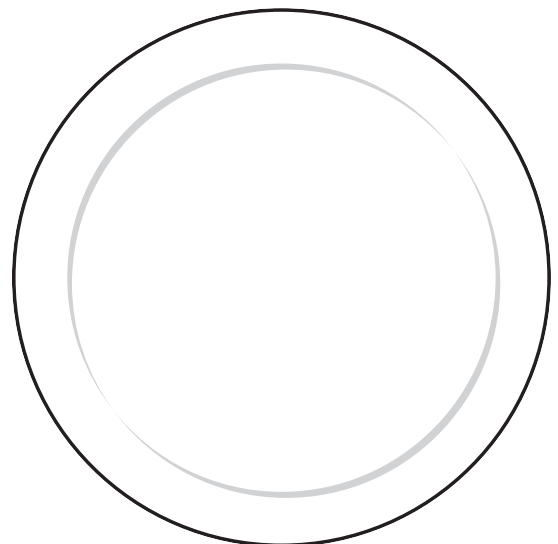
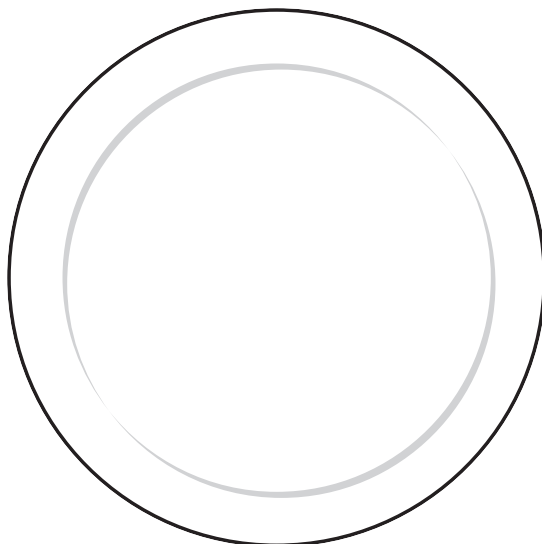
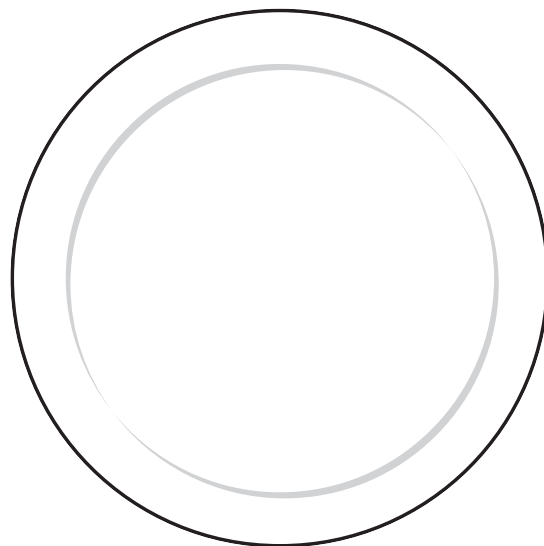
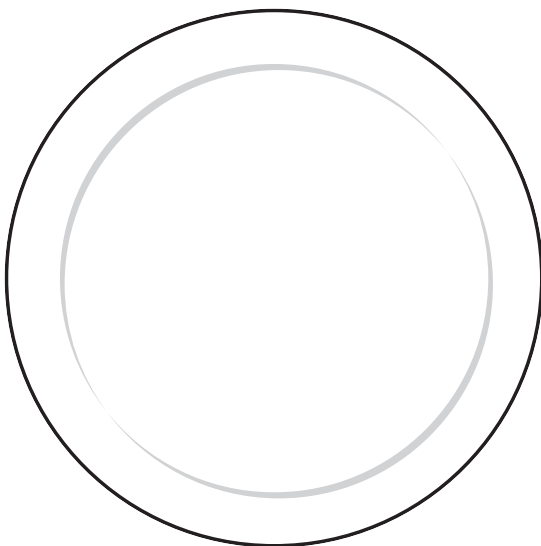
- 3 Are these shapes cut into quarters? Write Y or N.



Fractions – quarters



- 1 Four friends are having a party. Look at the food on the table. Share it equally out onto the plates so that each friend has **one quarter**. Draw what each friend will have.

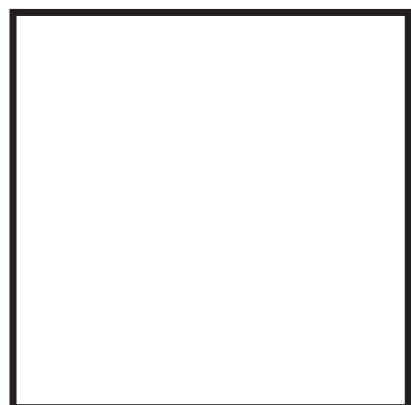
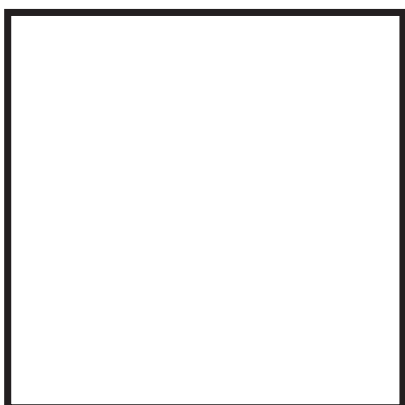
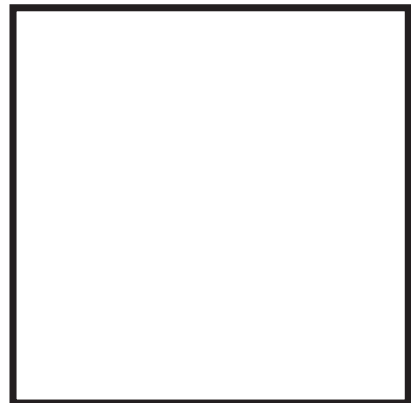
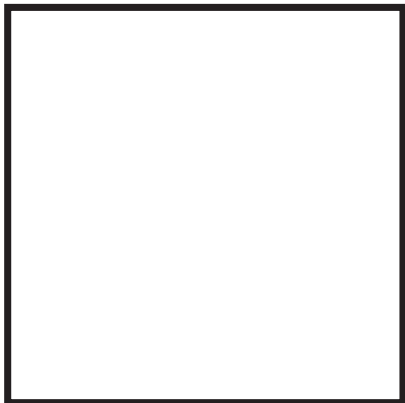


Fractions – quarters

You will need:  a partner

What to do:

Can you and your partner find 4 different ways to divide these squares into quarters? Draw the lines you would use.



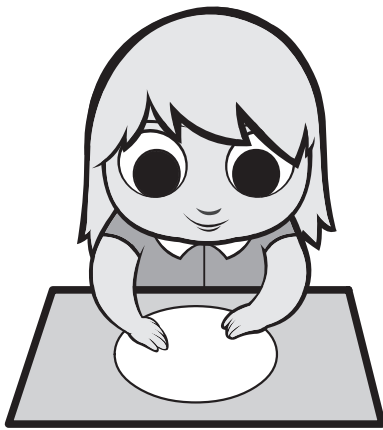
Fractions – halves and quarters

You will need:  scissors  4 coloured paper circles

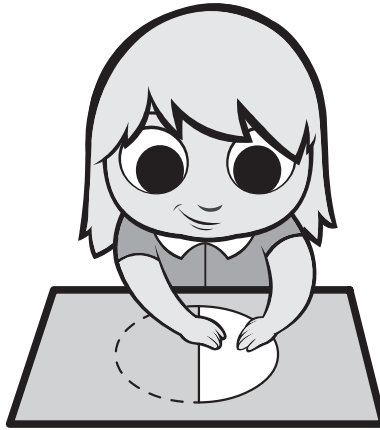


What to do:

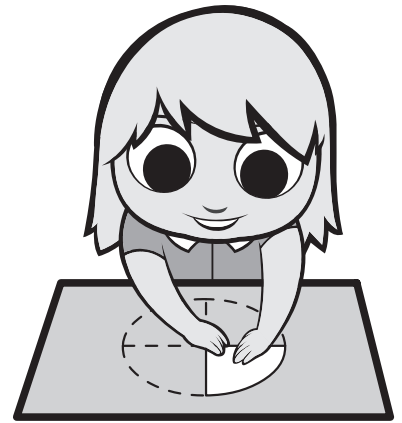
a Leave one circle whole.



b Fold one circle in half.



c Fold another circle in half and then in half again.



d Cut out the labels on the right and match them with the circles above.

e Now mix them up and ask a friend to put them back correctly.

1	one quarter
$\frac{1}{4}$	one half
$\frac{1}{2}$	one whole

What to do next:

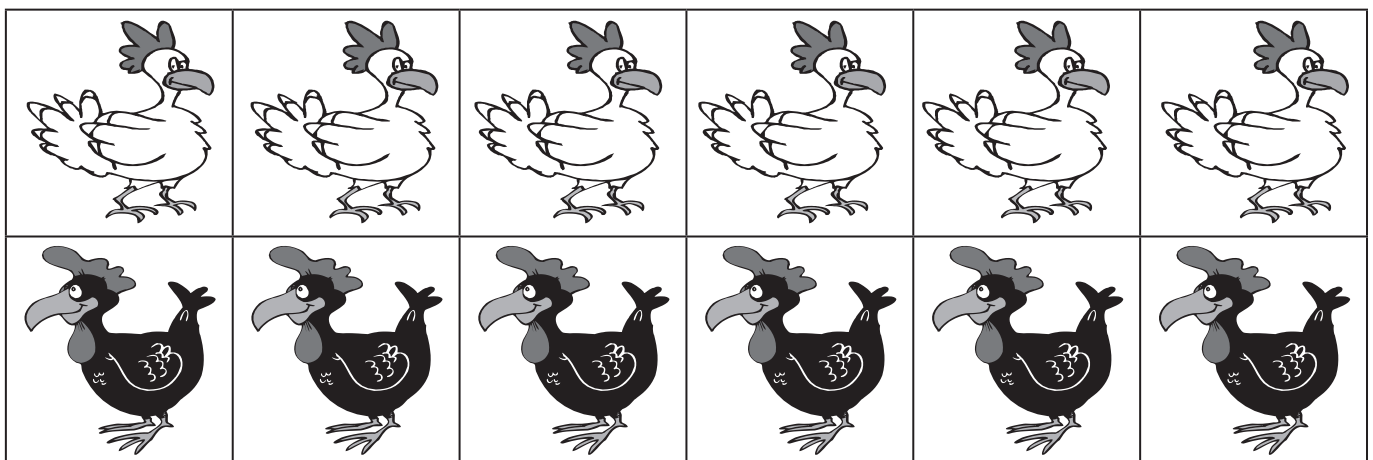
What happens if you fold a circle into half, then half again, then half again. How many equal parts do you have? How would you write that as a fraction?

Fractions – halves and quarters

You will need:  pencils

What to do:

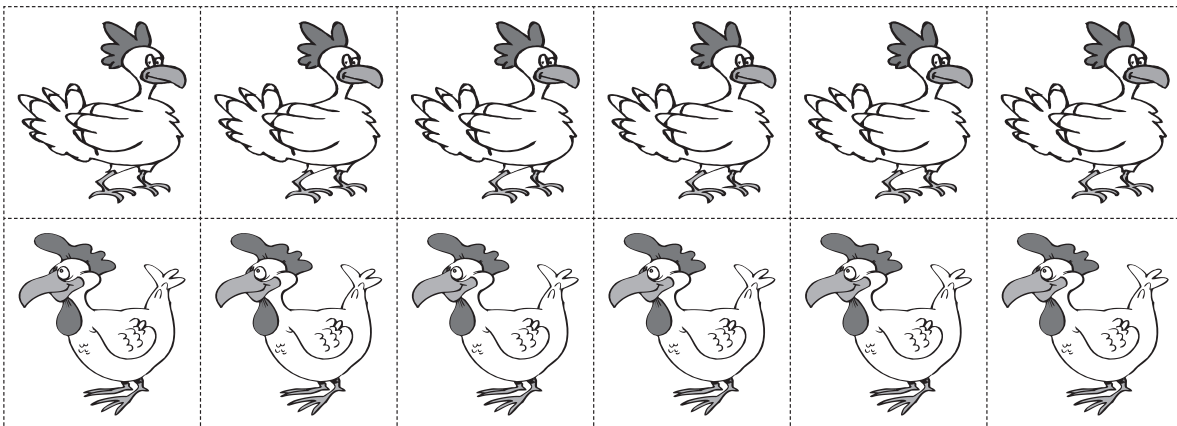
Farmer Joe has 12 chickens in his barn. Half of his chickens are black and half are white. They all like their own special laying spot. Here is one way Farmer Joe could set them up.



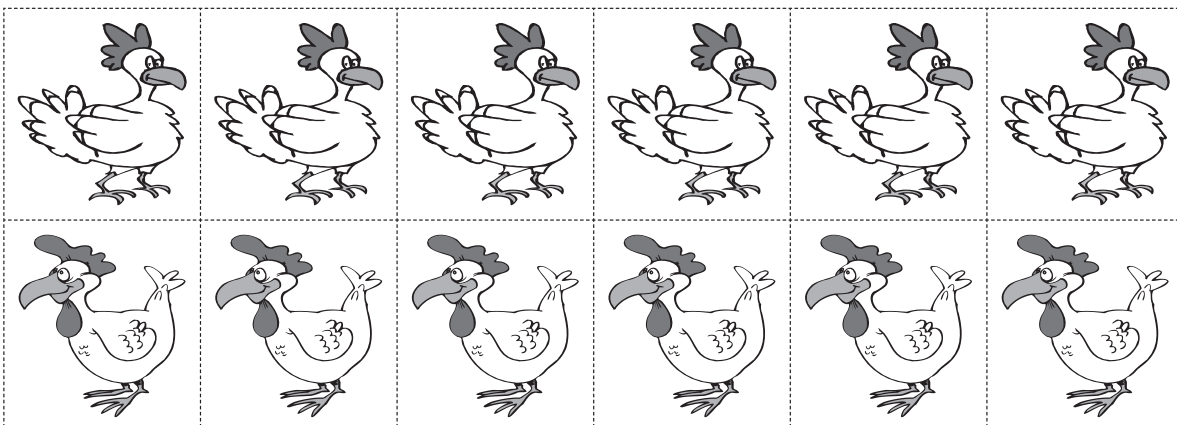
- a** How many other ways could Farmer Joe set them up? Colour the chickens in each barn on page 68 to show the different options. Remember half are black and half are white. You may need 2 copies of page 68.
- b** How will you know you have coloured half each time?
- c** How will you know you have found all the ways?

Fractions – halves and quarters (continued)

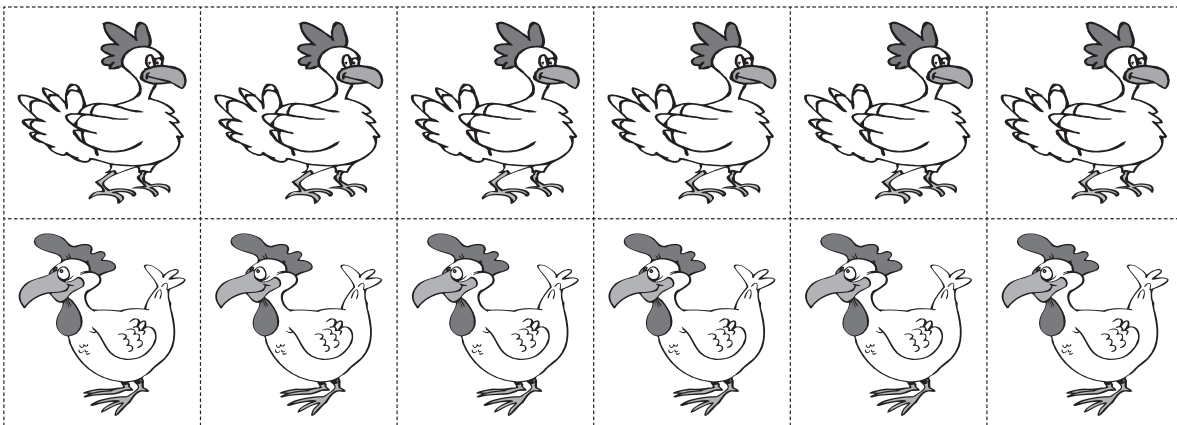
Option
1



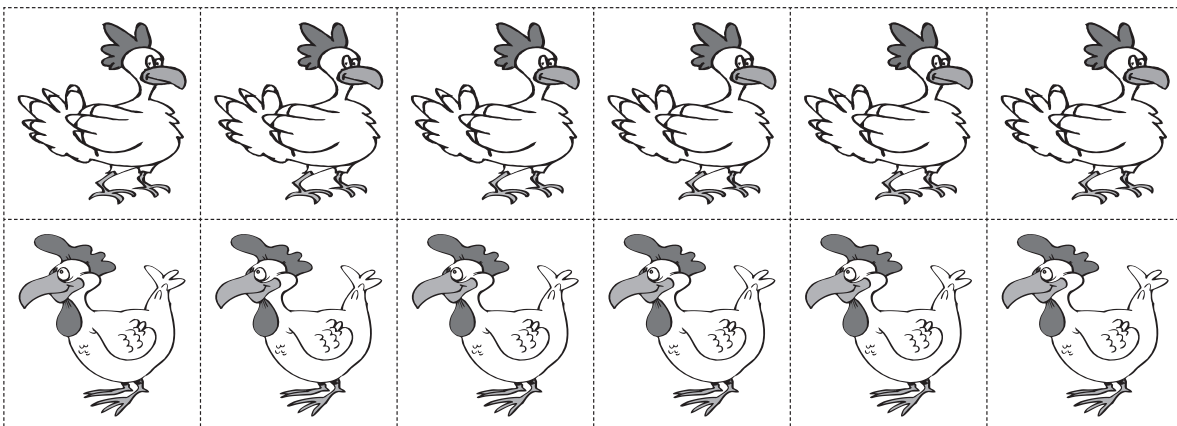
Option
2



Option
3



Option
4



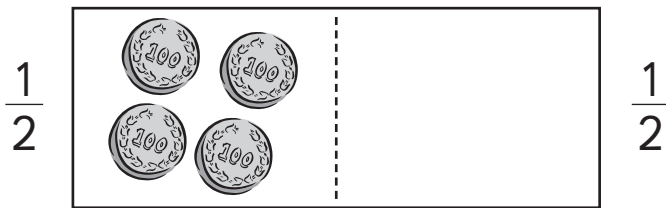
Fractions – halves and quarters

You will need:  a partner or just yourself

What to do:

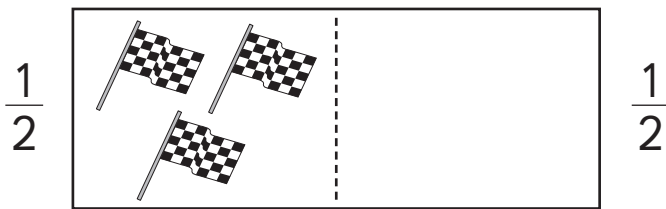
Draw pictures to help you solve these Grand Prix problems.

a This is half of the prize.



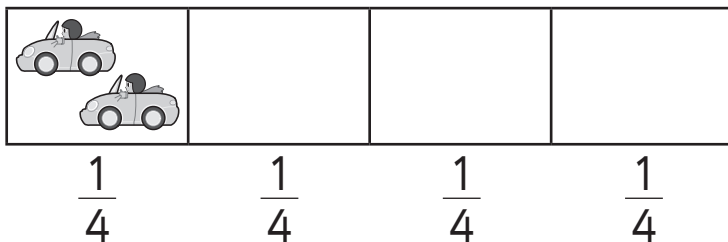
How many pieces of gold are in the whole prize?

b This is half of the flags at the race.



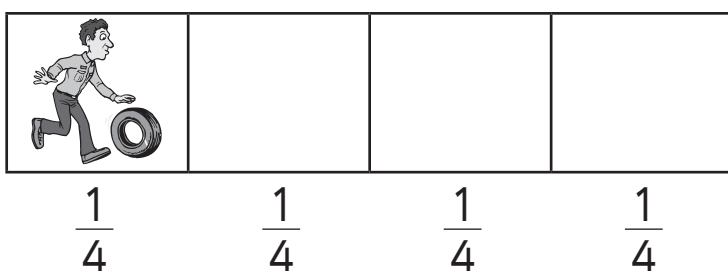
How many flags are at the race?

c This is one quarter of the cars on the track.



How many cars are on the whole track?

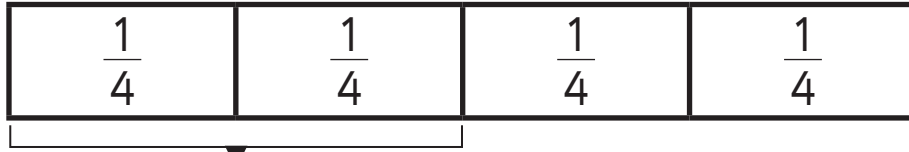
d This is one quarter of the pit crew.



How many people are in the pit crew altogether?

Fractions – halves and quarters

Some fractions are of equal size. We call these equivalent fractions.

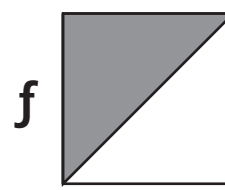
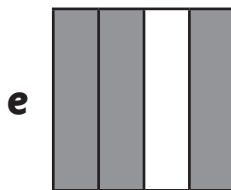
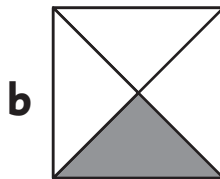
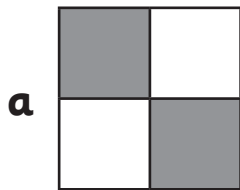


$\frac{2}{4}$

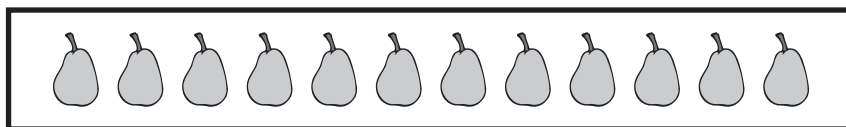
$\frac{2}{4}$ is the same as $\frac{1}{2}$

This can also be written as $\frac{2}{4} = \frac{1}{2}$

1 the fraction equivalent to $\frac{1}{2}$.



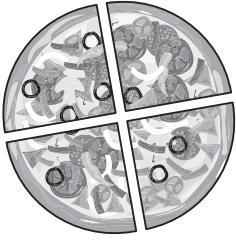
2 Calculate.



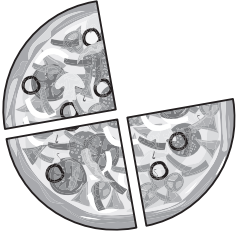
a $\frac{2}{4}$ of 12 =

b $\frac{1}{2}$ of 12 =

Fractions – quarters and three quarters

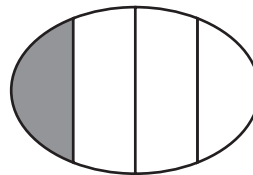
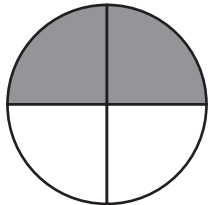


This pizza has been split in to 4 equal parts. Each equal part is called a quarter.

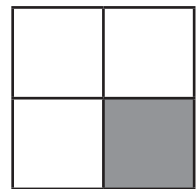
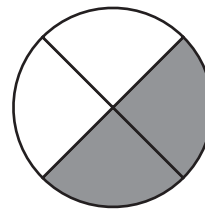
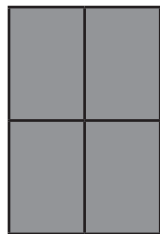
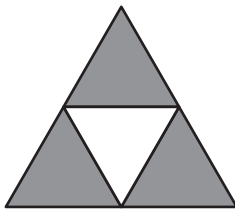


One piece of pizza has been eaten. There are 3 out of the total 4 pieces left. This can be called three quarters. This can also be written as $\frac{3}{4}$.

1 Circle the shape that is three quarters ($\frac{3}{4}$) shaded.



2 Match the fraction to the picture.



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

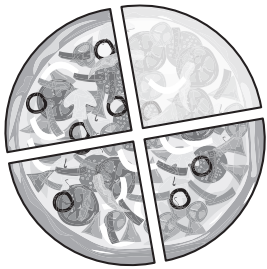
$$\frac{2}{4}$$

$$\frac{3}{4}$$

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

Fractions – quarters and three quarters

To write fractions you need to know how many parts make up the whole and how many are shaded.

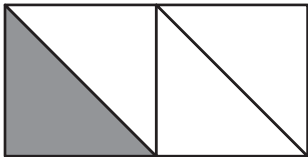


4 parts make the whole pizza. 3 parts are shaded.

$$\frac{\text{parts shaded}}{\text{parts that make the whole}} = \frac{3}{4}$$

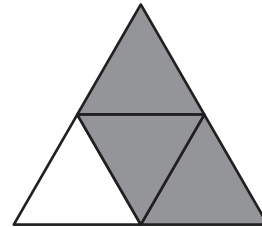
1 Write the fraction for each picture.

a



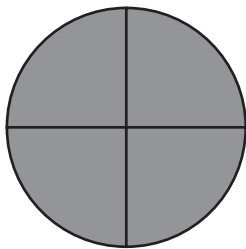
$$\frac{\square}{\square}$$

b



$$\frac{\square}{\square}$$

c



$$\frac{\square}{\square}$$

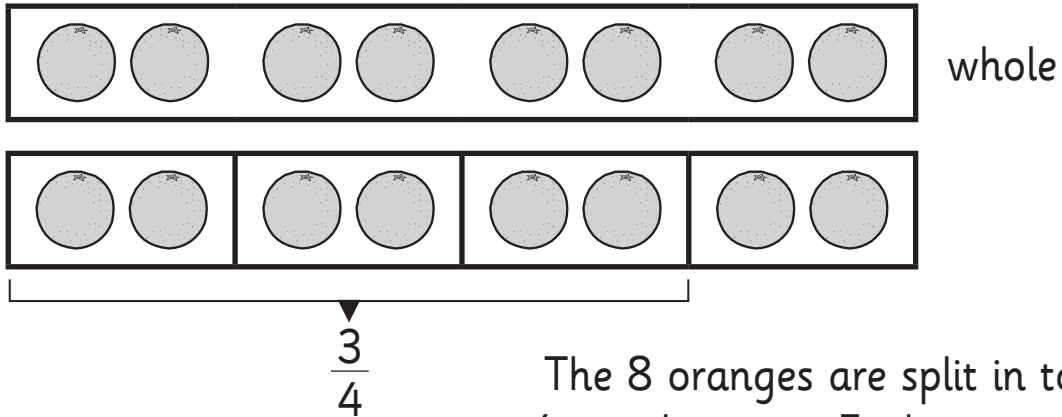
d



$$\frac{\square}{\square}$$

Fractions – quarters and three quarters

There are 8 oranges in total. They make up the whole.



The 8 oranges are split into 4 equal groups. Each group is one quarter of the whole.

$$\frac{1}{4} \text{ of } 8 = 2$$

$$\frac{3}{4} \text{ of } 8 = 6$$

1 Circle to divide the objects into 4 equal groups. Complete the number sentences.

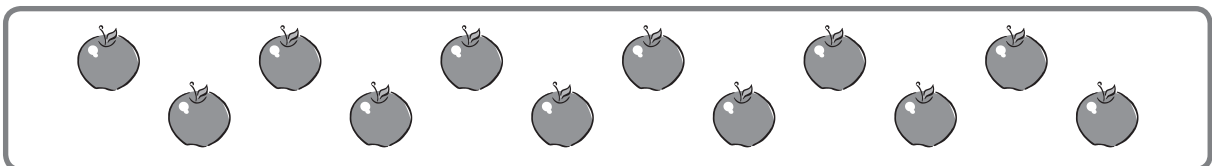
a



$$\frac{1}{4} \text{ of } 4 = \square$$

$$\frac{3}{4} \text{ of } 4 = \square$$

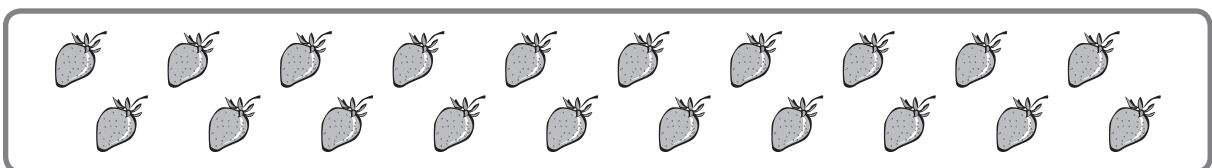
b



$$\frac{1}{4} \text{ of } 12 = \square$$

$$\frac{3}{4} \text{ of } 12 = \square$$

c



$$\frac{1}{4} \text{ of } 20 = \square$$

$$\frac{3}{4} \text{ of } 20 = \square$$

Fractions – quarters and three quarters

1 Match the fraction to the answer.

$$\frac{1}{4} \text{ of } 12$$

$$\frac{3}{4} \text{ of } 8$$

$$\frac{1}{4} \text{ of } 20$$

$$\frac{3}{4} \text{ of } 4$$

$$\frac{1}{4} \text{ of } 8$$

$$\frac{3}{4} \text{ of } 12$$

5

3




9

6

2

3

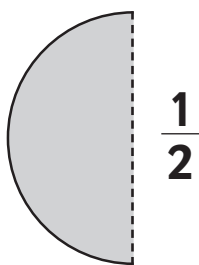
Fractions – exploring further

You will need:  a partner  coloured paper circles cut in half
 blank paper or your maths book

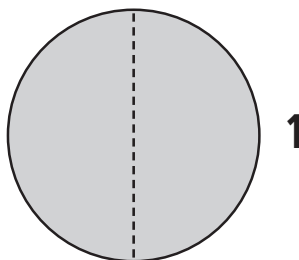
What to do:

Can you count in halves? It's easier than you may think!
Look at the pattern below.

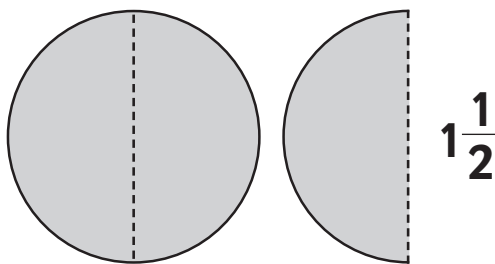
We start with half a circle.
That is $\frac{1}{2}$.



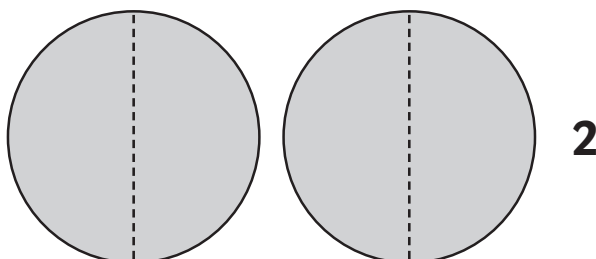
We add another half circle.
That is 1 whole.



We add another half a circle.
We have 1 whole and 1 half.
We write this as $1\frac{1}{2}$.

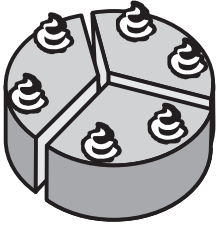


We add another half a circle.
Now we have 2 wholes.

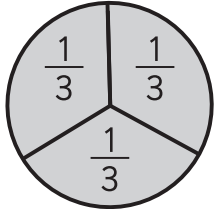


Work with your partner to make this pattern with your own circles.
Label each set. Can you continue the pattern? How high can you go?

Fractions – thirds

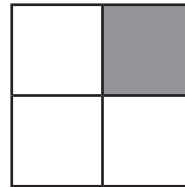
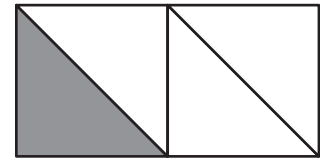
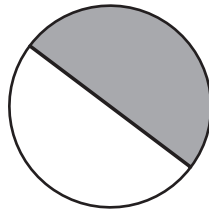


This cake has been cut in to 3 equal parts.
Each part is called one third.



This cake has been cut in to 3 equal parts.
Each part is call one third. This can be written as $\frac{1}{3}$.

1 Circle the fractions that have one third ($\frac{1}{3}$) shaded.

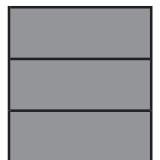
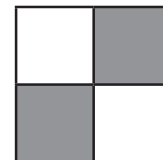
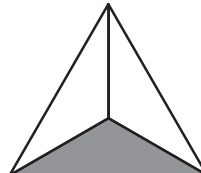
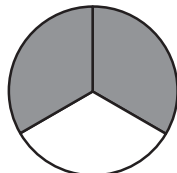
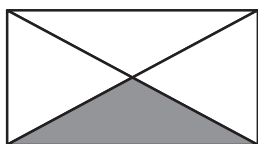


2 Match the fraction to the picture.

$$\frac{1}{3}$$

$$\frac{2}{3}$$

$$\frac{3}{3}$$



Fractions – thirds

There are 6 cakes in total. They make up the whole.



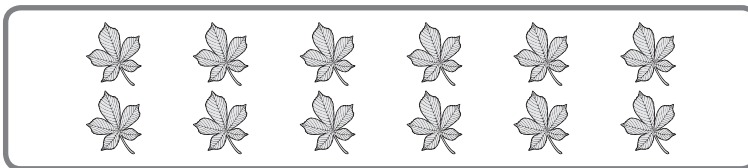
$$\frac{1}{3}$$

The 6 cakes are split in to 3 equal groups.
Each group is one third of the whole.

$$\frac{1}{3} \text{ of } 6 = 2$$

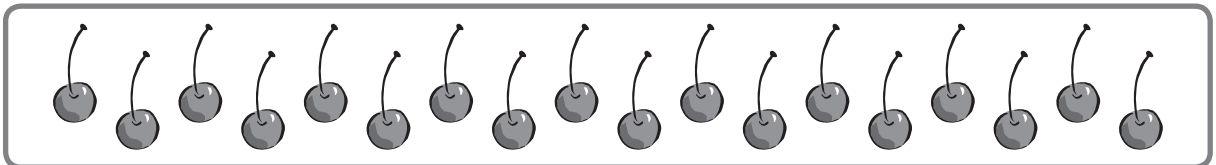
- 1 Circle to divide the objects into 3 equal groups. Complete the number sentence.

a



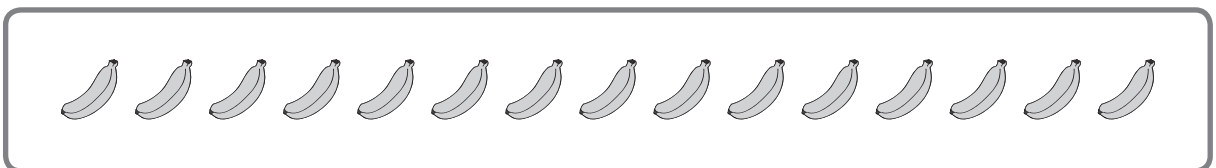
$$\frac{1}{3} \text{ of } 12 = \square$$

b



$$\frac{1}{3} \text{ of } 18 = \square$$

c



$$\frac{1}{3} \text{ of } 15 = \square$$

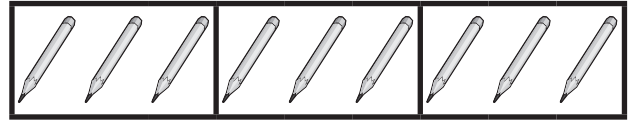
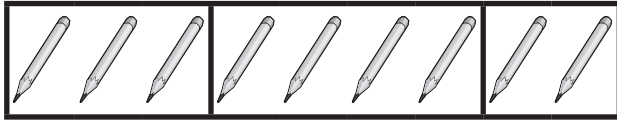
The groups
must be
equal.



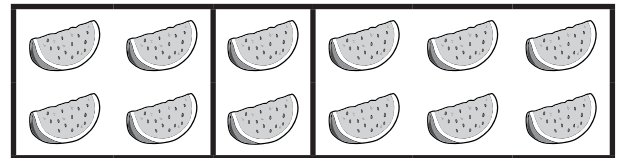
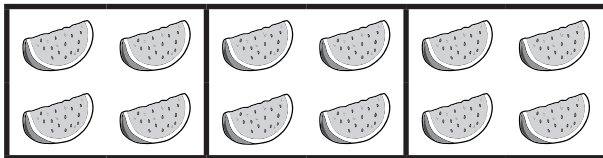
Hint: Use counters to help you divide the objects into groups.

Fractions – thirds

1 Circle the image that shows $\frac{1}{3}$ of 9.



2 Circle the image that shows $\frac{1}{3}$ of 12.



3 Complete the number sentences.

a $\frac{1}{3}$ of 12 =

b $\frac{1}{3}$ of 6 =

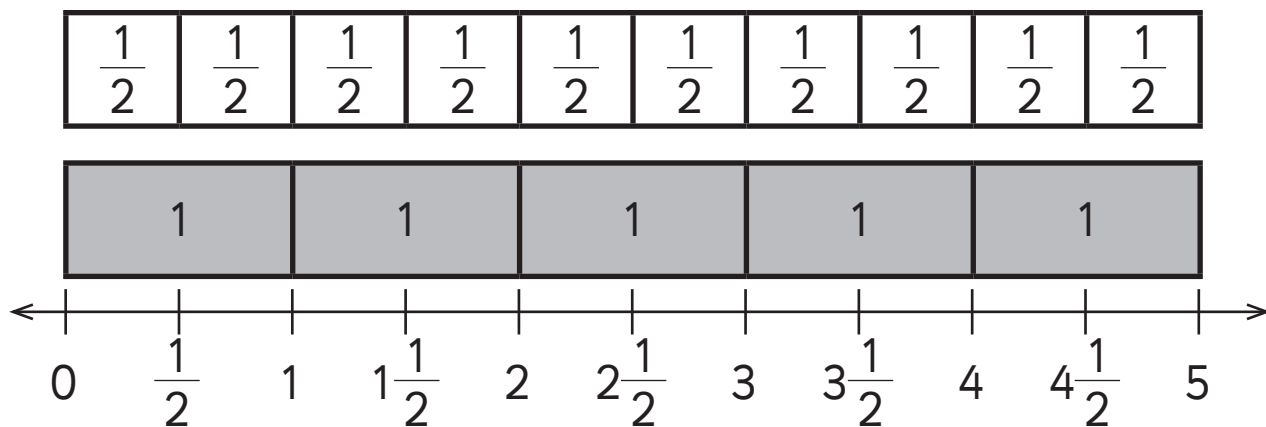
c $\frac{1}{3}$ of 9 =

d $\frac{1}{3}$ of 15 =

e $\frac{1}{3}$ of 18 =

f $\frac{1}{3}$ of 3 =

Fractions – counting in halves



We can use the number line to count in halves.

1 How many pieces are there?

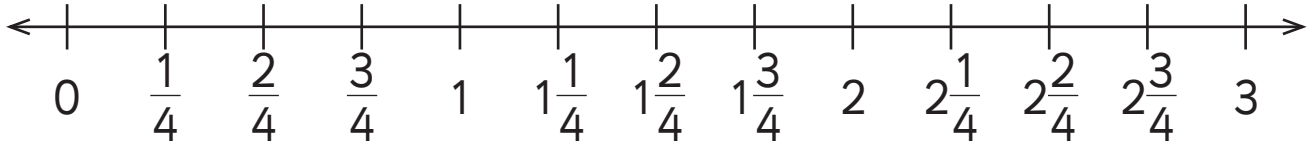
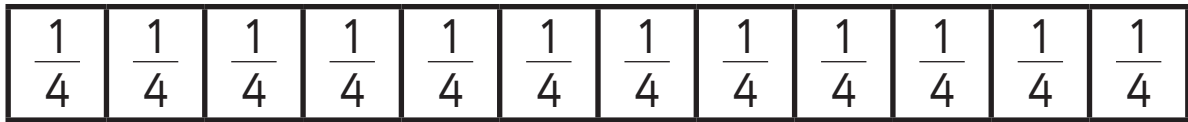
a

b

c

d

Fractions – counting in quarters



We can use the number line to count in quarters.

1 How many pieces are there?

a

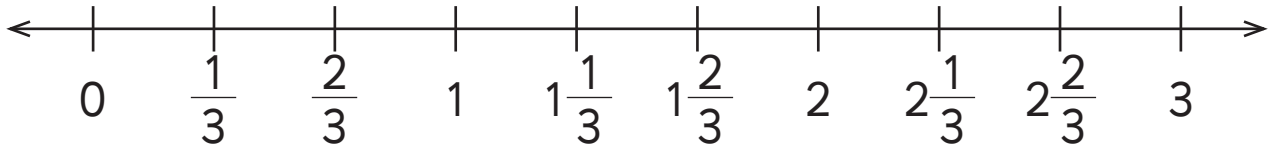
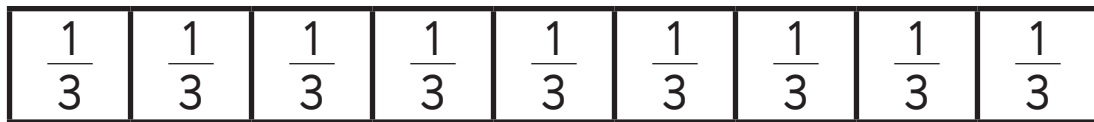
b

c

d

e

Fractions – counting in thirds



We can use the number line to count in thirds.

1 How many pieces are there?

a

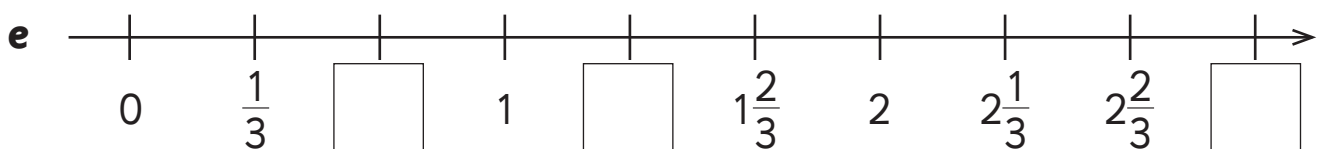
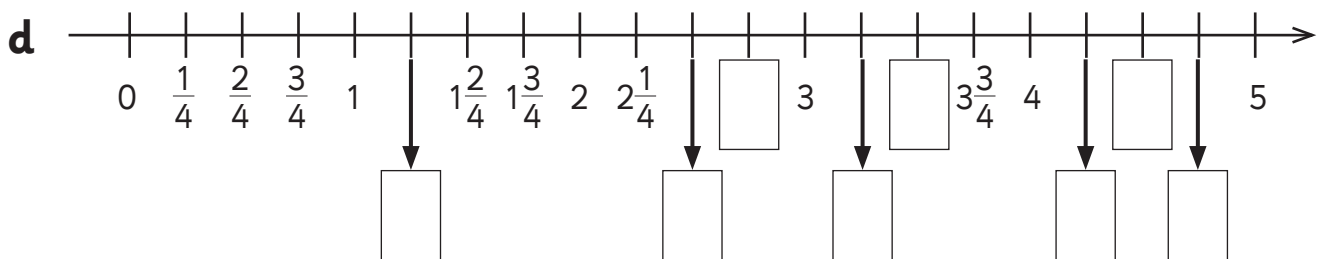
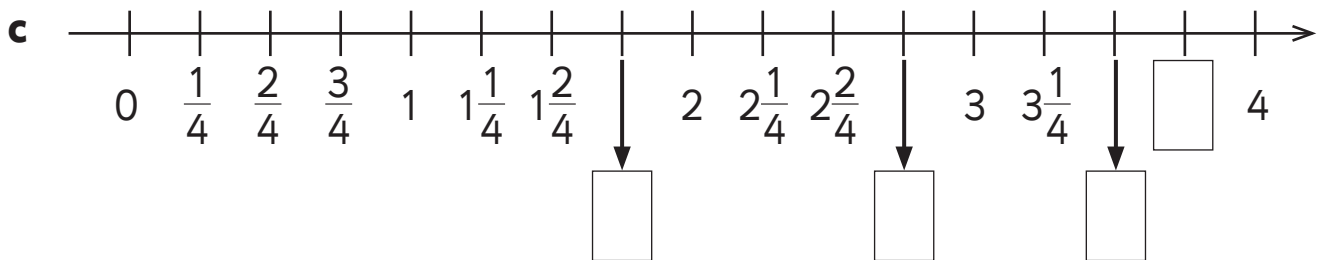
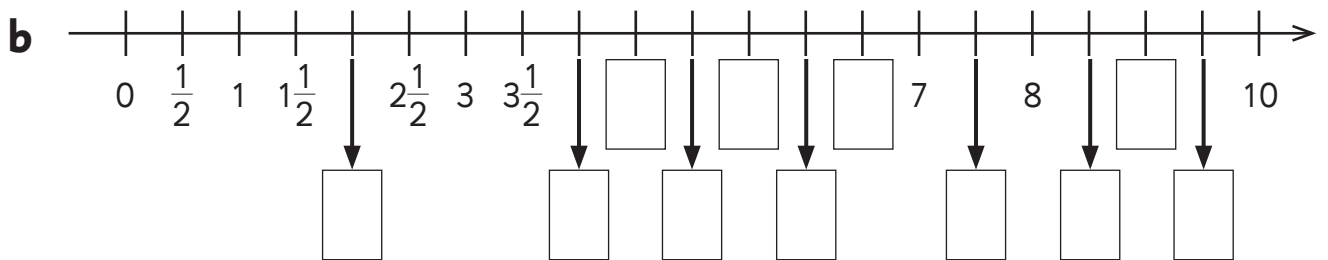
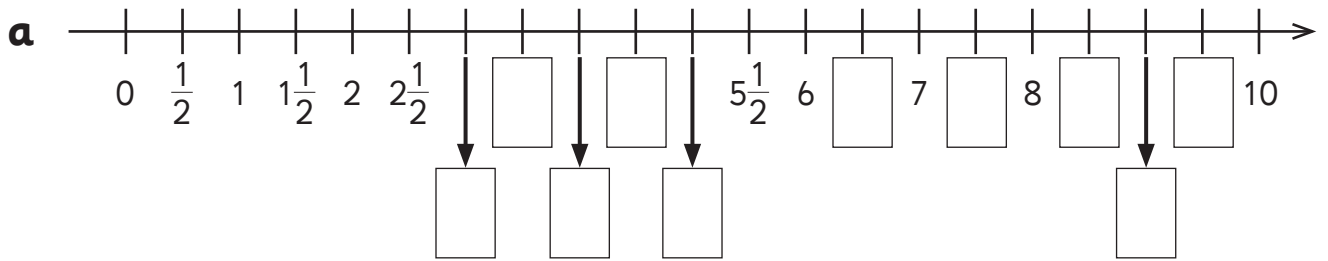
b

c

d

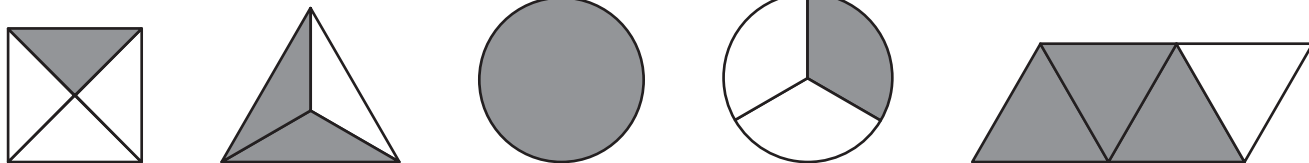
Fractions – counting on a number line

1 Count on the number line and fill in the missing numbers.



Fractions – writing fractions

1 Match the picture to the fraction.



$\frac{2}{3}$

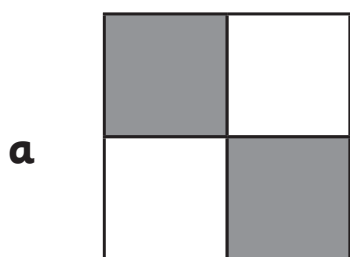
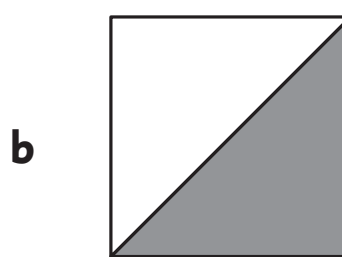
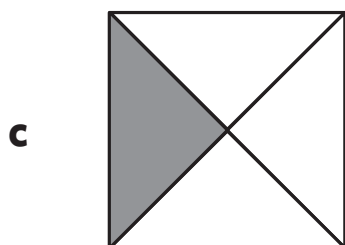
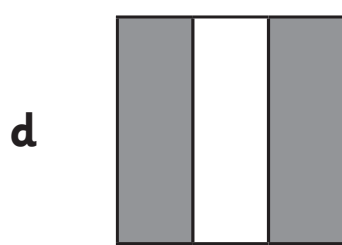
$\frac{3}{4}$

$\frac{1}{4}$

$\frac{1}{3}$

1

2 Write the fraction for the shape.


$$\frac{\square}{\square}$$

$$\frac{\square}{\square}$$

$$\frac{\square}{\square}$$

$$\frac{\square}{\square}$$