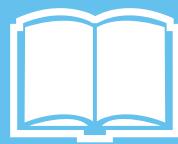


# Mathletics

Series



## Student



143 231 23 123  
219 214 142

## Numbers

My name



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# Series C – Numbers

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- exploring further \_\_\_\_\_ / /

Series Author:

Rachel Flenley

# Numbers to 999 – 2 digit revision

## 1 Continue the counting patterns.

a	19	<input type="text"/>	<input type="text"/>	27	<input type="text"/>	<input type="text"/>	36	<input type="text"/>	
		22							
		<input type="text"/>	24	<input type="text"/>		32	<input type="text"/>		
b		<input type="text"/>	80	<input type="text"/>		72	<input type="text"/>		
		82		<input type="text"/>			<input type="text"/>		
	85	<input type="text"/>	<input type="text"/>	77	<input type="text"/>	75	<input type="text"/>	68	<input type="text"/>

## 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 99 – 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?

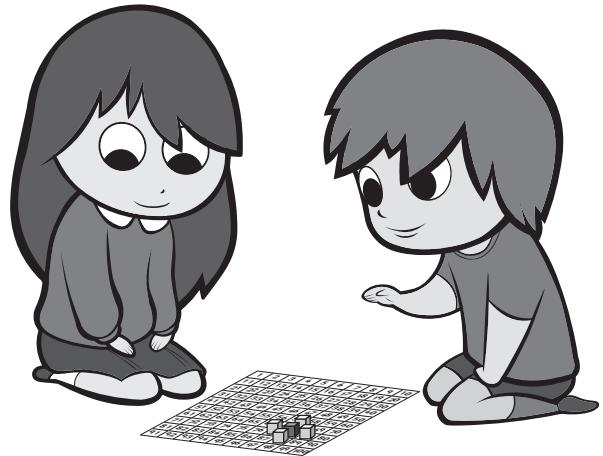
# Numbers to 999 – 2 digit revision

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 999 – counting by 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 999 – counting by 1s (continued)

- 4 Use the grid on page 4 to help you fill in the puzzle pieces.

a

111	112	
121		

b

121		

c

163		

d

128		

e

151		

f

		182

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

a

212	213	

These numbers  
are much  
bigger. How  
can the grid  
on page 4 help  
me with this?

b

325		
335		

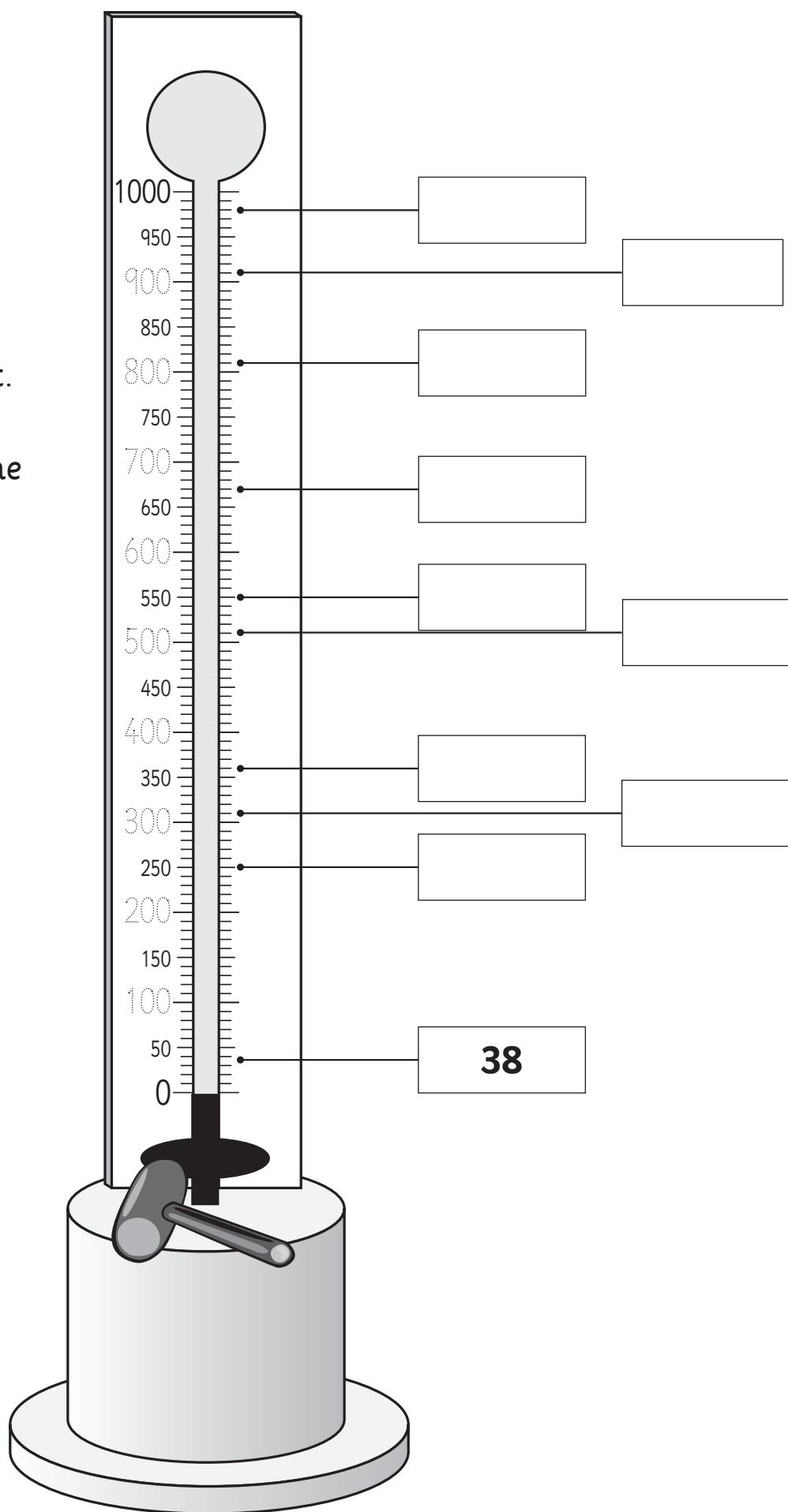
c

	507	508



# Numbers to 999 – counting by 1s

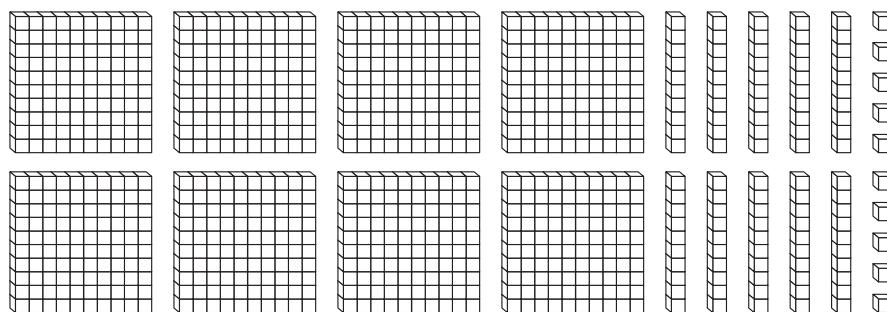
- 1 a Trace over the dotted numbers on this Strong Kid Striker.
- b In the boxes write a score that might fit. The first one has been done for you.



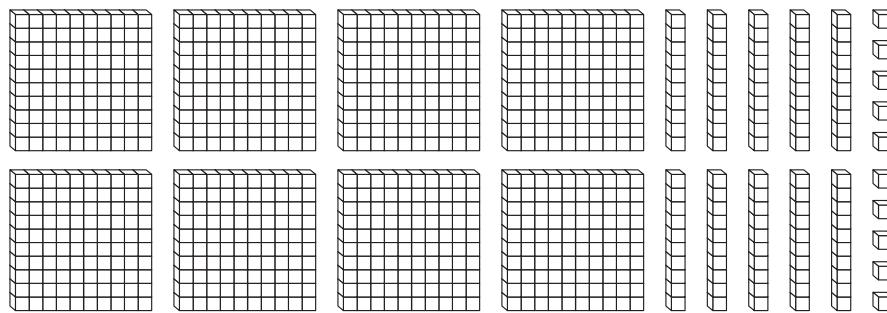
# Numbers to 999 – matching numbers to amounts

2 Colour the base-10 blocks to match the number.

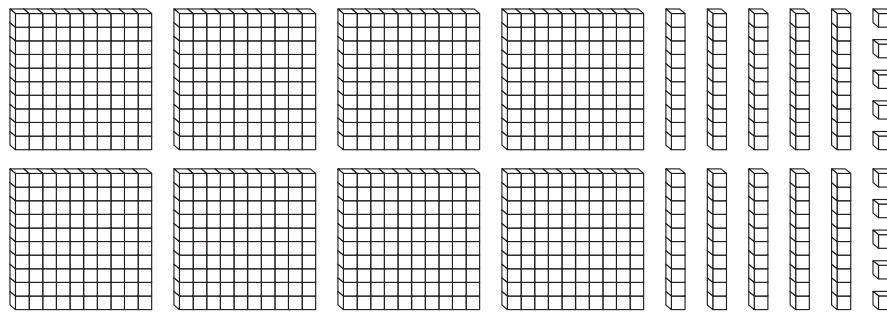
a **346**



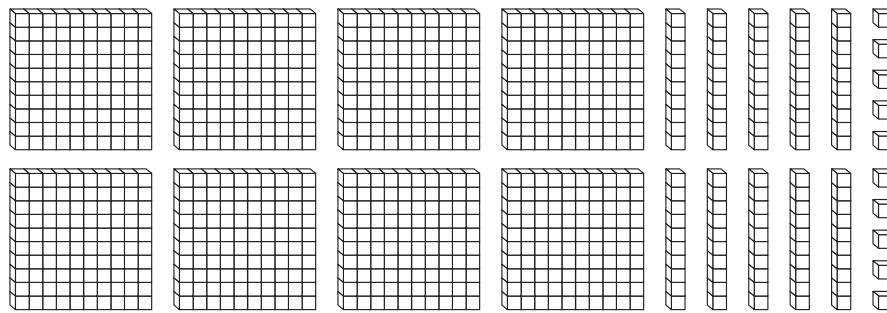
b **538**



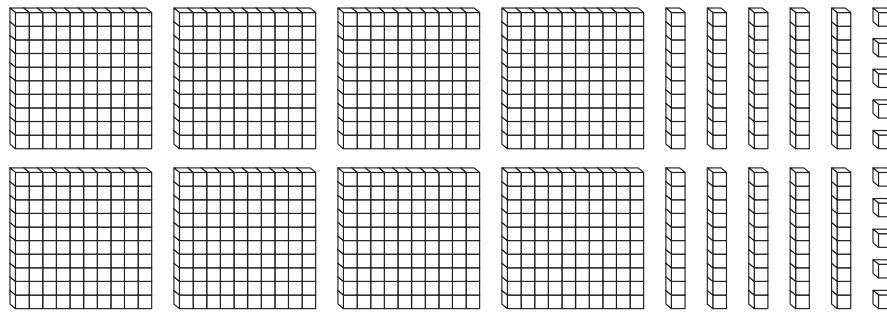
c **761**



d **111**



e **550**



# Numbers to 999 – matching numbers to amounts

You will need:  a partner  base-10 blocks

## What to do:

Decide who will go first. Player 2, write a number between 1 and 999 for Player 1 in their first box. Player 1, make the number with blocks. If it's right, Player 1, tick the number. Swap jobs. Can you both get 5 ticks?

Player 1 

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Make me 432!

Player 2 

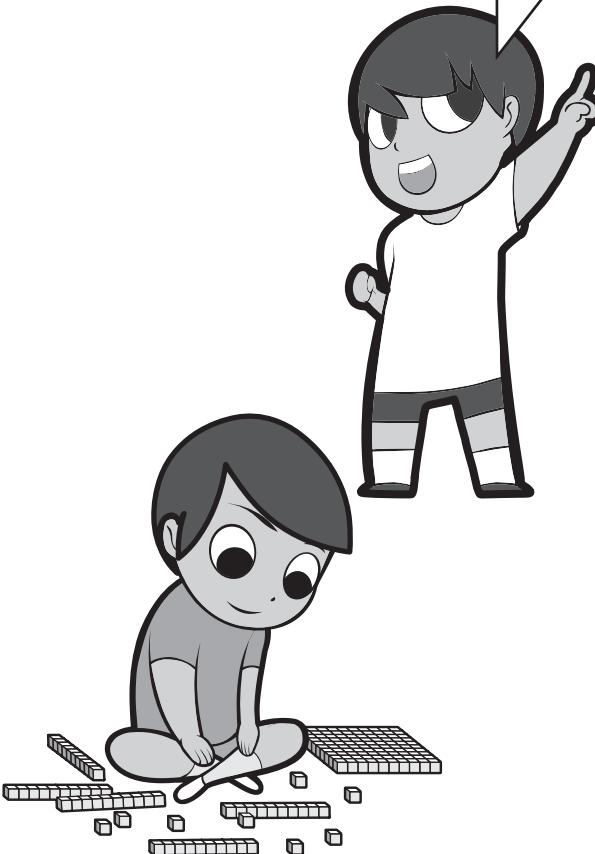
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## What to do next:

Join up with another pair. 1 player writes a number, the other 3 make it with blocks. One person puts out the hundreds blocks, one does the tens blocks and one does the ones blocks. For each correct answer the team scores 2 points. Can your team score 10 points?

# Numbers to 999 – 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 999 – matching numerals to words

You will need:  a partner



## What to do:

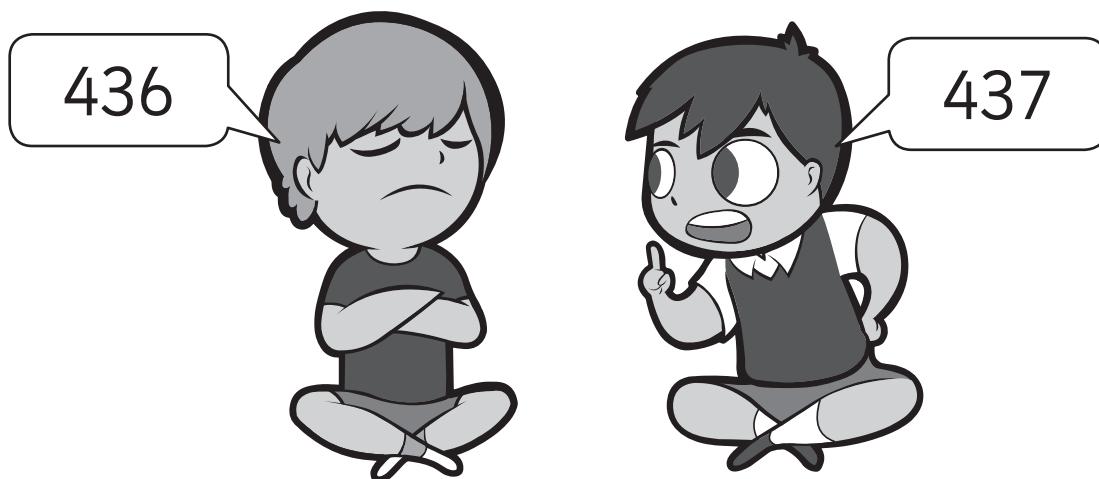
Finish writing the matching numbers. Cut out the boxes, mix them up and turn them face down. Take turns choosing 2 cards to turn over. If they match, you keep them. Who can collect the most pairs?

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 999 – counting from different starting points

1 Find a partner. Face each other. Choose one of the starting numbers from the list on the right and take turns saying the numbers until you reach the next hundred.

Say it like you are having an argument with each other OR you are having a conversation. Try it again using a different number and different expression.



134

241

331

423

750

838

922

2 Complete the number lines.

a

94	95	96						
----	----	----	--	--	--	--	--	--

A horizontal number line with 10 tick marks. Below it is a dashed box divided into 9 equal segments. The first three segments are labeled with the numbers 94, 95, and 96 respectively.

b

344	345			348			
-----	-----	--	--	-----	--	--	--

A horizontal number line with 8 tick marks. Below it is a dashed box divided into 7 equal segments. The first two segments are labeled with the numbers 344 and 345 respectively. The last segment before the final tick mark is labeled with the number 348.

c

496	497				501		
-----	-----	--	--	--	-----	--	--

A horizontal number line with 8 tick marks. Below it is a dashed box divided into 7 equal segments. The first two segments are labeled with the numbers 496 and 497 respectively. The last segment before the final tick mark is labeled with the number 501.

# Numbers to 999 – counting backwards

- 1 Climb down the counting ladders.

a

267

264

b

503

502

501

500

499

498

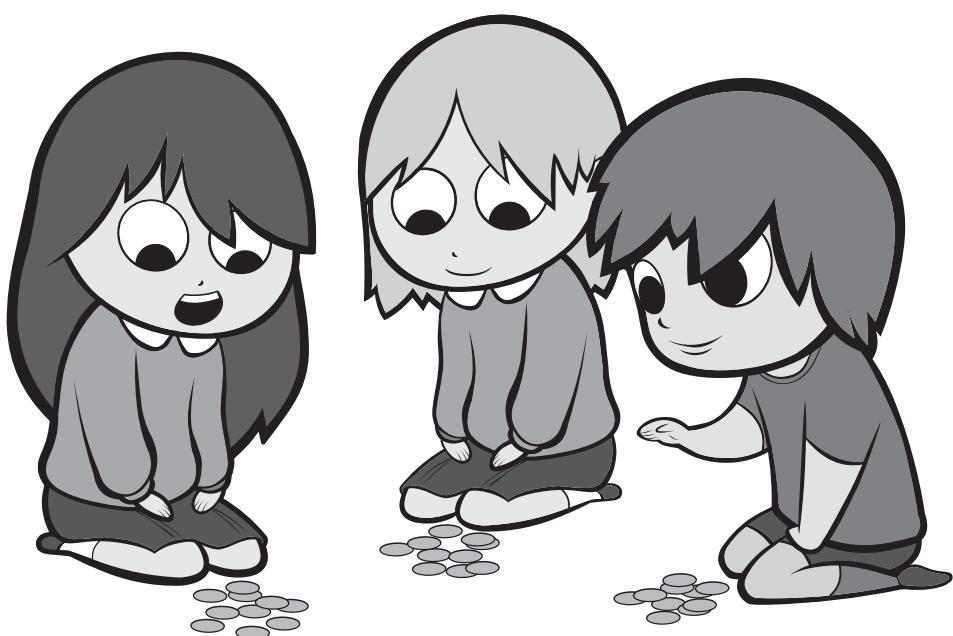
497

c

999

- 2 This is a game for 3 people. You each need 10 counters. Start at 200. Go round the group, taking turns saying the numbers all the way back to zero.

If you make a mistake, you lose a counter. Who has the most counters left when the group gets to zero?



# Numbers to 999 – counting backwards

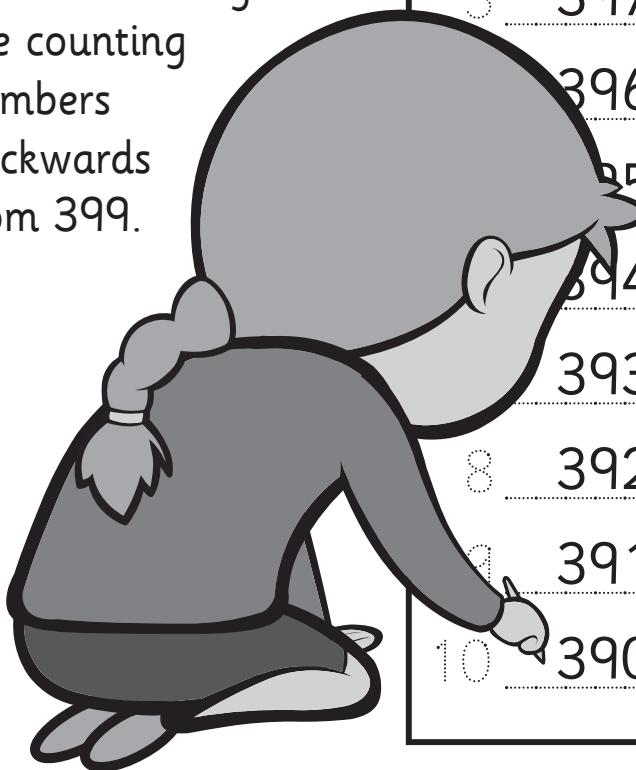
**You will need:**  a partner



## What to do:

Work with your partner to solve this problem.

Qin was writing all  
the counting  
numbers  
backwards  
from 399.



A handwriting practice sheet featuring the number 39. The page is divided into two columns by a vertical line. The left column contains ten rows for practicing the digit '3', and the right column contains five rows for practicing the digit '9'. Each row consists of a numbered box at the top, the digit itself in a large font in the middle, and three horizontal dotted lines for writing below it. A large, semi-transparent illustration of a cartoon character's head and shoulders is positioned on the left side of the page, facing right. The character has grey hair, wears glasses, and has a mustache.

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

Page 1

# 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.

1

# Numbers to 999 – location and order

You will need:



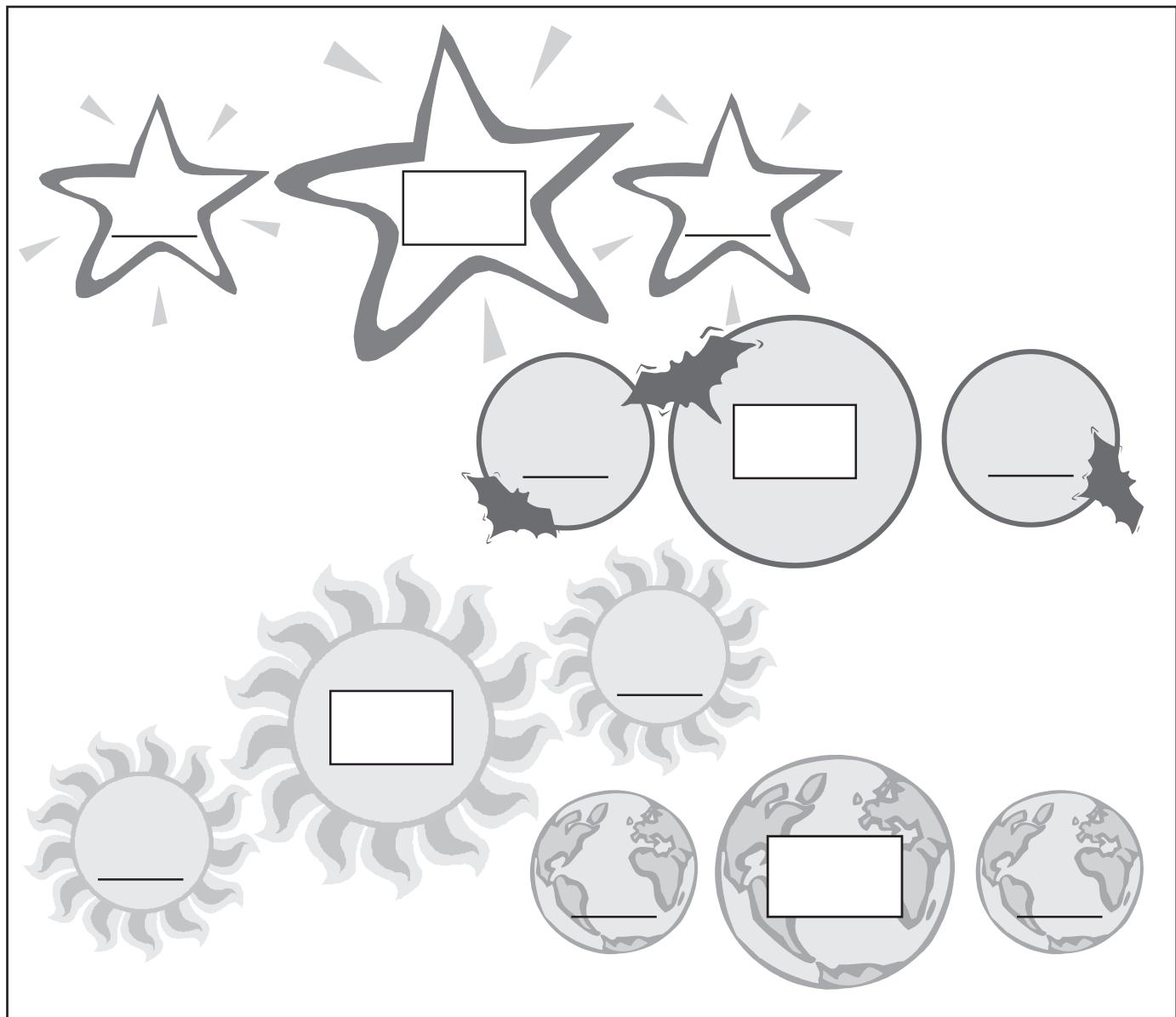
a partner



pencils

## What to do:

On your own page, write a number in the box of the biggest star, moon, sun and planet. Swap pages with your partner and write the numbers that come before or after each number in the smaller ones.

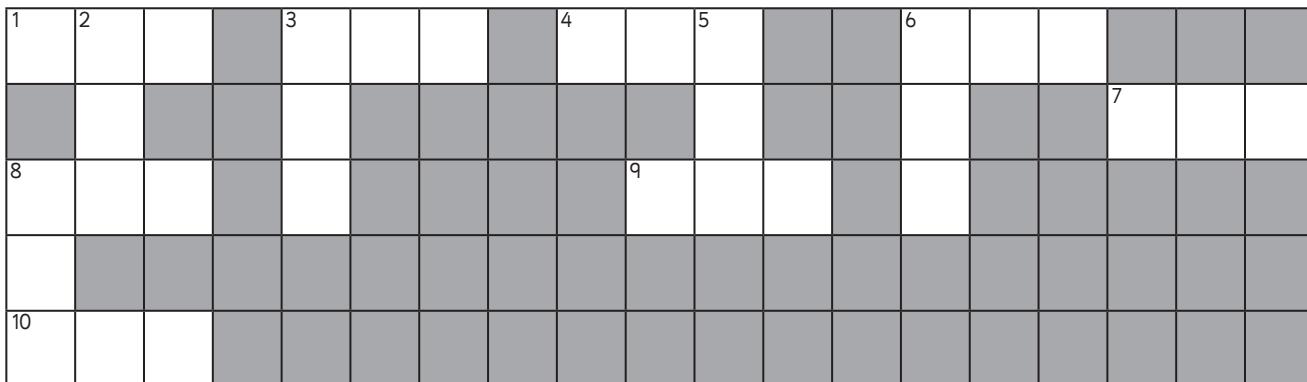


## What to do next:

Finish colouring your sky.

# Numbers to 999 – location and order

- 1 Complete the number crossword.



## Across

1. The number after 285
3. The number before 400
4. The number before 463
6. The number before 790
7. The number after 888
8. The number after 499
9. The number after 109
10. The number before 1000

## Down

2. The number between 849 and 851
3. The number after 344
5. The number before 222
6. The number after 729
8. The number before 520

- 2 Play this game with a partner. On each other's page, write a number between 0 and 999 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?

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

# Numbers to 999 – 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 999 – more than and less than

This sign can be used to compare the size of numbers.

>

It looks a little bit like an open mouth.

The big end gobbles up the bigger number!

It can point < or >

1 Circle the bigger number in each pair.

a 3 10

b 11 15

c 21 7

d 55 45

e 87 103

f 91 191

g 11 21

h 46 113

i 29 192

2 Look at the pairs of numbers below. They are the same numbers as before. Put a < or > to show which number in the pair is bigger. The first one has been done for you.

a 3  < 10

b 11  15

The big end  
gobbles up the  
bigger number!

c 21  7

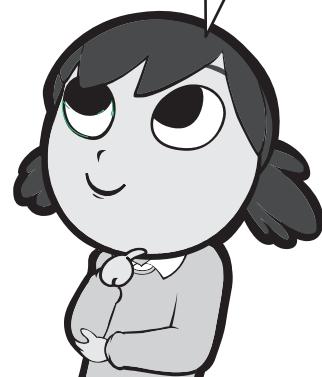
d 55  45

e 87  103

f 91  191

g 11  21

h 46  113



# Numbers to 999 – more than and less than

You will need:



a partner



scissors



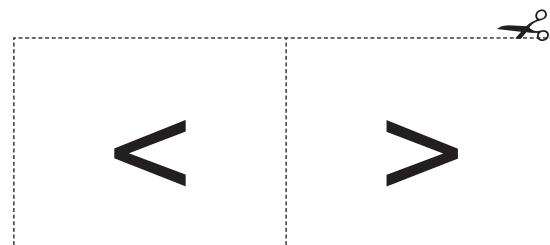
10 popsticks



## What to do:

Cut out the numbers and the signs. Keep the signs separate. Shuffle the numbers and put them in a pile. Decide who will go first.

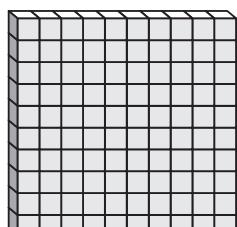
Player 1, turn over two numbers. Choose the correct sign to put between the two numbers. If you are right, Player 2 will pay you a popstick. Swap jobs. The first person to get 5 popsticks is the winner. If you run out of cards, shuffle them and use them again or make some more.



356	245	254	250	365
237	247	257	267	268
826	827	527	742	350
299	200	454	264	300

# Place value to 999 – matching numbers to amounts

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



hundred



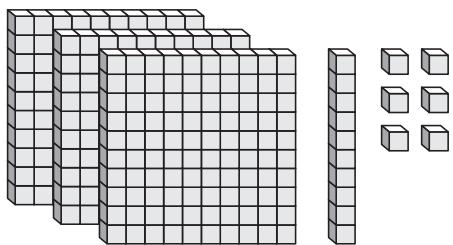
ten



one

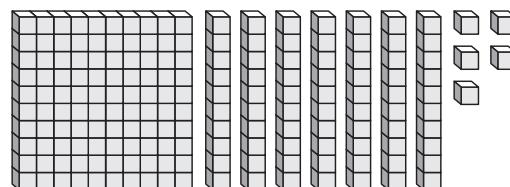
1 How many? Write the number to match the amount.

a

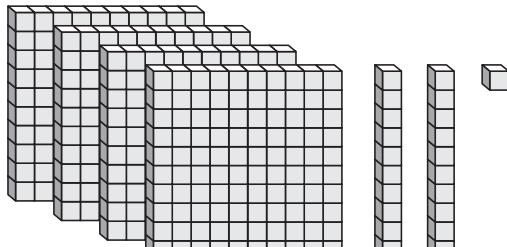


316

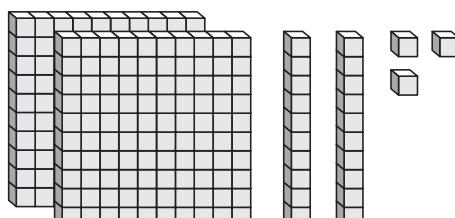
b



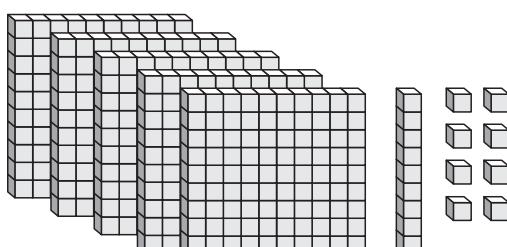
c



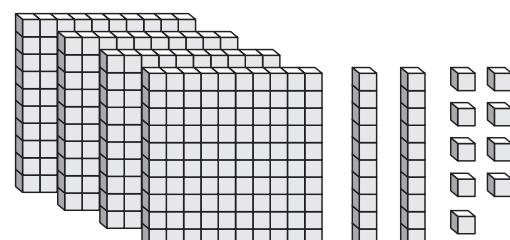
d



e



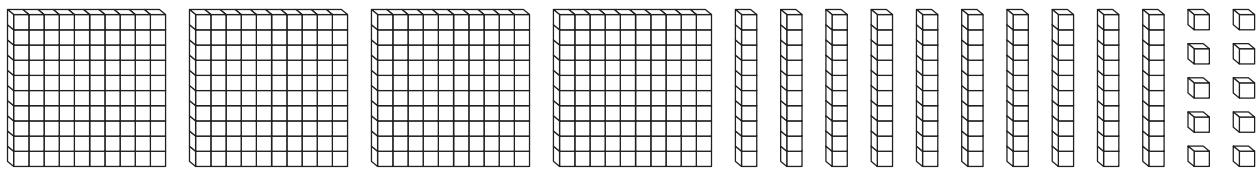
f



# Place value to 999 – matching numbers to amounts

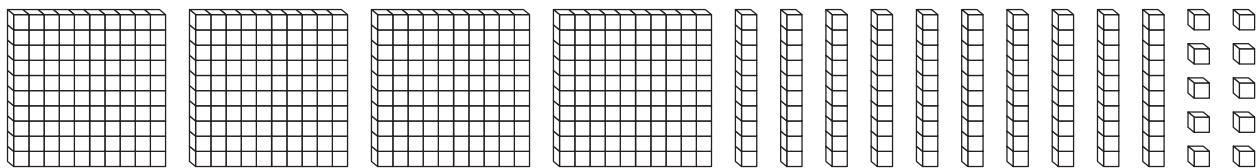
1 Colour the right number of blocks to match the number.

a



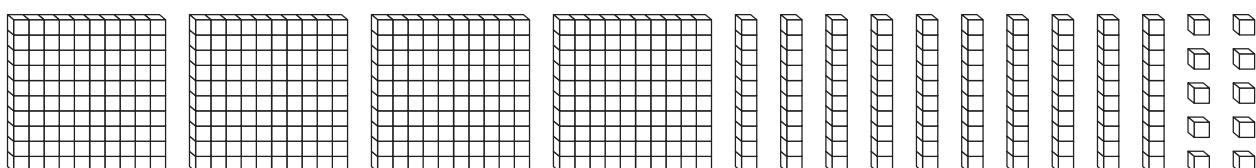
286

b



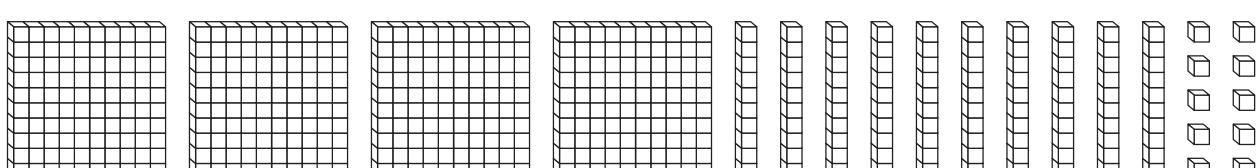
425

c



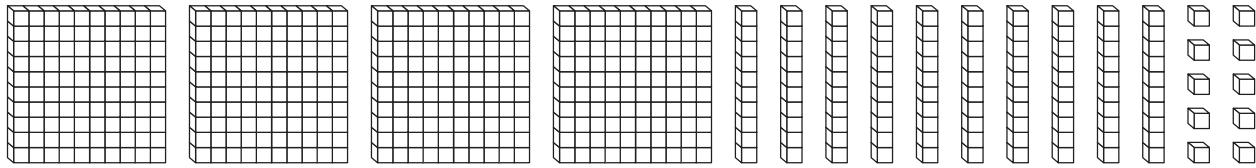
198

d



295

e

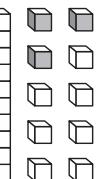
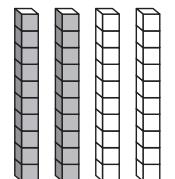
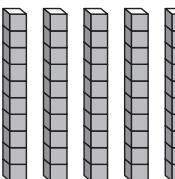
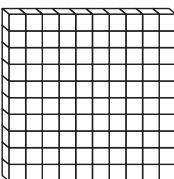
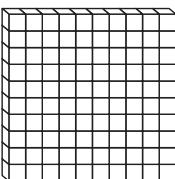
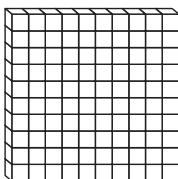
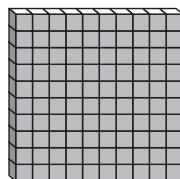


331

# Place value to 999 – matching numbers to amounts

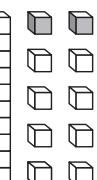
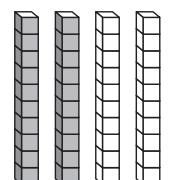
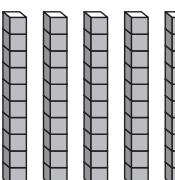
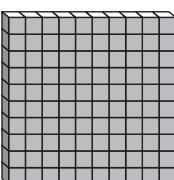
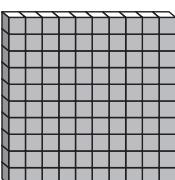
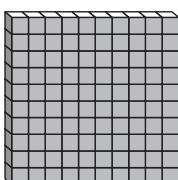
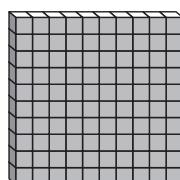
- 1 Wally, our work experience boy, tested this page for us. We think he may have got a little carried away with his colouring. Check each one and put a cross through any blocks that shouldn't be coloured.

a



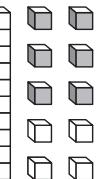
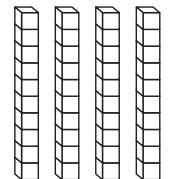
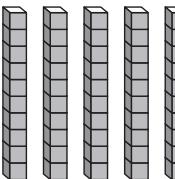
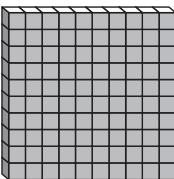
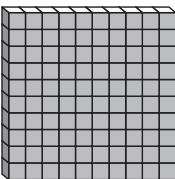
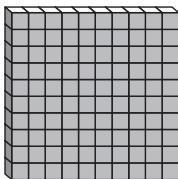
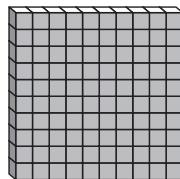
153

b



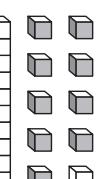
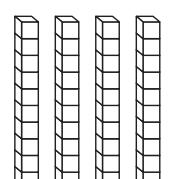
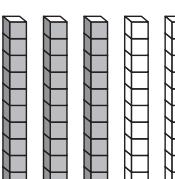
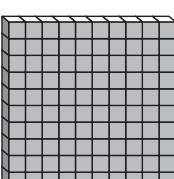
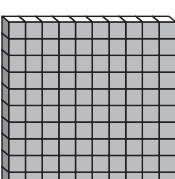
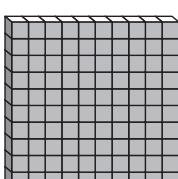
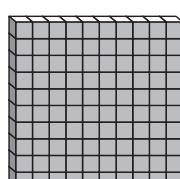
272

c



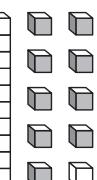
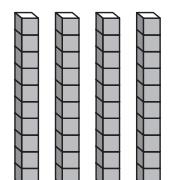
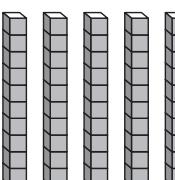
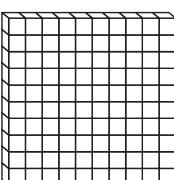
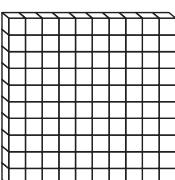
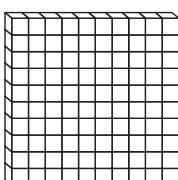
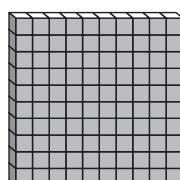
355

d



409

e



139

## Place value to 999 – matching numbers to amounts

**You will need:**  a partner  base-10 blocks



## base-10 blocks

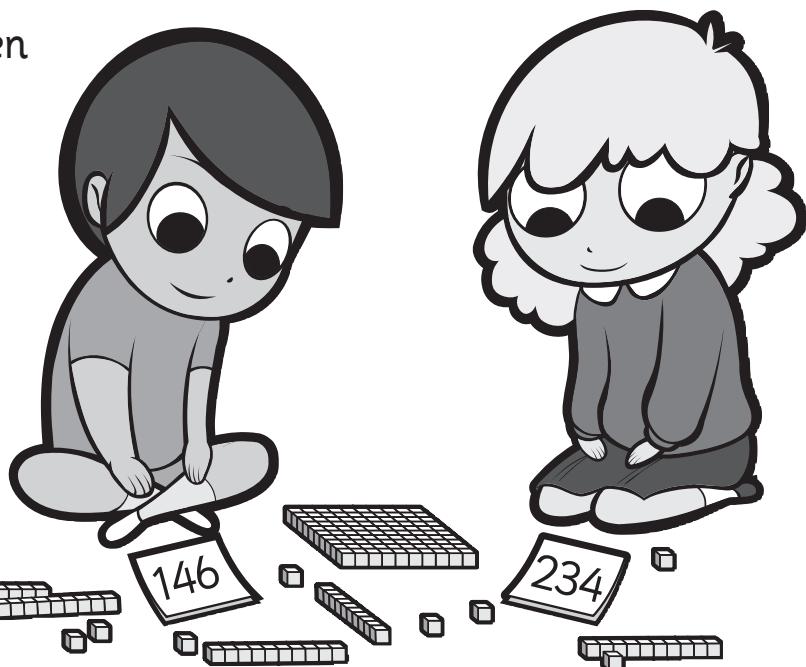


## What to do:

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.

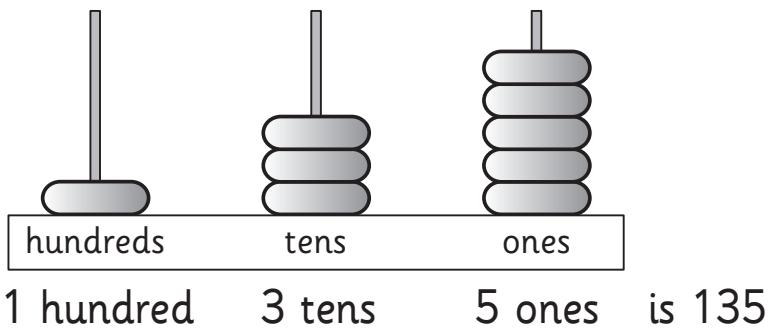
If you need to, use the free point card to help you score an extra point! 



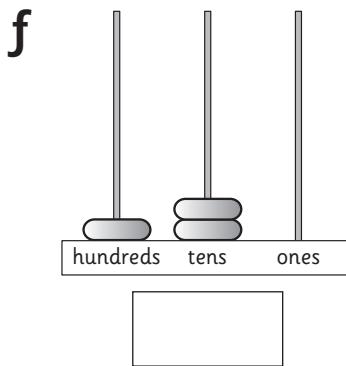
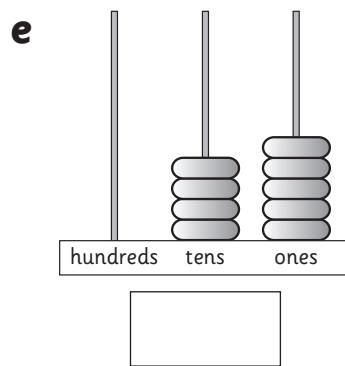
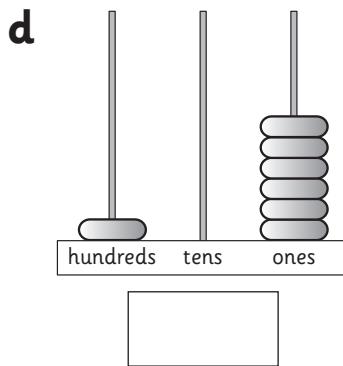
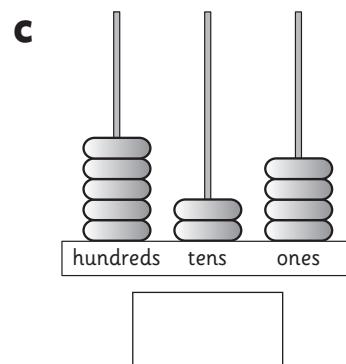
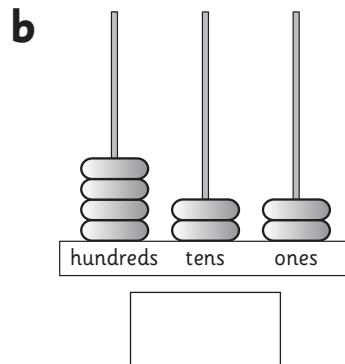
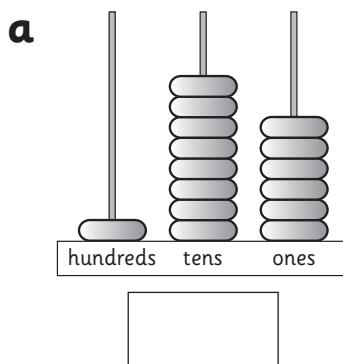
Free point

# Place value to 999 – matching numbers to amounts

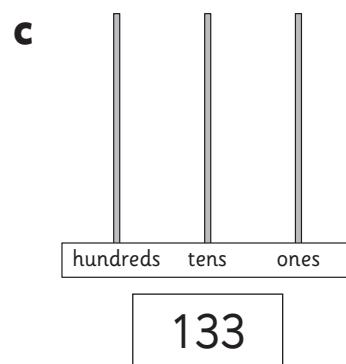
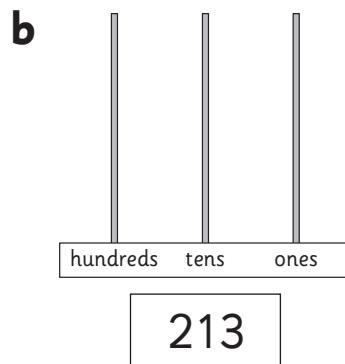
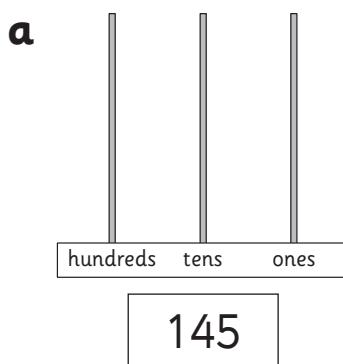
We can use an abacus to show hundreds, tens and ones.



1 What numbers have been made on these abacuses?

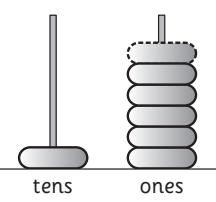


2 Draw beads to show these numbers on the abacuses.

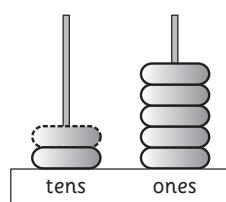


# Place value to 999 – matching numbers to amounts

If we add one bead to the ones peg on this abacus, we make the number 16.

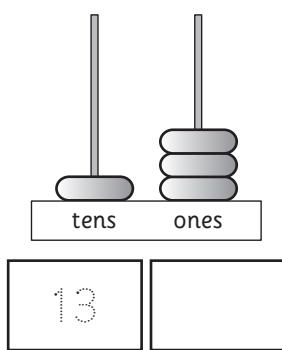


If we add the bead to the tens place instead, we make the number 25.



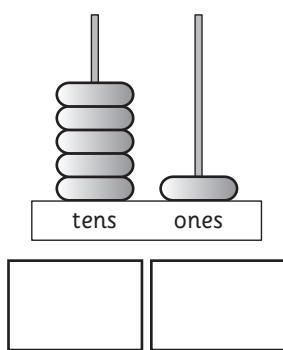
- 1 Write the numbers shown on each abacus in the left box. Add a bead to the ones peg on these abacuses and record the number you have made in the right box.

a



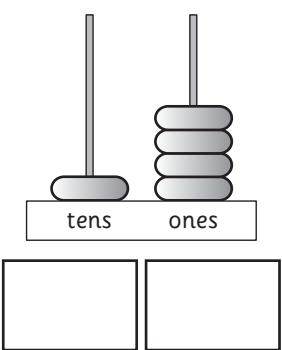
13

b



tens      ones

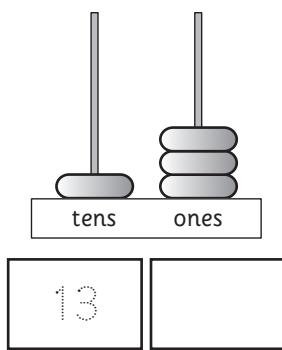
c



tens      ones

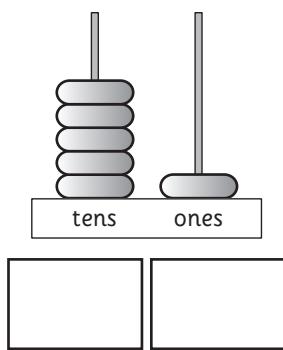
- 2 Write the numbers shown on each abacus in the left box. Now add a bead to the tens peg on the abacuses and record the new number you have made in the right box.

a



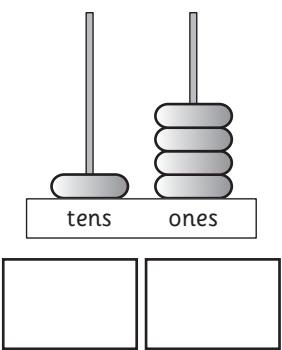
13

b



tens      ones

c



tens      ones

- 3 Can you do it in your head? Add a one and a ten to these numbers.

a

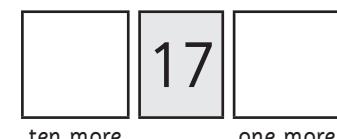


ten more

24

one more

b

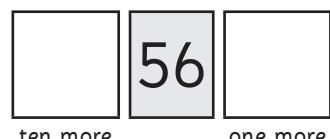


ten more

17

one more

c



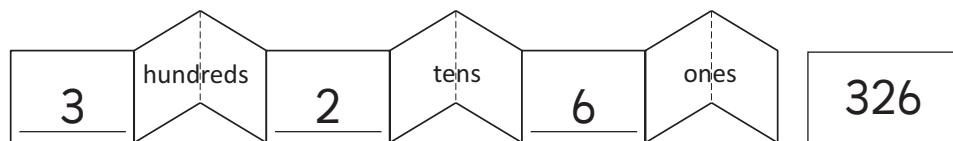
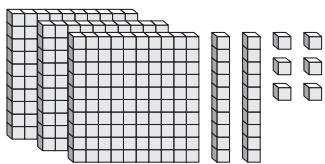
ten more

56

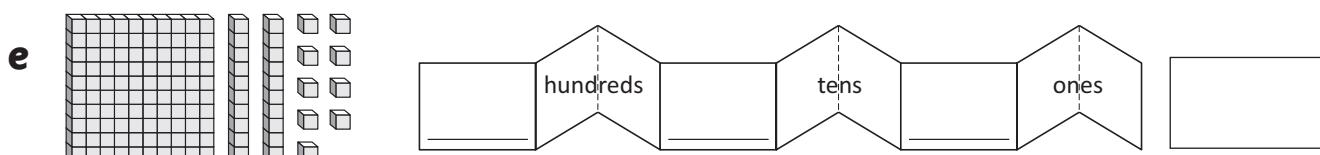
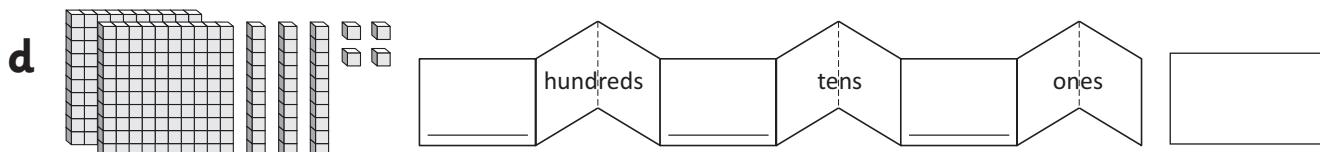
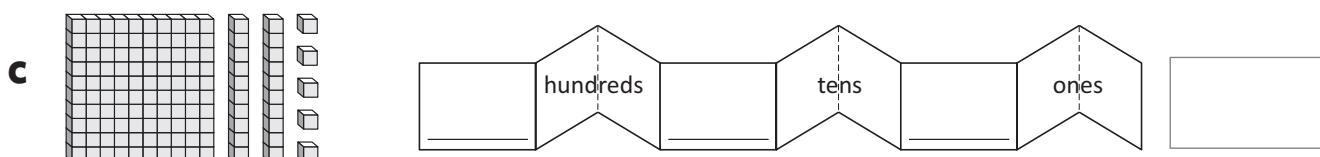
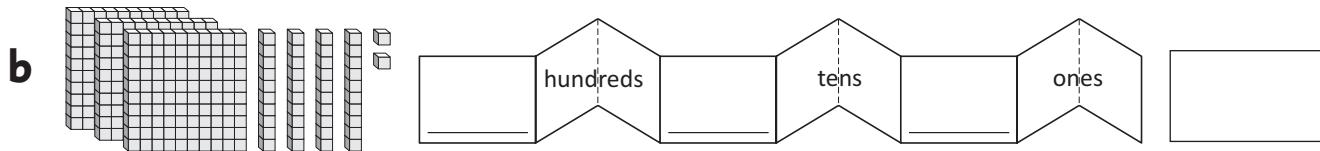
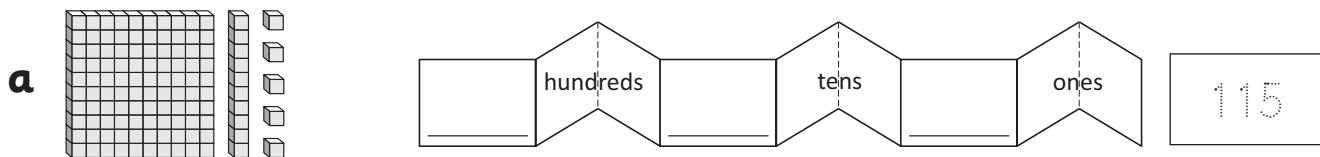
one more

# Place value to 999 – using numeral expanders

We can use numeral expanders to help us express the value of digits in numbers.

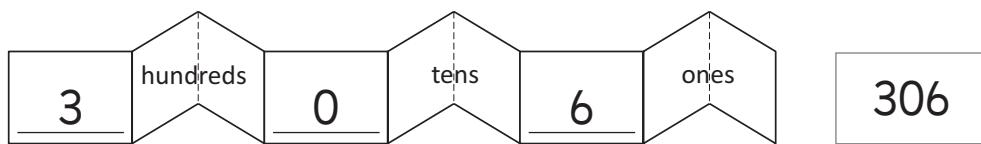
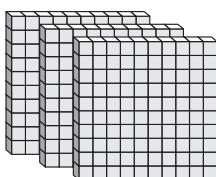


1 Fill in the missing information.



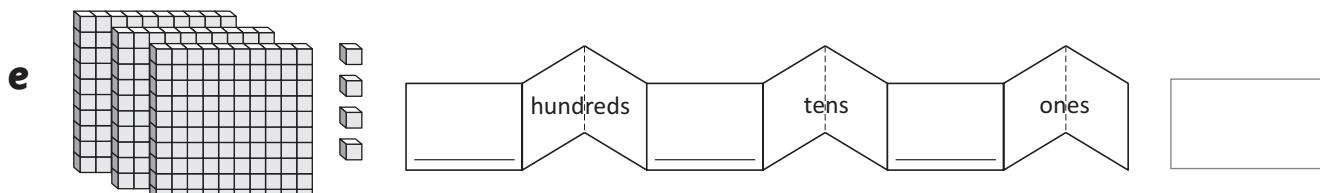
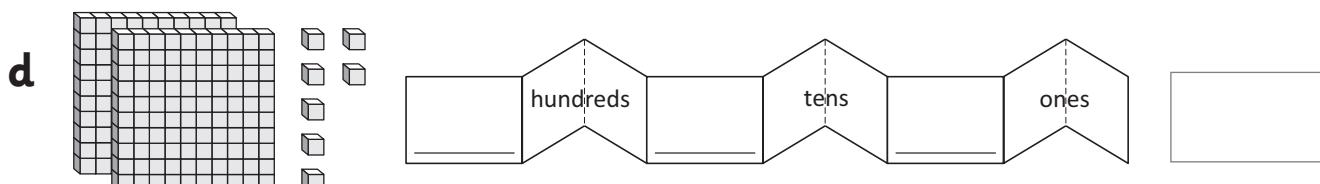
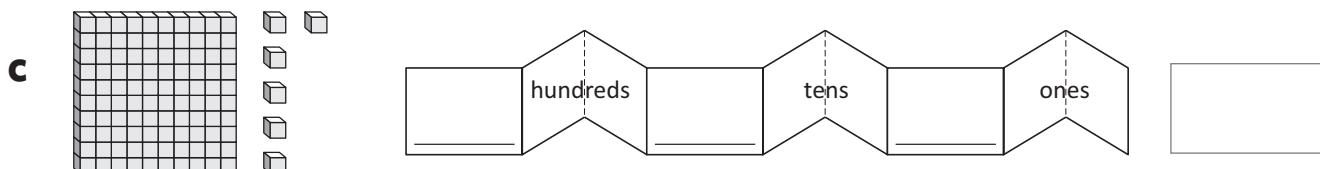
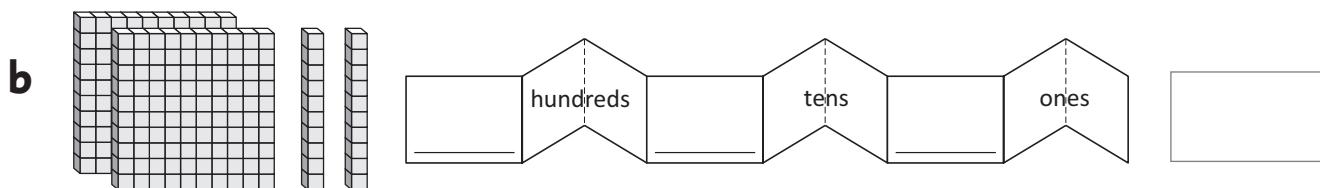
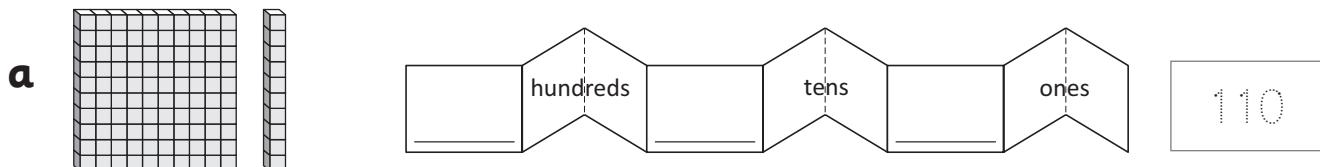
# Place value to 999 – zero as place holder

We use a zero to record when there are no tens or units in a number.



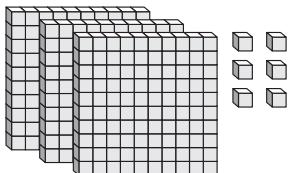
There are 3 hundreds 0 tens and 6 ones.

- 1 Write the number and fill in the numeral expander. Make sure you put in the zero if you need to!



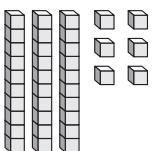
# Place value to 999 – zero as place holder

If we don't put in the zero, we write the wrong number.



Here are 3 hundreds, 0 tens and 6 ones.

This is **306**. If we leave out the zero, we write 36.

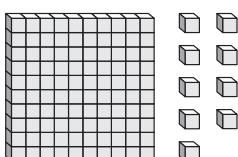


This is **36**.

It is not the same as 306.

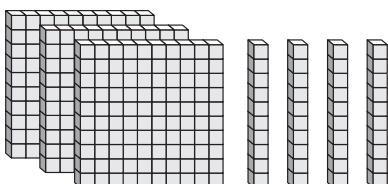
- 1 Wally, our work experience boy, has made a few mistakes again. He has left out or misplaced the zeros in these numbers. Write the numbers correctly for him.

a



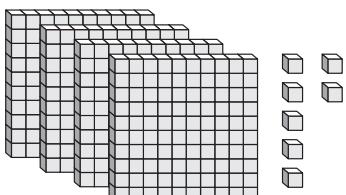
19

b



34

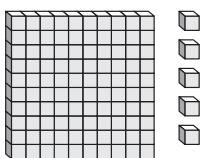
c



47

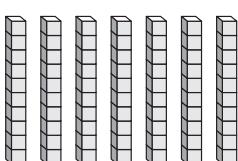


d



150

e



7

# Place value to 999 – 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"/>

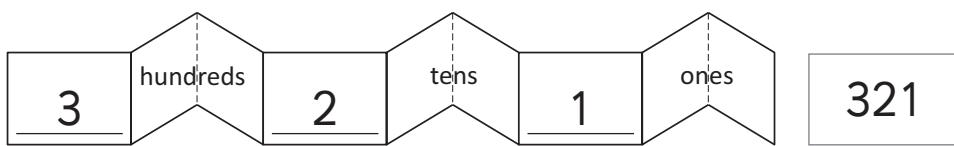
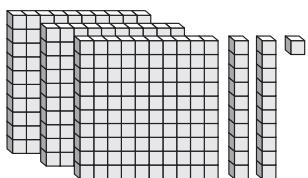
2 Play this game with a partner.

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 999 – identifying the value of digits

What is the value of the 2 in 321?



The 2 is in the tens position. There are 2 tens. The value of the 2 in 321 is 20.

1 Use the numeral expander to help you name the values.

- a The 4 is in the  tens position. The value of the 4 is
- b The 8 is in the  position. The value of the 8 is
- c The 1 is in the  position. The value of the 1 is
- d The 5 is in the  position. The value of the 5 is



hundreds

tens

ones

# Place value to 999 – exploring further

You will need:



a partner



base-10 blocks

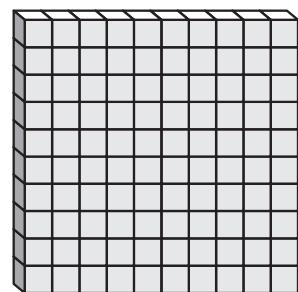
## What to do:

Your teacher asks you to make 23 with base-10 blocks. You know that 2 tens and 3 ones make 23.

Unfortunately all the tens blocks  are used up. Work out and record how you can make 23 without them.

## What to do next:

This time you need to make 130. You know that 1 hundred and 3 tens make 130. All the hundreds blocks are used up. Work out and write how you could make 130 without them.



# Place value to 999 – exploring further

You will need:



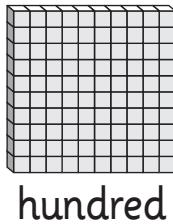
a partner



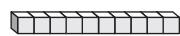
base-10 blocks

## What to do:

Usually we use the blocks like this to show hundreds, tens and ones.



hundred

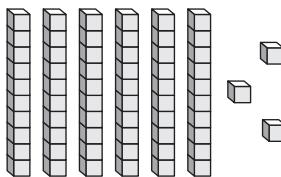


ten



one

We make 63 like this.



But imagine that one day, ALL the ones blocks in the world disappeared. Gone, forever.

**How would you show 63 now?** You will have to change the block system. Record your idea below.

---

## What to do next:

How will you make 125 with your new system?

# Place value to 999 – exploring further

**You will need:**  a partner



## What to do:

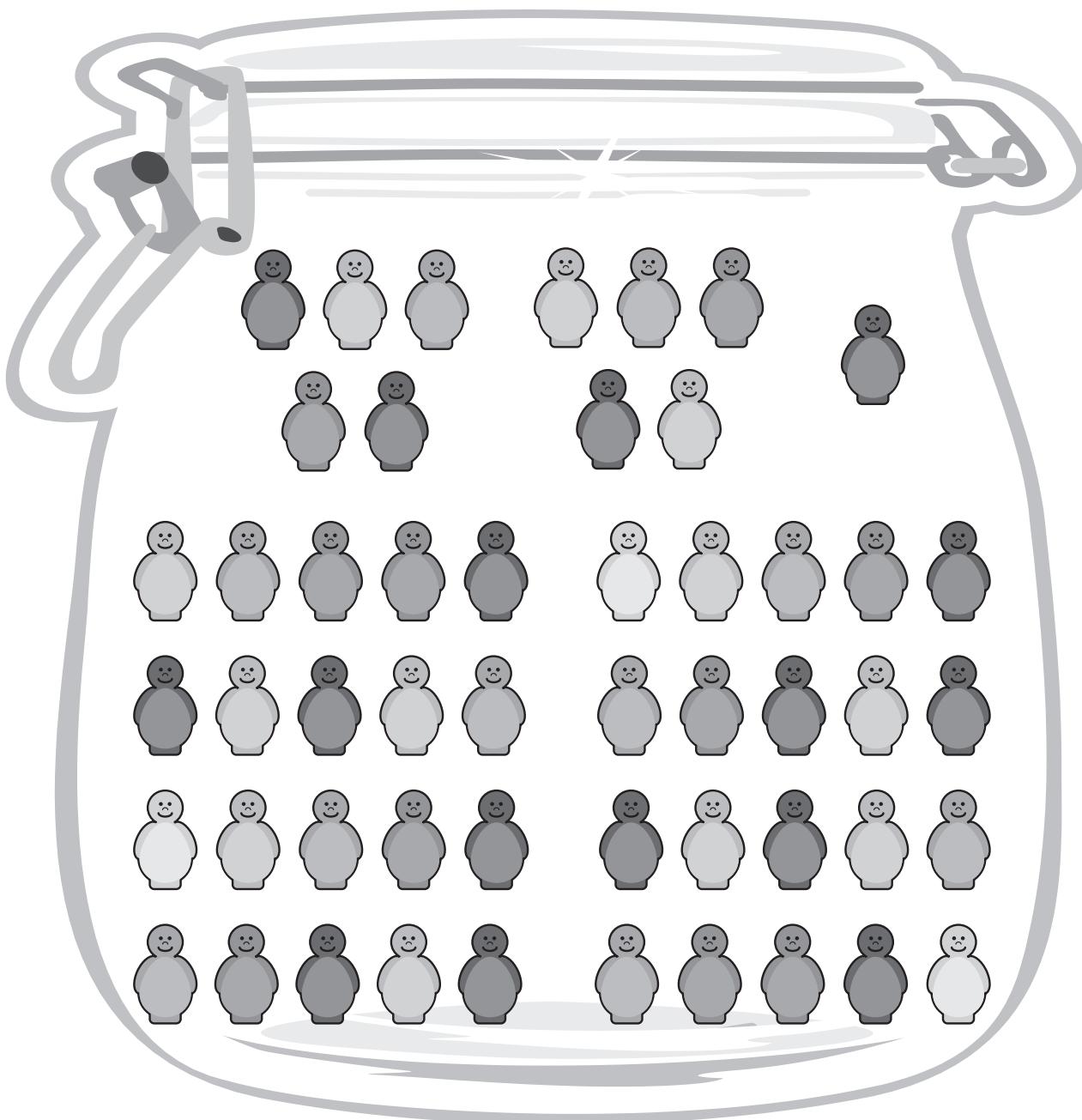
Work with your partner to solve these problems.

# 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 Guess 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.



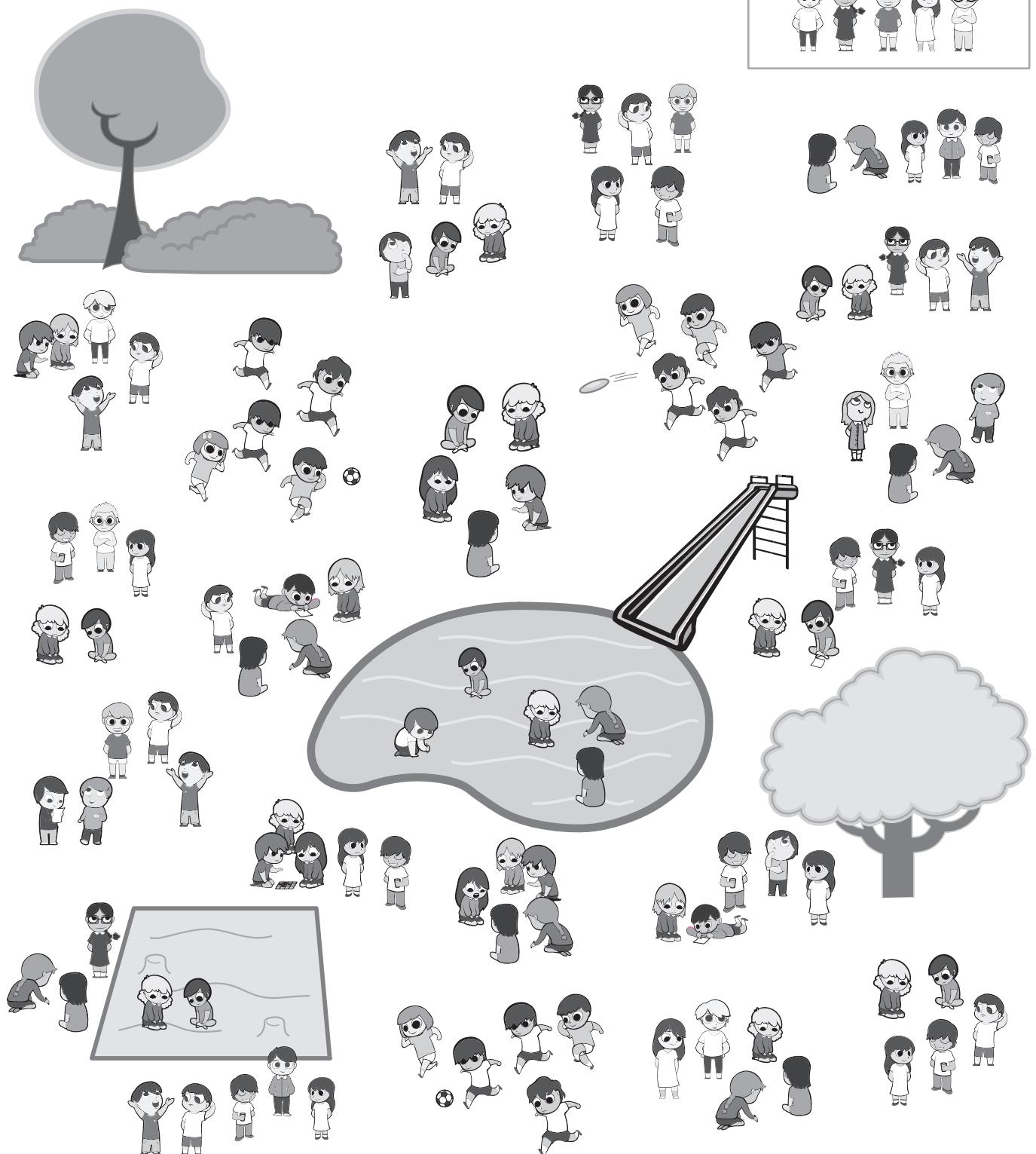
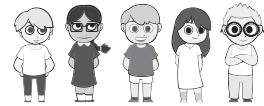
guess

check

# Number sense – estimate

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

This is what  
5 children look like.



guess

check

# Number sense – estimate

You will need:



a partner



20 Unifix cubes



a cover

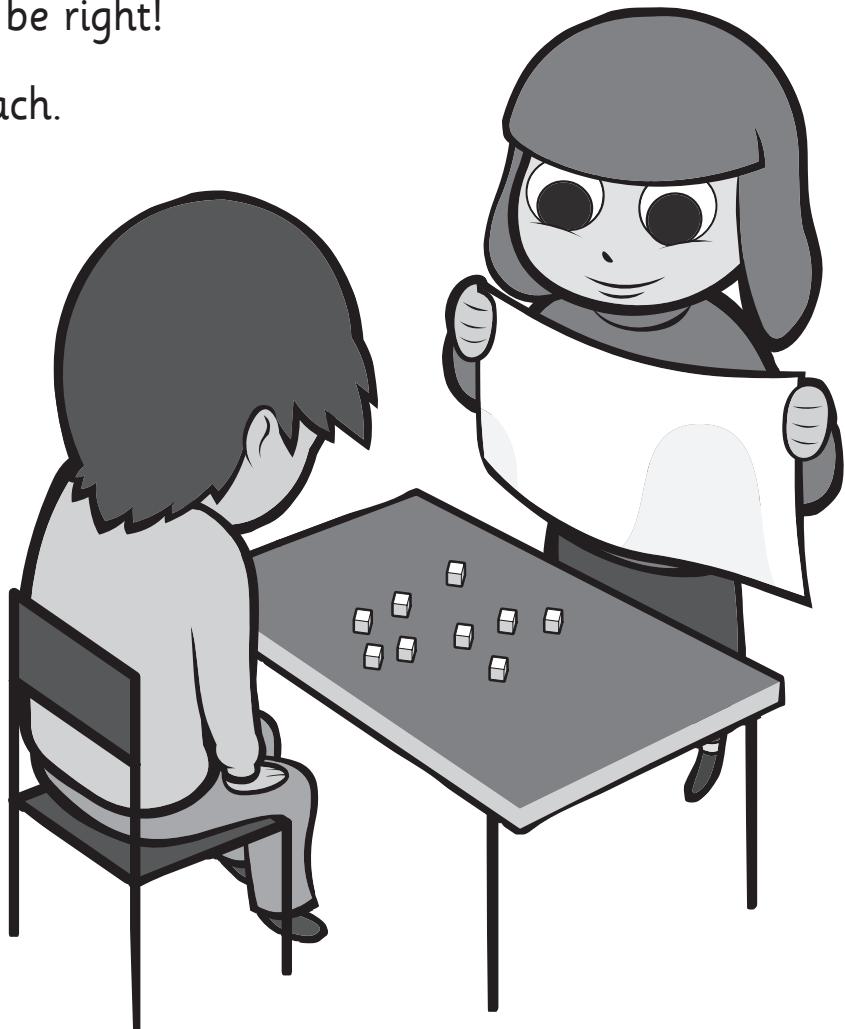
## What to do:

Decide who will go first. Player 2, close your eyes. Player 1, spread out up to 20 Unifix 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 Unifix 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



## 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.



3

4

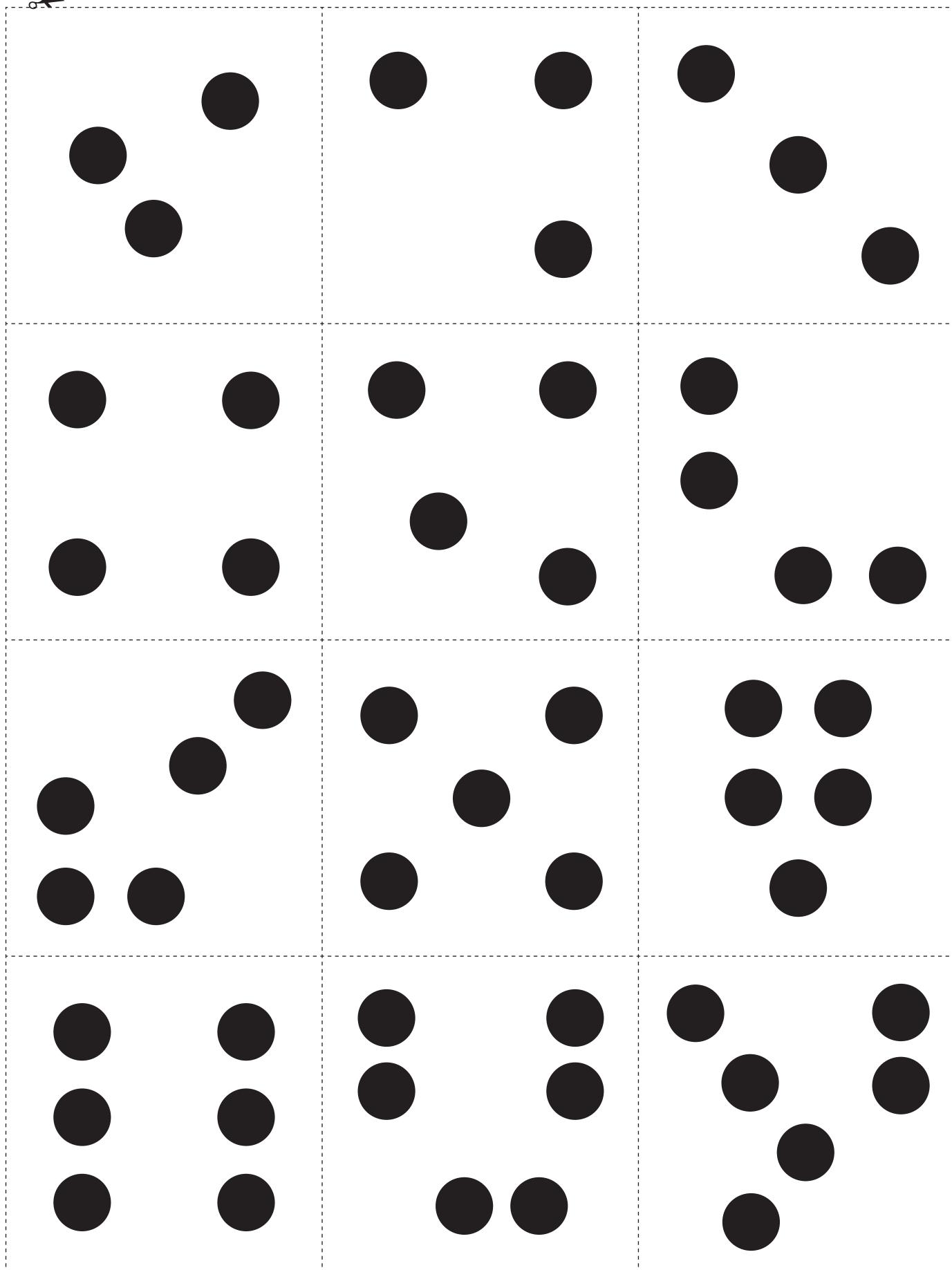
5

6

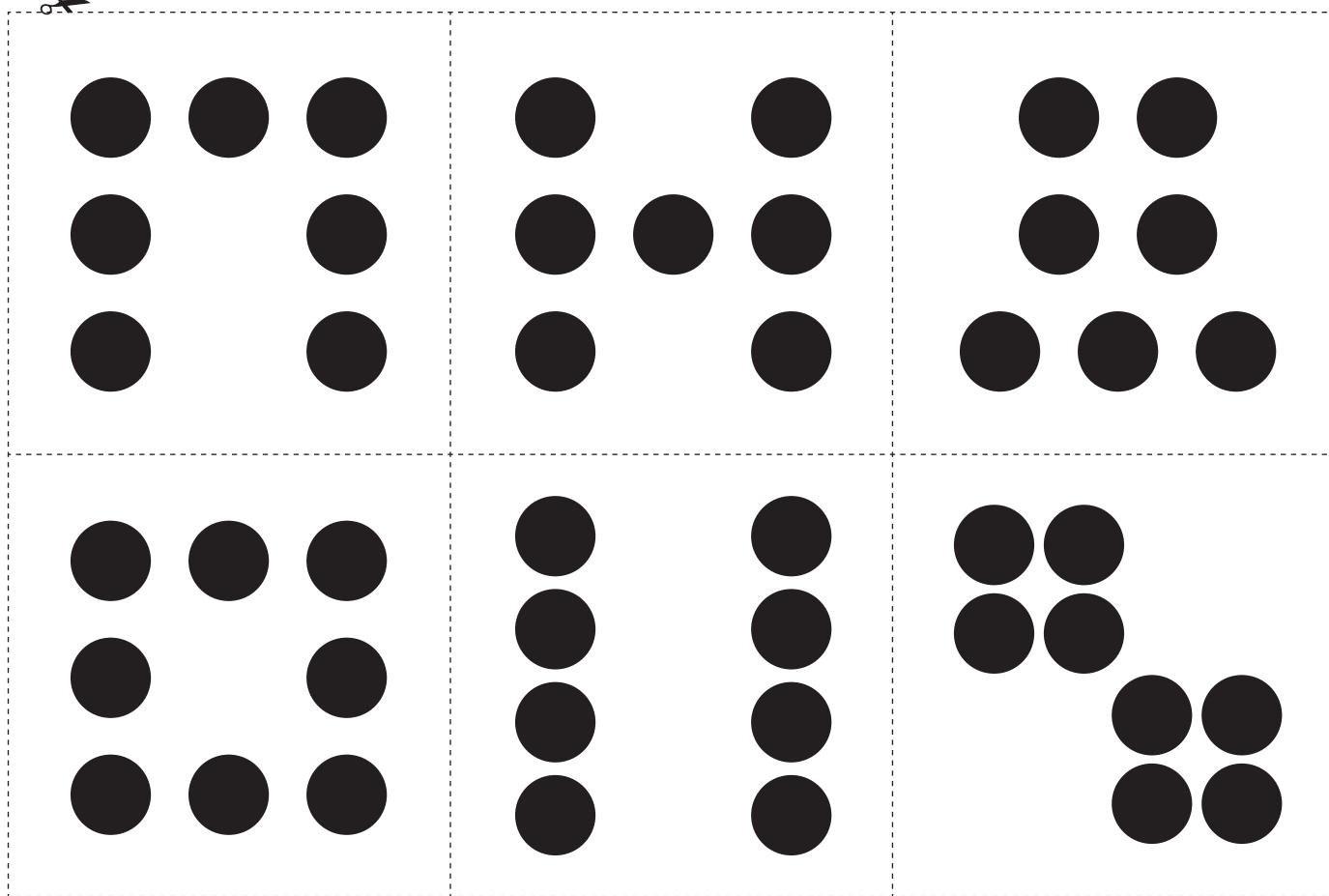
7

8

# Number sense – estimate (continued)



# Number sense – estimate (continued)



**Watch out!**  
This game is  
**fast and furious.**

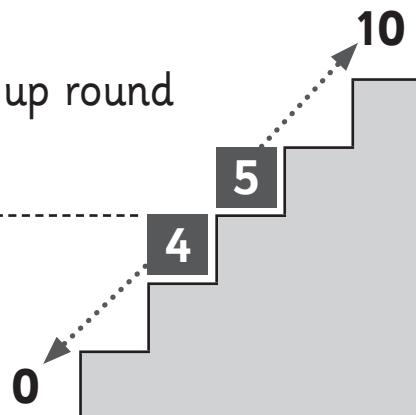


# Number sense – rounding

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

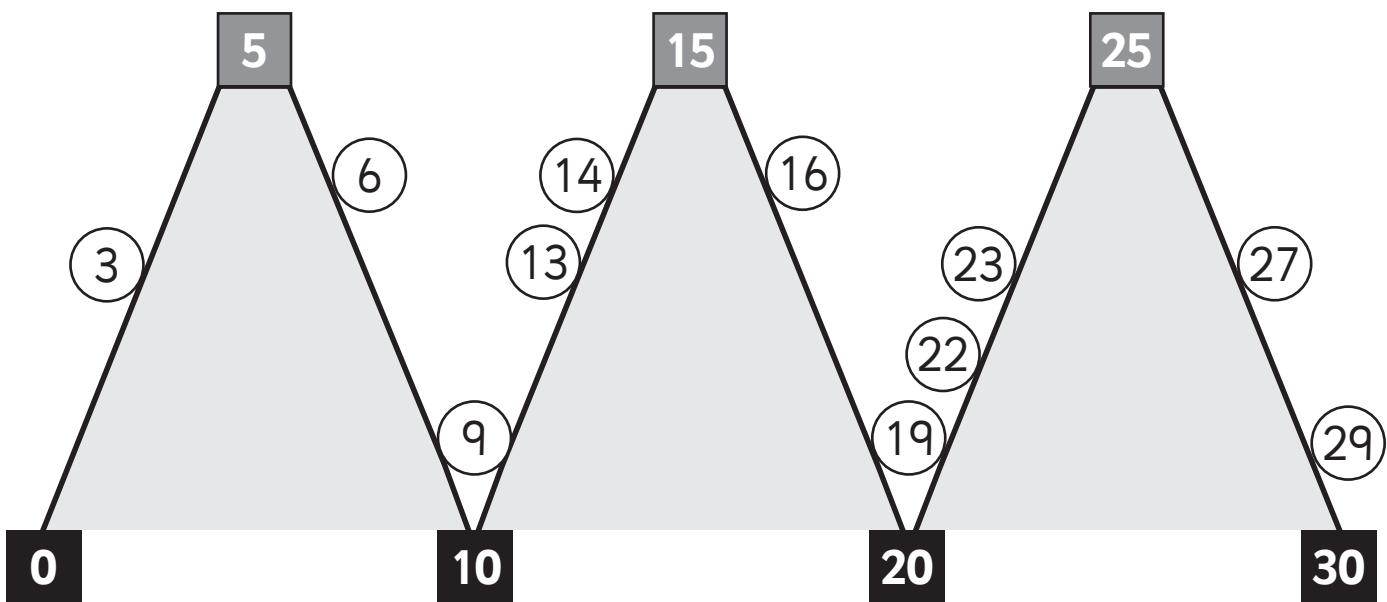


zero



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

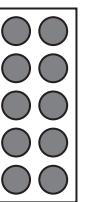
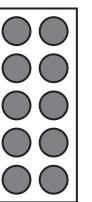
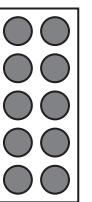
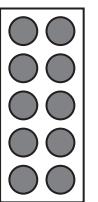
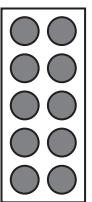
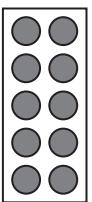
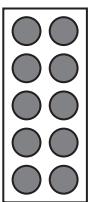
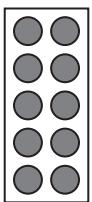
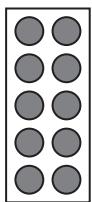
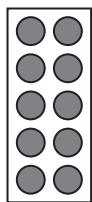
b  36 rounds to

c  42 rounds to

d  28 rounds to

# Skip counting – by 10s on decade

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



10

20

60

2 Guess the secret number.

- a You say me when you count by tens. I am more than 30.  
I am less than 50.

I am

- b You say me when you count by tens. I am the 7th number you say when you start at 10.

I am

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

a



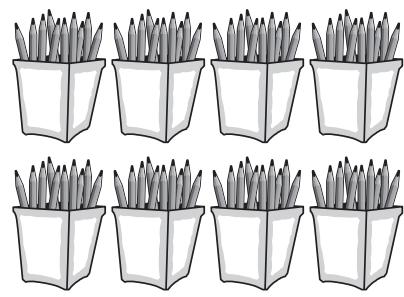
b



c



d



# Skip counting – by 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 – by 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 by 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 – by 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
31		33		35		37		39
41		43		45		47		49

What were you counting by?

I was counting by

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



# Skip counting – by 2s

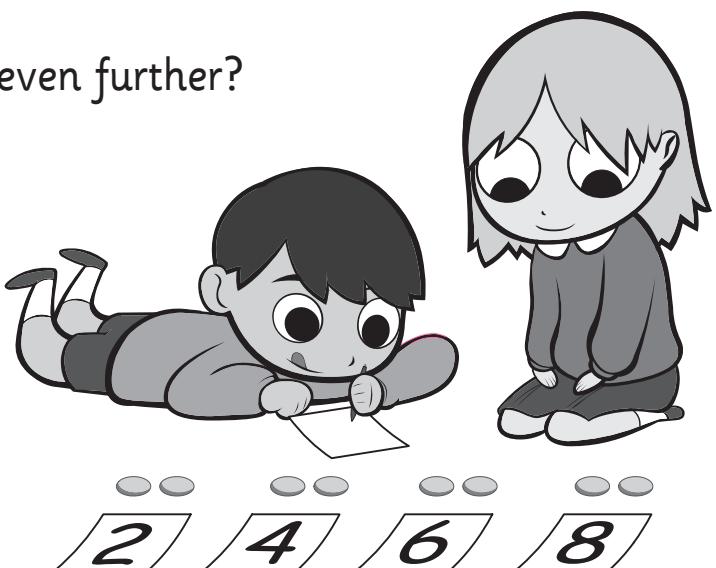
**You will need:**  a partner  lots of counters or blocks  
 sticky notes

## 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 – by 5s

- 1 Finish the counting by 5s pattern.

5	10	15									
---	----	----	--	--	--	--	--	--	--	--	--

- 2 Help! These ladybirds have lost their spots.

- a Give each ladybird 5 spots.



- b Count by 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 – by 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 by 2s give it a yellow stripe.
- If you say the number when you count by 5s give it a green stripe.
- If you say the number when you count by 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 – by 2s, 5s and 10s

1 Continue these backwards patterns. Count by

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.

I can

a Count back in 10s from 100

b Count back in 5s from 50

c Count back in 2s from 20

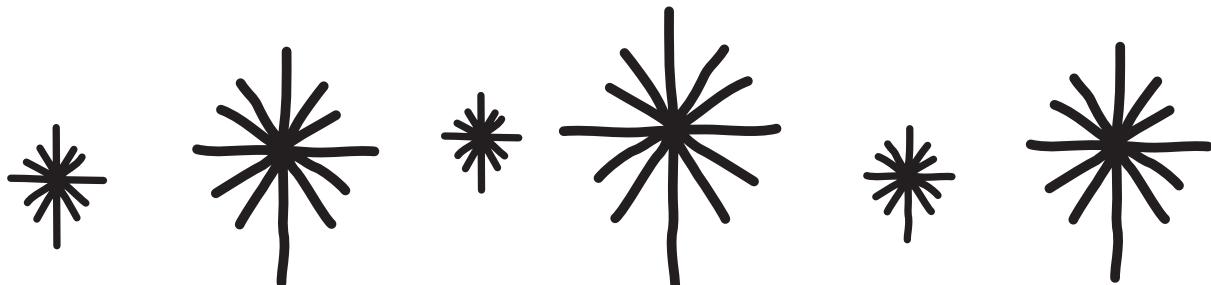
# Skip counting – by 2s, 5s and 10s

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 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.



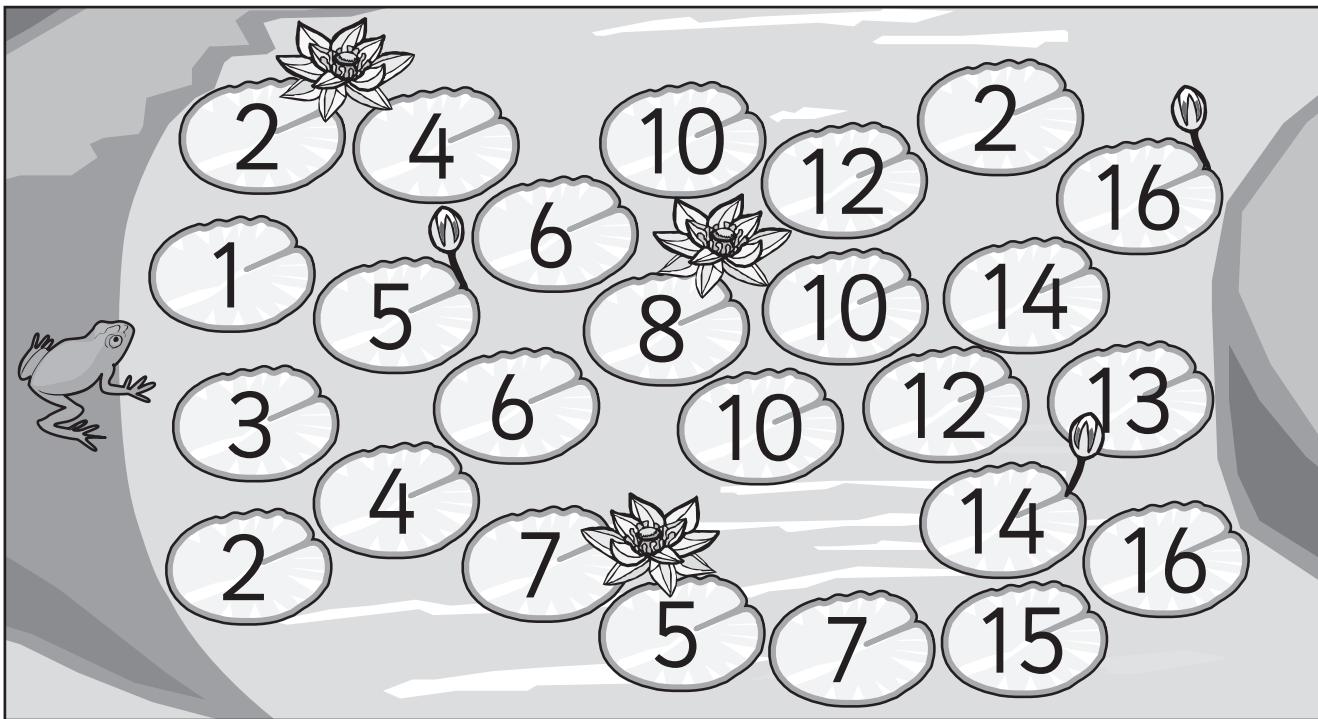
Odd numbers can't.



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

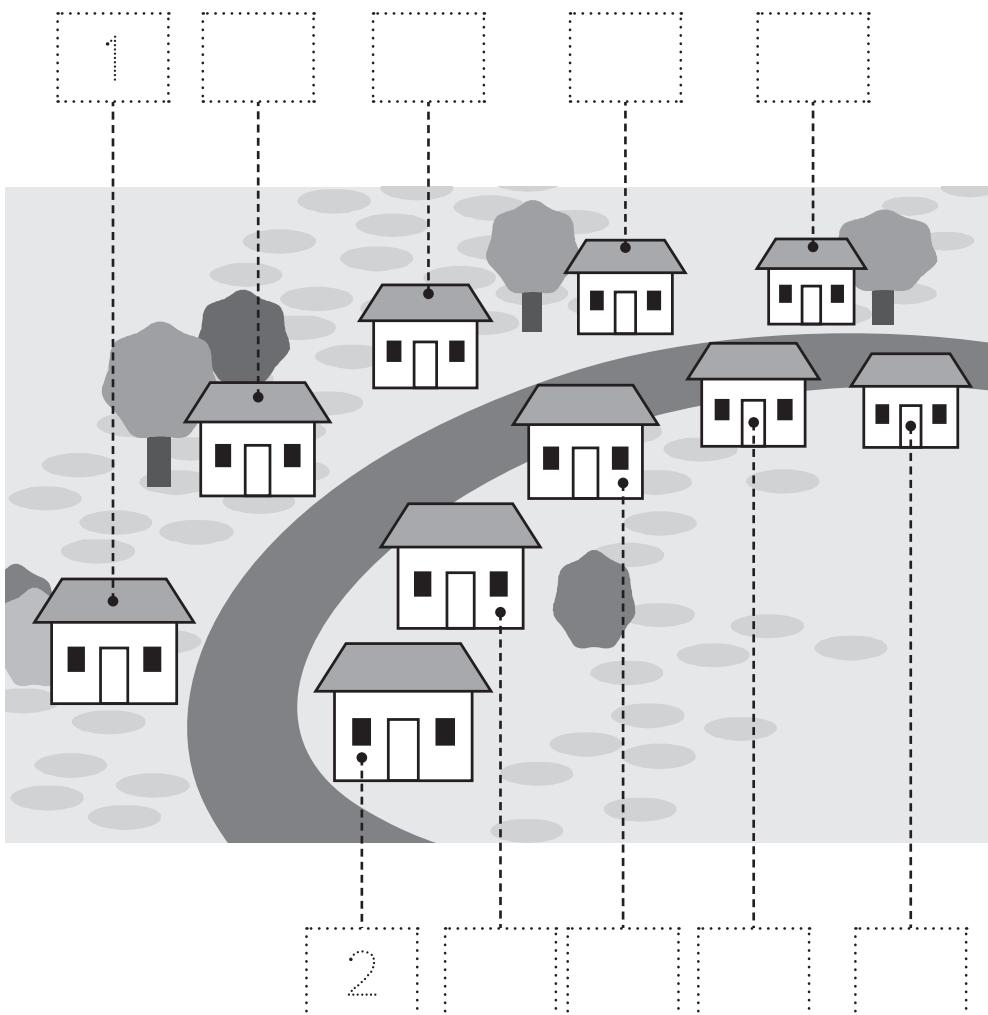
You will need:  a partner

## 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.



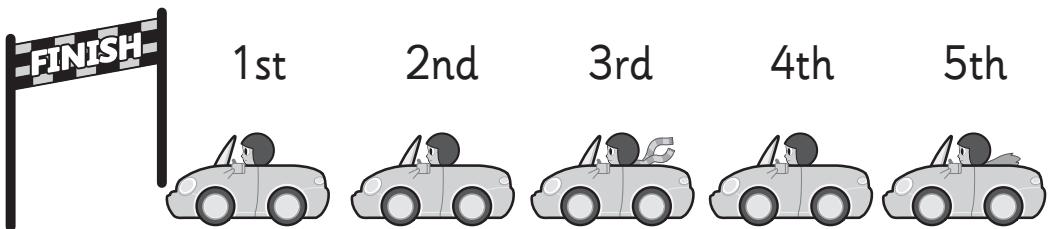
## What to do next:

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.

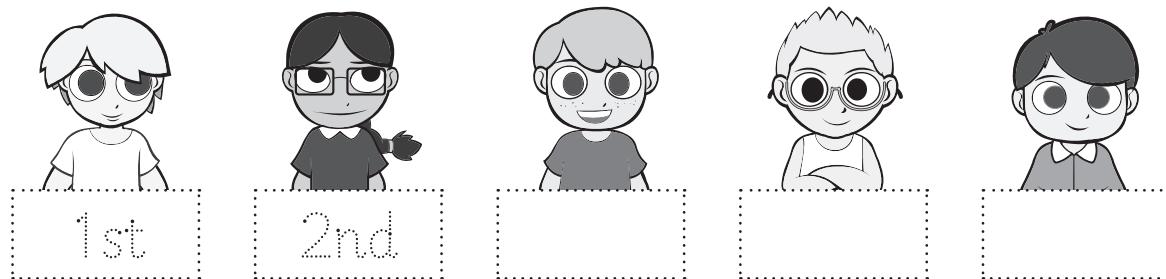
# Ordinal numbers – 1st to 5th

Ordinal numbers tell us the order of things or events.



1st, 2nd and 3rd are the trickiest to remember as they don't sound like 1, 2, 3. Once we get to 4th, we mainly just say the counting number and add 'th'.

- 1 A terrible crime has happened – someone has stolen all the stickers from the principal's desk. Here are the chief suspects.



- a Finish labelling the order of the students in the lineup.  
Eliminate the suspects clue by clue till 1 is left.
- b This student in the middle of the line up was away. The \_\_\_\_\_ student is not the thief.
- c The last student hates stickers. The \_\_\_\_\_ student is not the thief.
- d The student with a 2 in the label never left their classroom.  
The \_\_\_\_\_ student is not the thief.
- e The 2nd to last student had basketball training all day.  
The \_\_\_\_\_ student is not the thief.
- f The \_\_\_\_\_ student is the thief. What should happen to them?

# Ordinal numbers – 1st to 10th

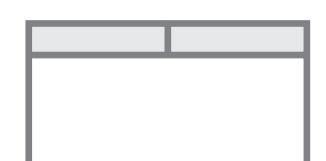
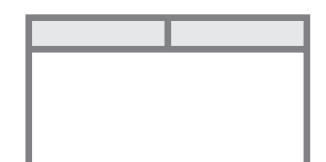
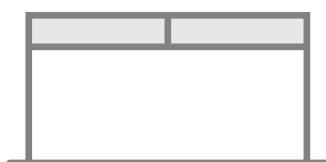
You will need:



a partner



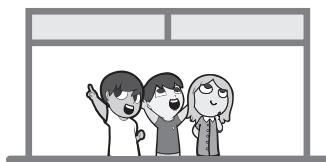
coloured pencils



2nd



1st



## What to do:

This high rise apartment building has 10 floors. Label them using ordinal numbers.

Draw people in the windows of each floor. The order of the floors has to be different from the number of people living on them. This means you can't have 4 people living on the 4th floor. The 1st floor has been done for you.

Don't let your partner see your drawing!

## What to do next:

Your partner has 10 guesses. They are going to guess how many people live on each floor. They will ask a question like "Do 4 people live on the 3rd floor?"

If they get it right, they score a point.

Swap jobs. Who scores the most points?

# Ordinal numbers – 1st to 20th

You will need:



a partner



scissors



pencils



## What to do:

Some gold has fallen out of a treasure chest and it's yours for the taking! Just follow these steps.

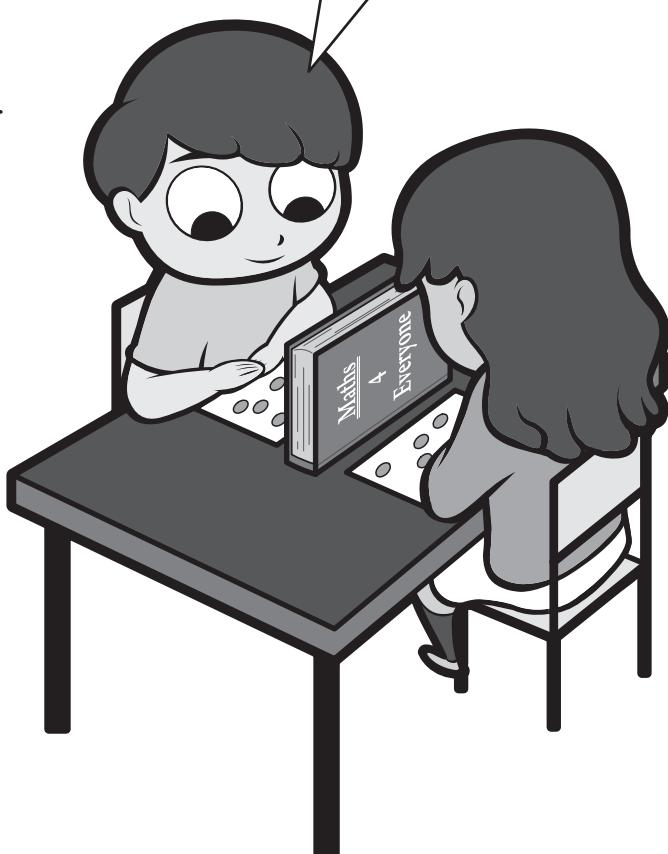
You and your partner each need a copy of this page and the next page. Finish labelling the stepping stones. Cut out and colour your gold coins and decide which stepping stones you will place them on. Don't let your partner see!

Take turns asking each other where the coins are with questions like, "Is a coin on the 19th stone?"

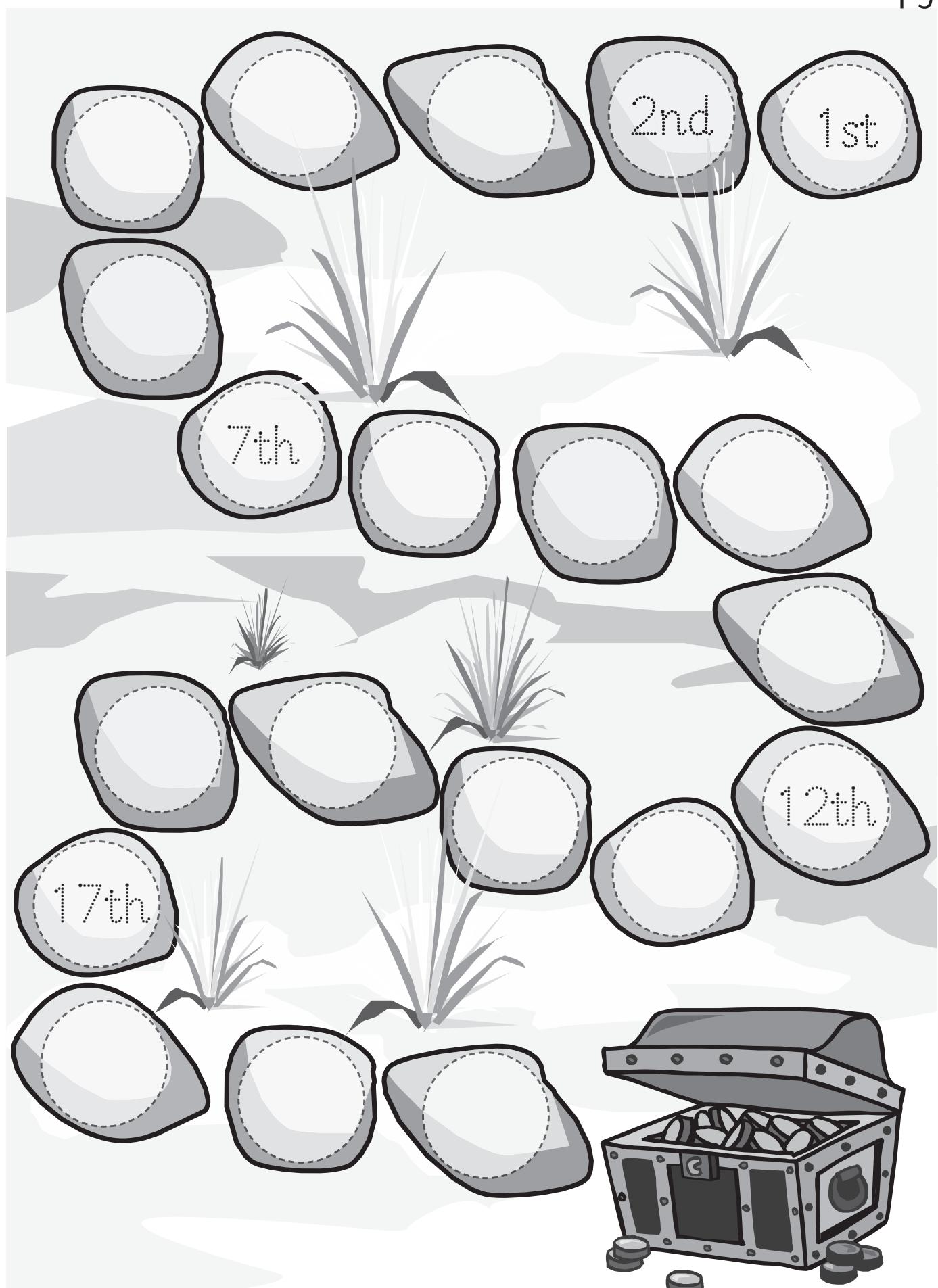
If you are right, you take the coin.

Play until all the coins are gone. Who is the richest person at the end of the game?

I need to keep  
a record of the  
numbers I ask about!



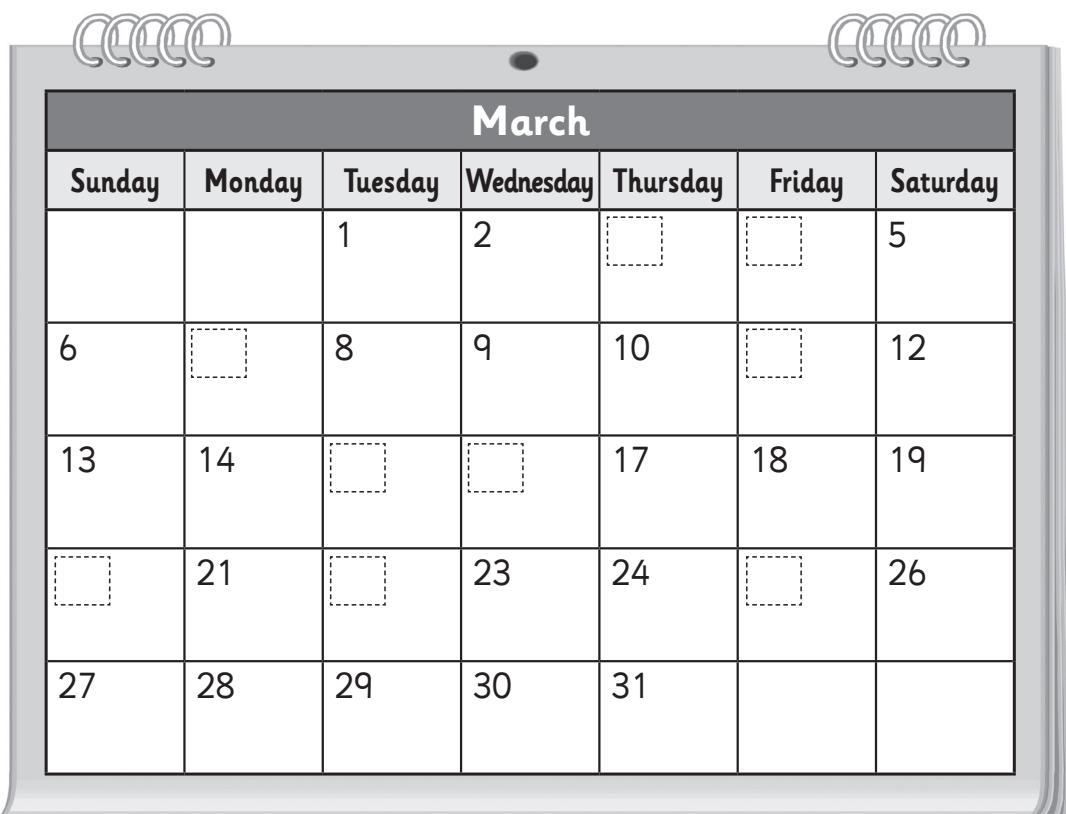
# Ordinal numbers – 1st to 20th



# Ordinal numbers – 1st to 31st

We use ordinal numbers for dates. Some dates you might know are Christmas Day – 25th December or New Year's Day – 1st January.

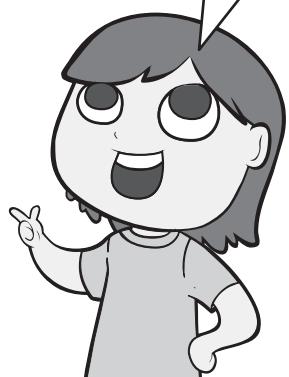
What are some dates that are special to you?



1 Answer these questions.

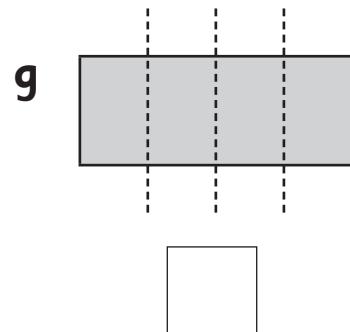
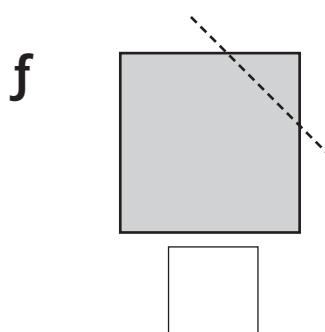
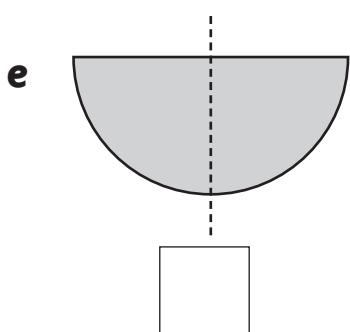
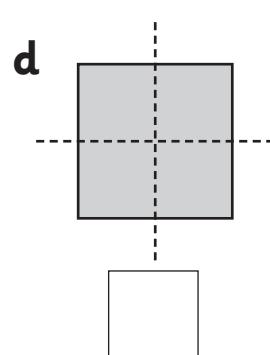
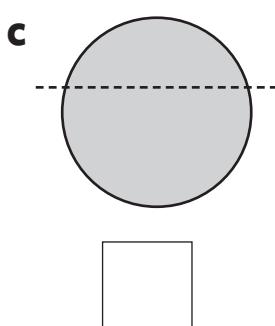
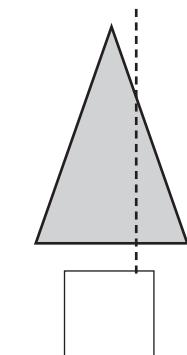
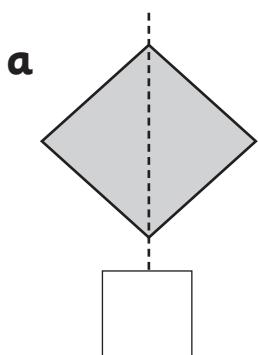
- a Finish adding the numbers to this calendar.
- b A farmers' market is on the 2nd Sunday of the month. Draw a carrot there.
- c Joe's birthday is on the 18th day of the month. Draw a birthday cake there.
- d He is having his party on the 3rd Saturday of the month. Draw a present there.
- e A pupil free day is planned for the 3rd Monday of the month. What date is this?
- f You are going to the movies on the 4th Saturday of the month. What date is this?

We write counting numbers ON calendars but we use ordinal numbers to talk ABOUT the dates.

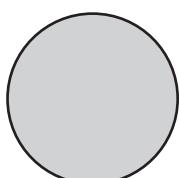


# Fractions – equal parts

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 chocolates. Divide the group into 2 equal parts so you each get a fair share.

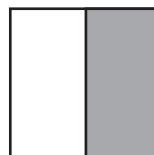


# Fractions – writing fractions

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



This is one whole shape.

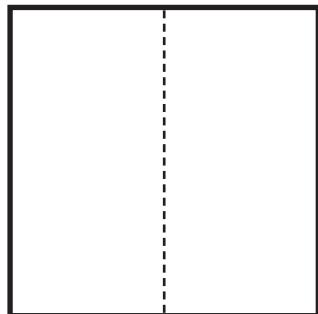


Half has been shaded.

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

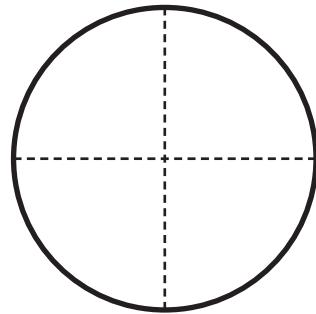
- 1 Shade **one** equal part of each shape and write the fraction.

a



Number of shaded parts

b

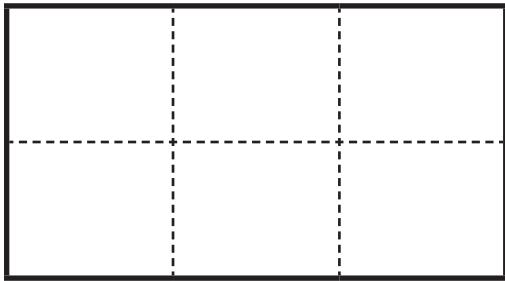


Number of shaded parts

Number of equal parts

  
2

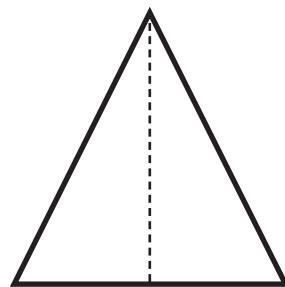
c



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.

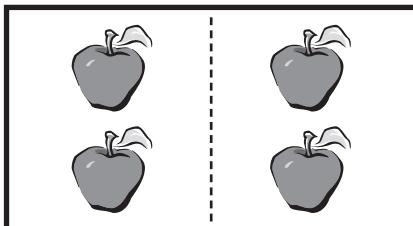
$$\frac{1}{2}$$



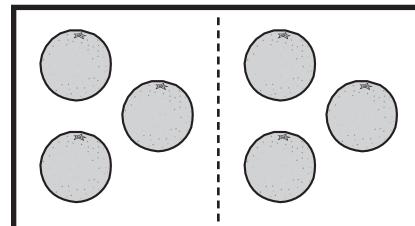
$$\frac{1}{2}$$

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

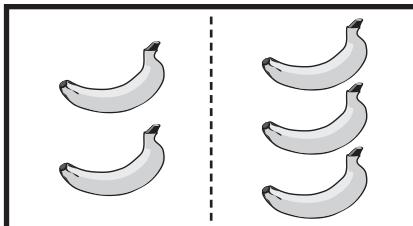
a



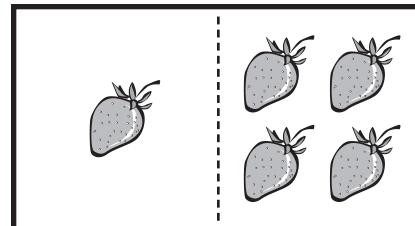
b



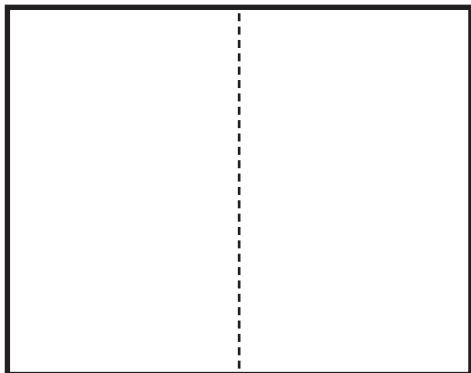
c



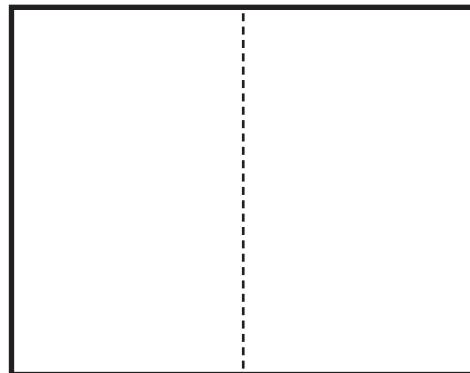
d



- 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.

$$\frac{1}{2} \text{ of } 2 \text{ is } \boxed{\phantom{0}}$$

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

$$\frac{1}{2} \text{ of } 4 \text{ is } \boxed{\phantom{0}}$$

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

$$\frac{1}{2} \text{ of } 6 \text{ is } \boxed{\phantom{0}}$$

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

$$\frac{1}{2} \text{ of } 8 \text{ is } \boxed{\phantom{0}}$$

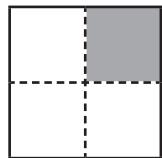
- e Can you see the pattern? Continue it on another piece of paper.  
How high can you and your partner go?

## What to do next:

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

# Fractions – quarters

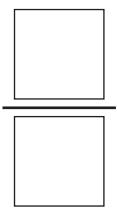
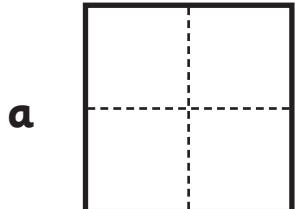
When we divide a shape or group into 4 equal parts, we call each part a **quarter**. We can write this as:



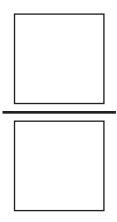
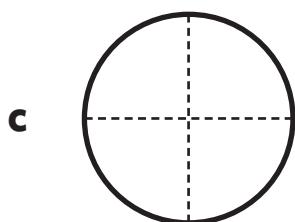
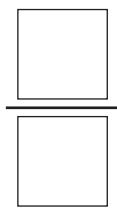
$$\frac{1}{4} \quad \begin{array}{l} \text{Number of shaded parts} \\ \hline \text{Number of equal parts} \end{array}$$

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

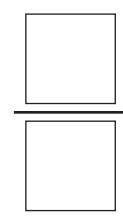
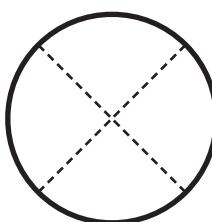
- 2 Shade one quarter of each shape and write the fraction.



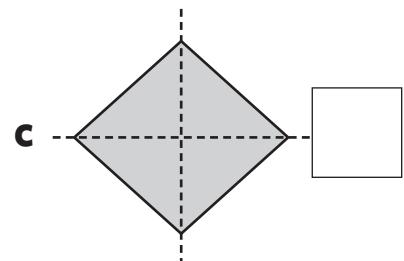
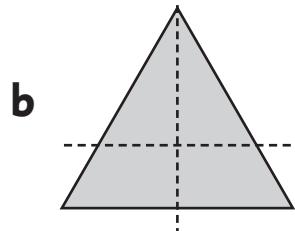
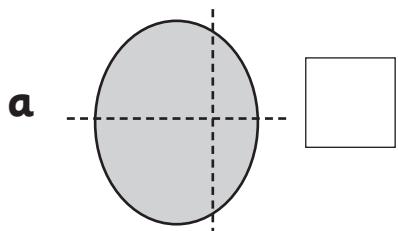
b



d



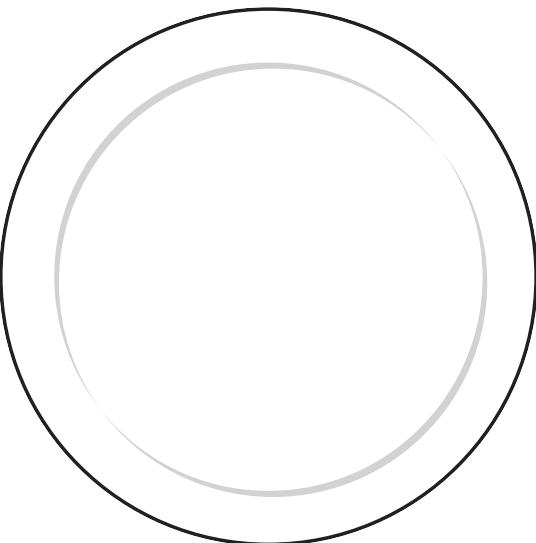
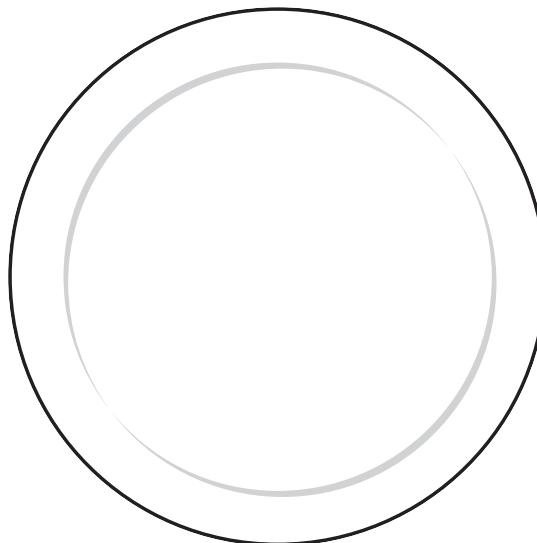
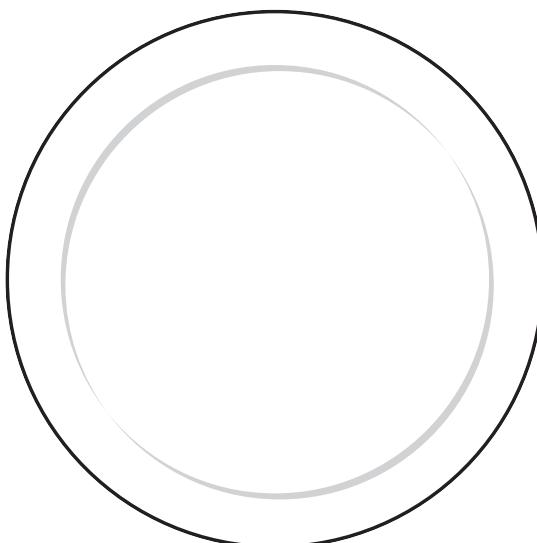
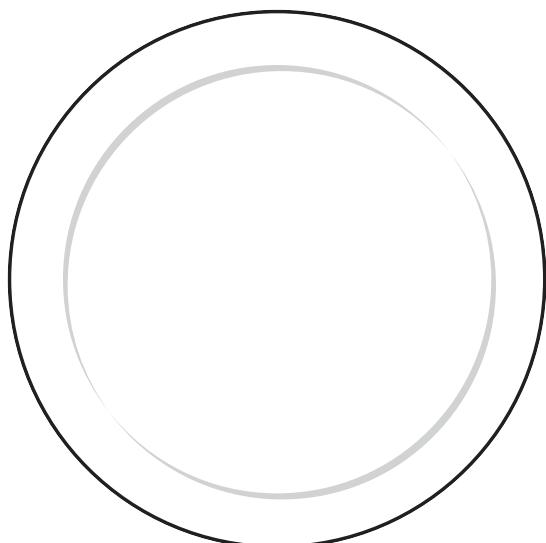
- 3 Are these shapes cut into quarters? Write Y or N.



# 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

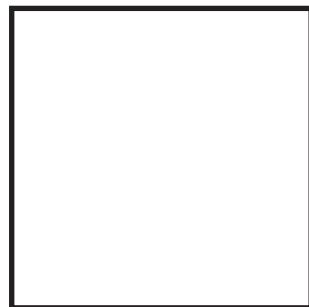
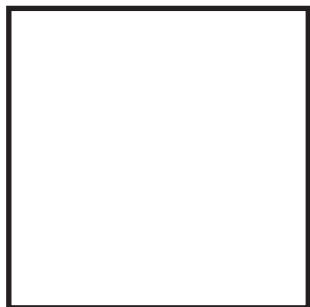
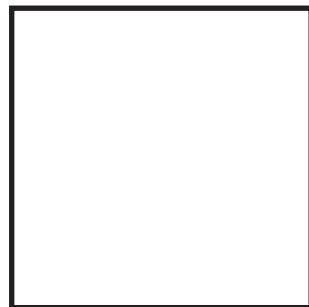
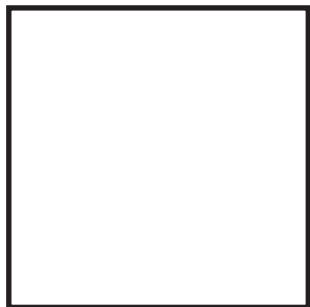
You will need:



a partner

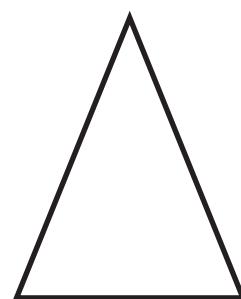
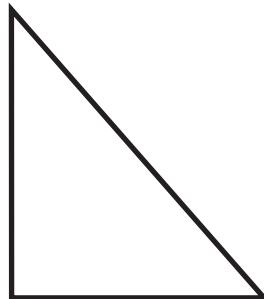
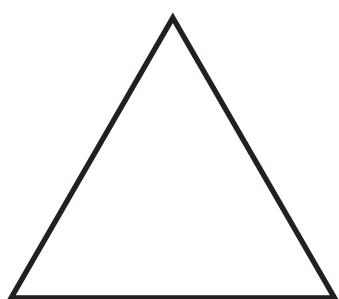
## What to do:

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



## What to do next:

How about a triangle? Does that divide into quarters? Use the triangles to find out.



# Fractions – halves and quarters

You will need:



scissors

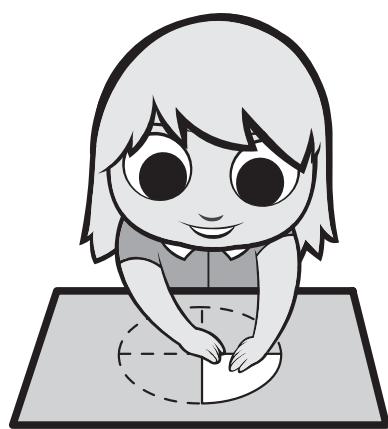
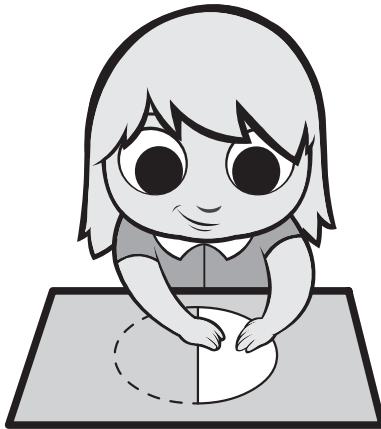
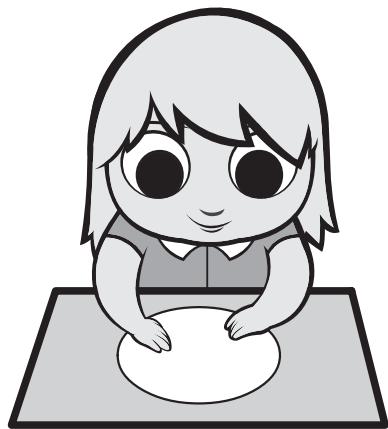


4 coloured paper circles



## 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:

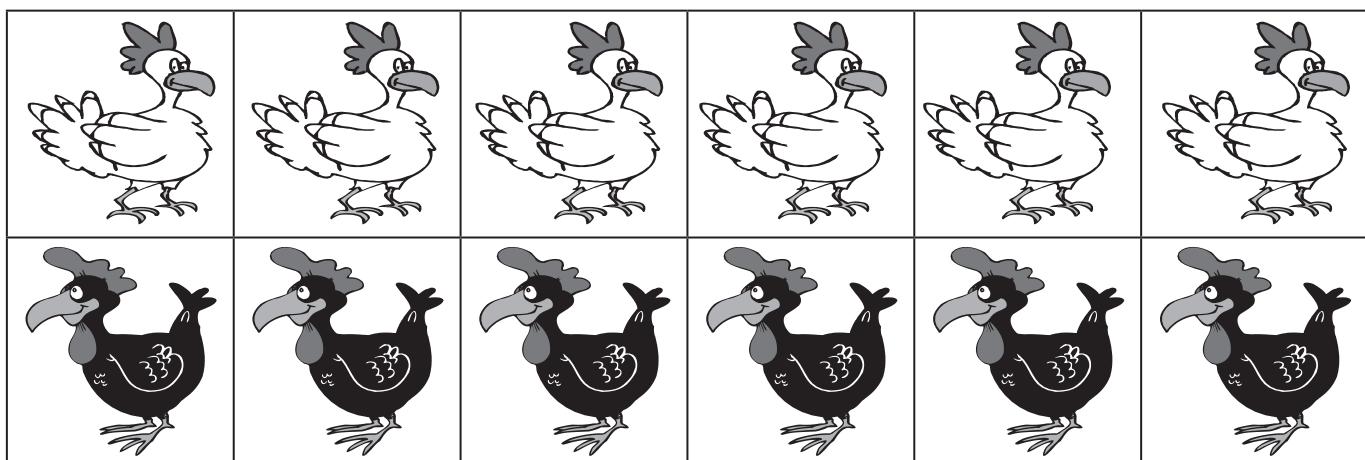
What happens if you fold a circle into half, then half again, then half again? How many equal parts do you have? How would you write that as a fraction?

# Fractions – halves and quarters

You will need:  pencils

## What to do:

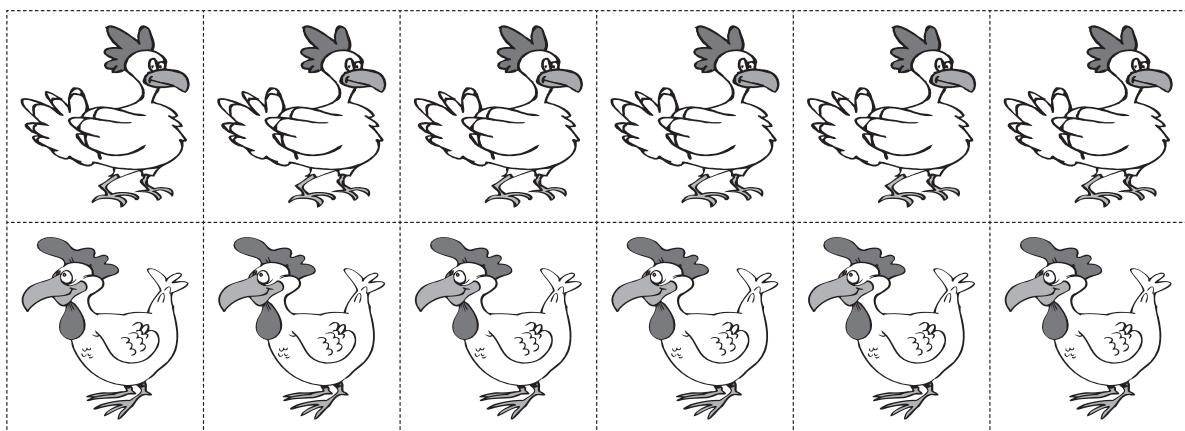
Farmer Joe has 12 chickens in his barn. Half of his chickens are black and half are white. They all like their own special laying spot. Here is one way Farmer Joe could set them up.



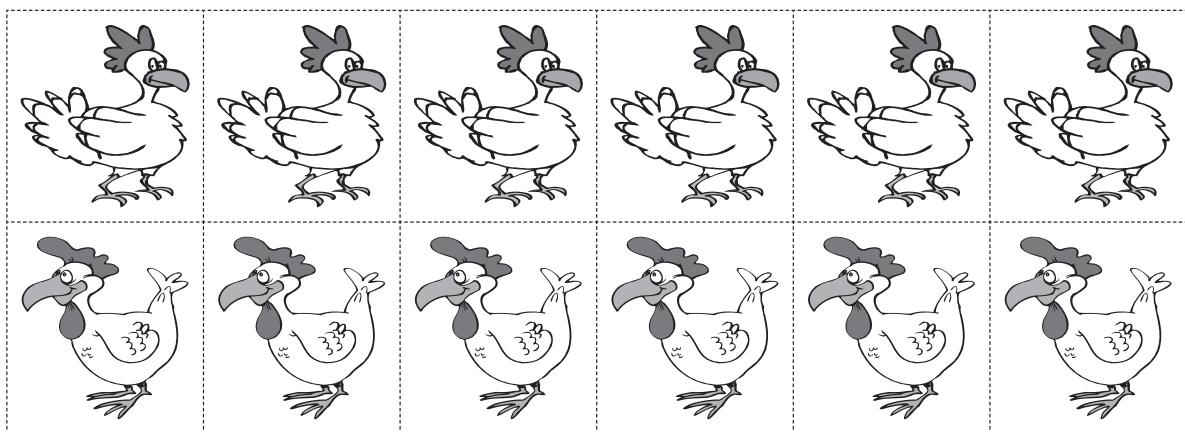
- a** How many other ways could Farmer Joe set them up? Colour the chickens in each barn on page 67 to show the different options. Remember half are black and half are white. You may need 2 copies of page 67.
  
- b** How will you know you have coloured half each time?
  
- c** How will you know you have found all the ways?

# Fractions – halves and quarters (continued)

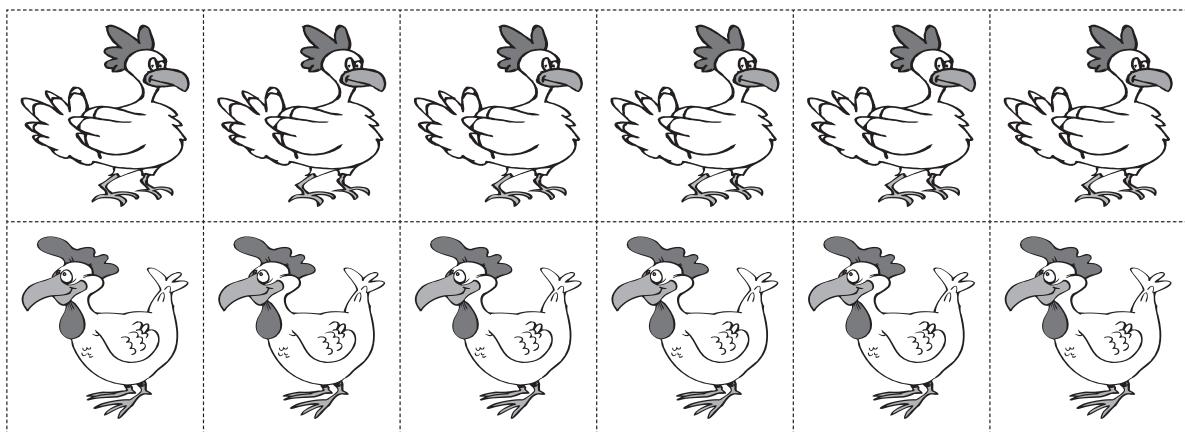
**Option  
1**



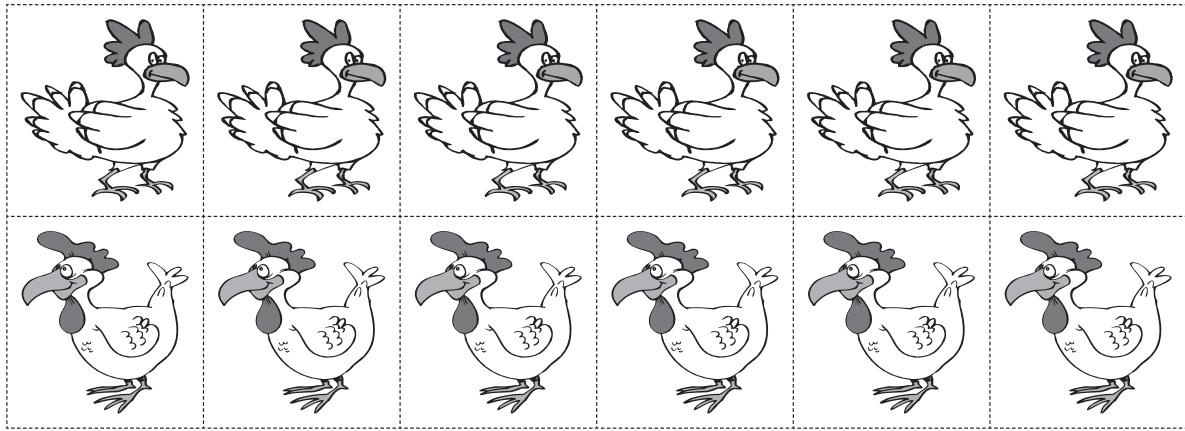
**Option  
2**



**Option  
3**



**Option  
4**



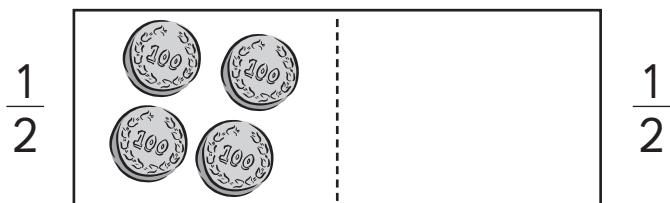
# Fractions – halves and quarters

You will need:  a partner or just yourself

## What to do:

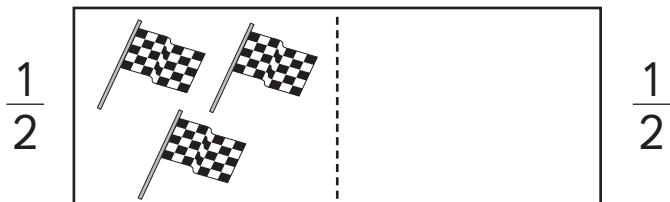
Draw pictures to help you solve these Grand Prix problems.

- a This is half of the prize.



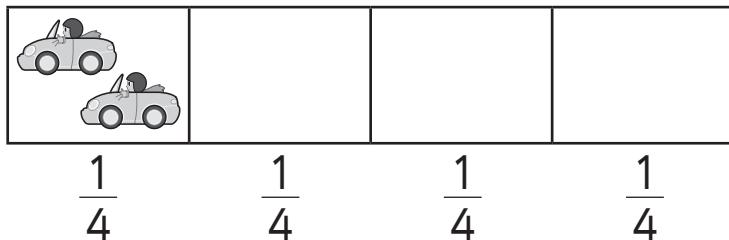
How many pieces of gold are in the whole prize?

- b This is half of the flags at the race.



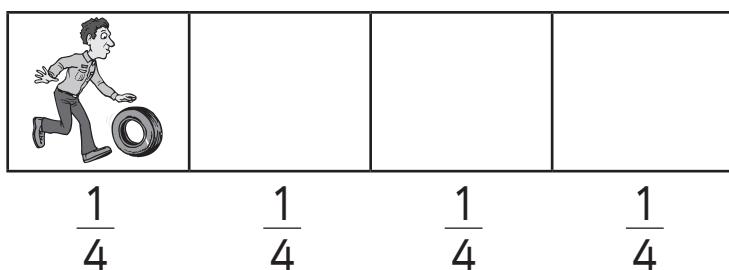
How many flags are at the race?

- 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 – exploring further

You will need:

-  a partner
-  coloured paper circles cut in half
-  blank paper or your maths book

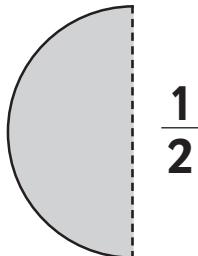
## What to do:

Can you count by halves? It's easier than you may think!

Look at the pattern below.

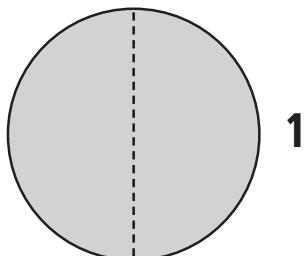
We start with half a circle.

That is  $\frac{1}{2}$ .



We add another half circle.

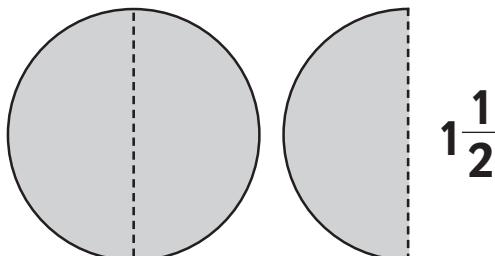
That is 1 whole.



We add another half a circle.

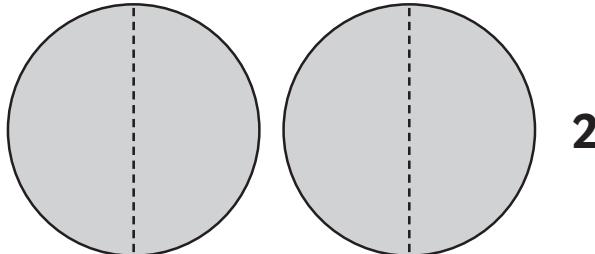
We have 1 whole and 1 half.

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?