MATHLETICS

A SERIES Student Book

Numbers and Patterns

Name _____

Series A – Numbers and Patterns

Contents

Topic 1 – Numbers to ten (pp. 1–20) — Date completed

- 0 (zero) — / /
- 1 (one) — / /
- 2 (two) — / /
- 3 (three) — / /
- 4 (four) — / /
- 5 (five) — / /
- one to five — / /
- 6 (six) — / /
- 7 (seven) — / /
- 8 (eight) — / /
- 9 (nine) — / /
- 10 (ten) — / /
- before and after — / /
- count on — / /
- counting backwards — / /
- using five as a reference — / /
- how many? — / /
- more than and less than — / /

Topic 2 – Numbers to 20 (pp. 21–31) — / /

- 11 and 12 — / /
- 13 to 15 — / /
- 11 to 15 — / /
- 16 to 19 — / /
- 20 (twenty) — / /
- 1 to 20 — / /
- count on and back — / /
- ordering numbers — / /
- tens and ones introduction — / /
- estimation — / /

Copyright © 3P Learning

Series A – Numbers and Patterns

Contents

Topic 3 – Numbers to 30 (pp. 32–36) — Date completed

- counting ____ / /
- count and order ____ / /
- matching amounts ____ / /
- tens and ones ____ / /

Topic 4 – Fractions (pp. 37–40)

- parts and wholes ____ / /
- halves ____ / /

Topic 5 – Ordinal numbers (pp. 41–44)

- 1st to 3rd ____ / /
- 1st to 10th ____ / /

Topic 6 – Patterns (pp. 45–54)

- continuing repeating patterns ____ / /
- identifying missing elements ____ / /
- creating repeating patterns ____ / /
- introducing number patterns ____ / /
- number patterns ____ / /
- find the mistake ____ / /
- growing patterns ____ / /

Topic 7 – Number relationships (pp. 55–60)

- equality ____ / /
- inequality ____ / /

Series Author:

Rachel Flenley

Copyright © 3P Learning

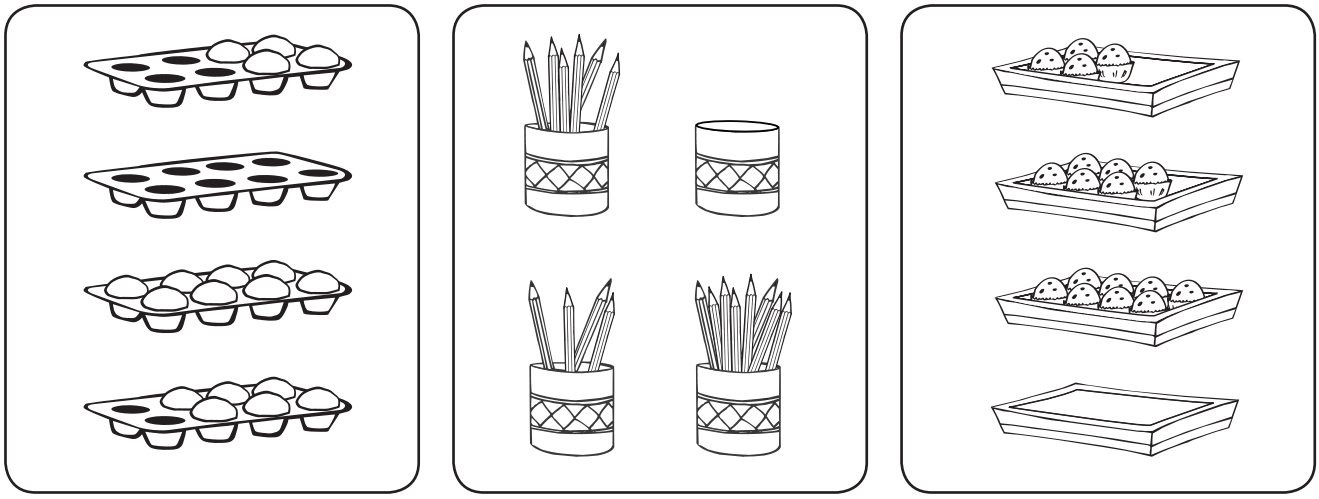
Numbers to ten – 0 (zero)

1 Say and trace.

0 0 0 0 0 zero

2 What are some words you know that also mean zero?
Write them or tell a partner.

3 Loop the container with nothing in it.



4 Draw these.

A vase with zero flowers.

A road with zero cars.

Copyright © 3P Learning

Numbers to ten – 1 (one)

1 Say and trace.

one

2 Draw these.

1 yellow sun

you having fun

3 Find and draw.

1 red thing

1 blue thing

1 green thing

1 big thing

1 small thing

1 mean thing!

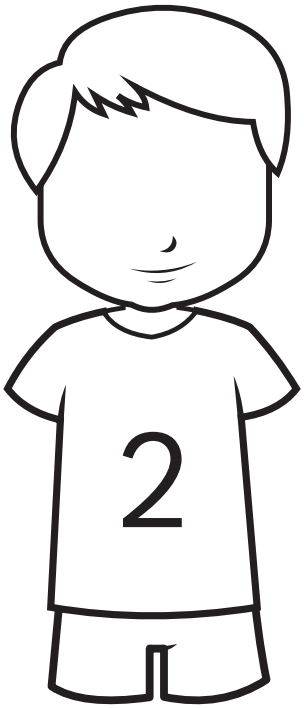
Copyright © 3P Learning

Numbers to ten – 2 (two)

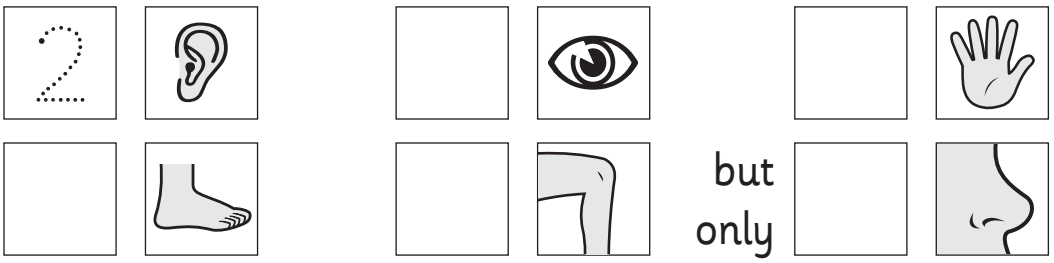
1 Say and trace.

2 2 2 2 2 two

2 What do we have 2 of on our bodies? Finish the picture.



3 I have



but only

Copyright © 3P Learning

Numbers to ten – 3 (three)

1 Say and trace.

3 3 3 3 3 three

2 Loop the words that say *three*.

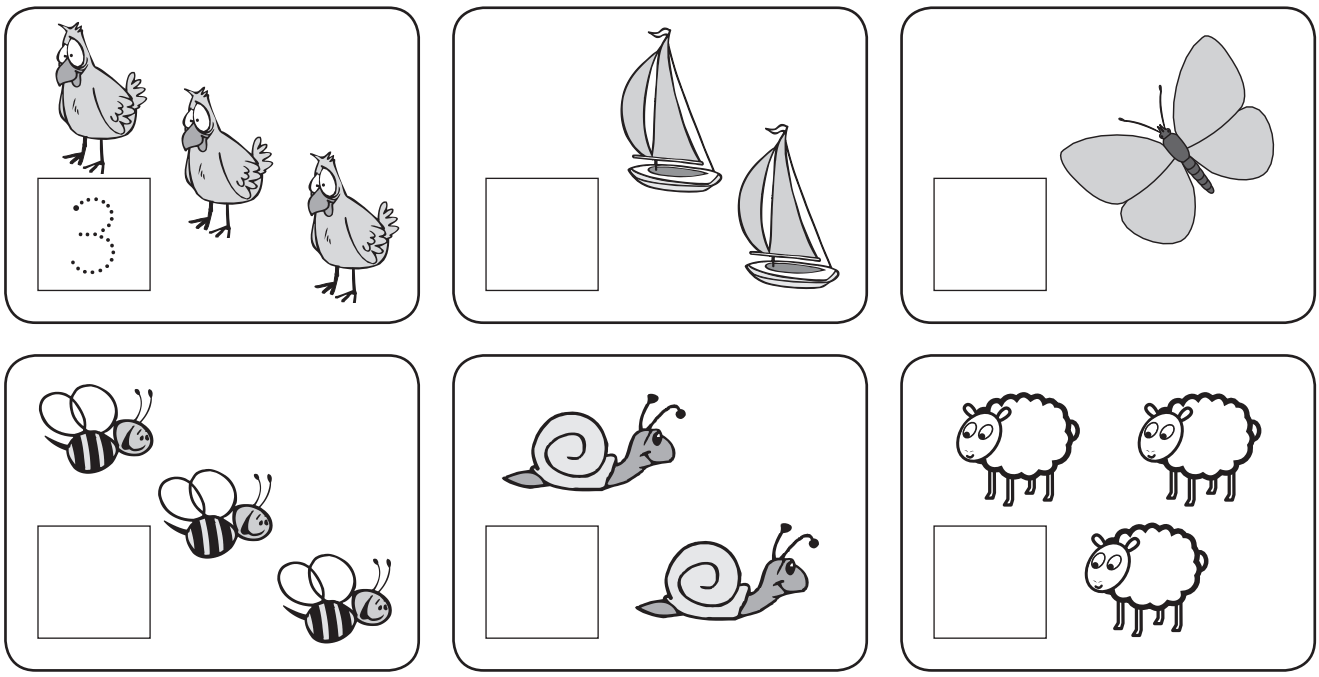
three tree thre three here

3 Draw these.

3 green peas

3 shady trees

4 Count and write the number.



Copyright © 3P Learning

Numbers to ten – 4 (four)

1 Say and trace.

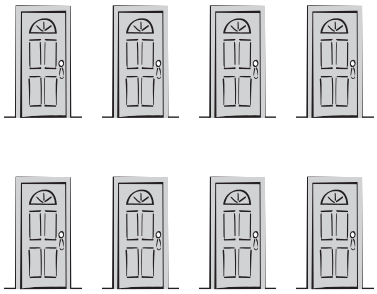
4 4 4 4 4 four

2 Loop the words that say *four*.

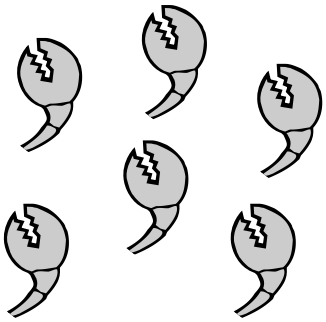
four for four our four

3 Loop these.

4 paws

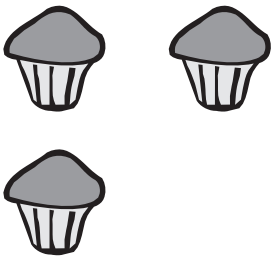


4 doors

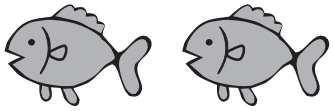


4 snapping crab claws

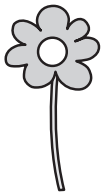
4 Draw more to make 4.



4



4



4

Copyright © 3P Learning

Numbers to ten – 5 (five)

1 Say and trace.

5 5 5 5 5 five

2 Fill in the missing letters.

f___ve ___ive fi___e fiv___

3 Draw these.

5 knives

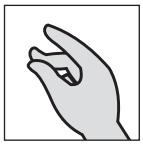
5 bees around a hive

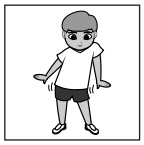
4 Tick the activities once you have done them.

5 times ☐

5 times ☐

5 times ☐


5 times ☐


5 times ☐

5 times ☐

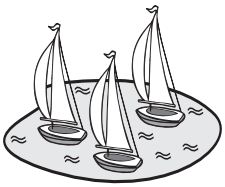
Copyright © 3P Learning

Numbers to ten – one to five

1 Say and trace.

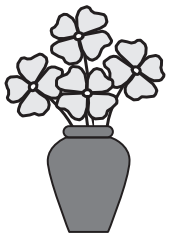
1 2 3 4 5

2 Count and loop the matching number.



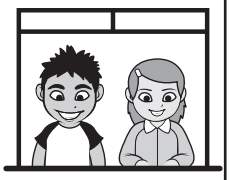
1	2	3	4	5

1	2	3	4	5	



1	2	3	4	5

1	2	3	4	5	

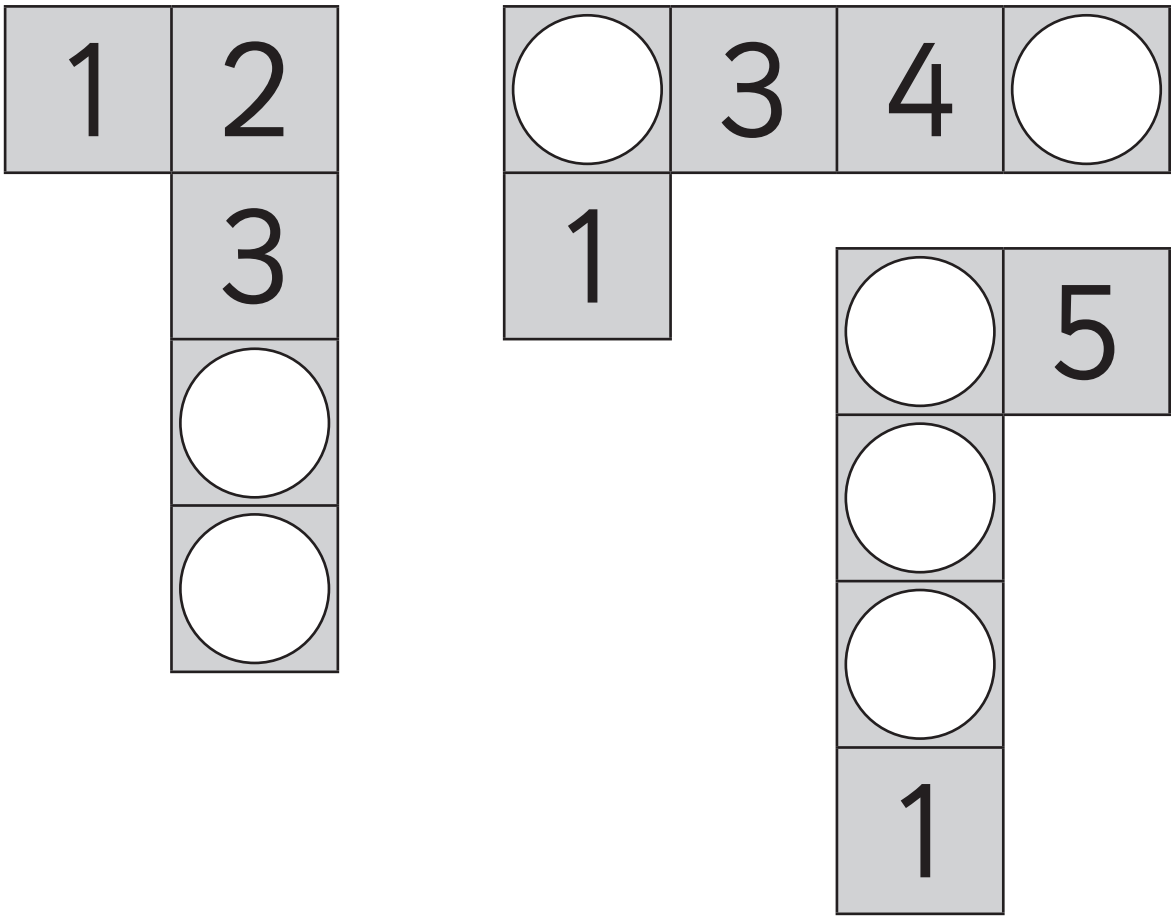


1	2	3	4	5

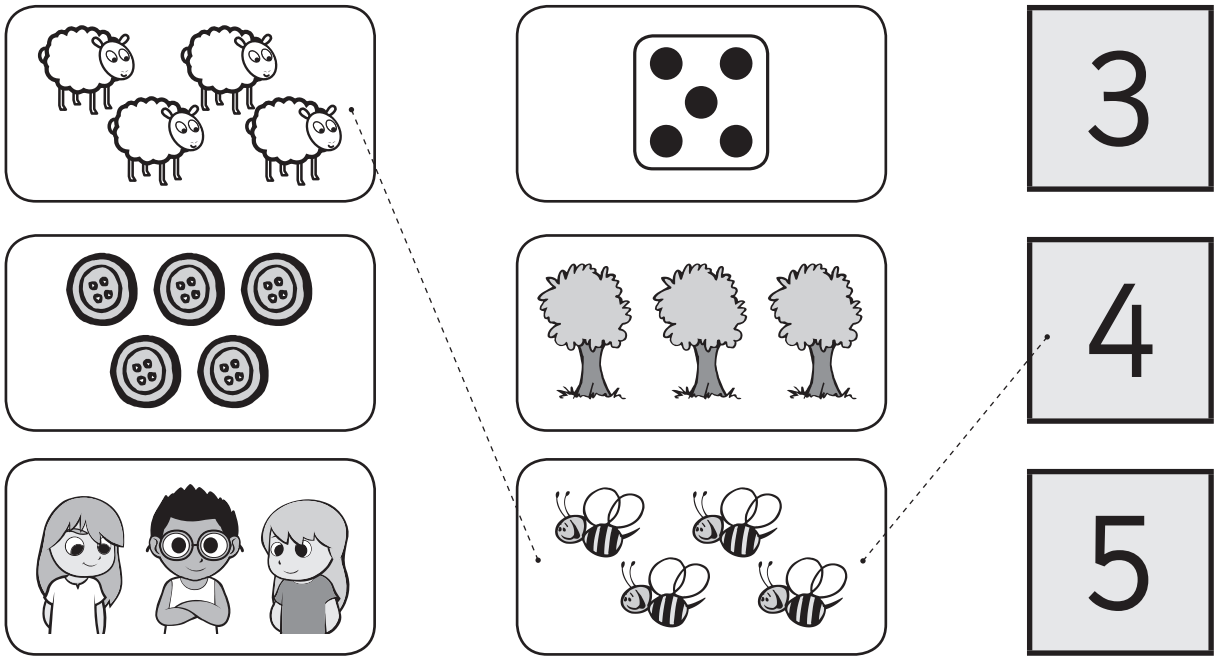
Copyright © 3P Learning

Numbers to ten – one to five

1 Which numbers are missing? Write them.



2 Draw lines to match the equal groups and their number.



Copyright © 3P Learning

Numbers to ten – one to five

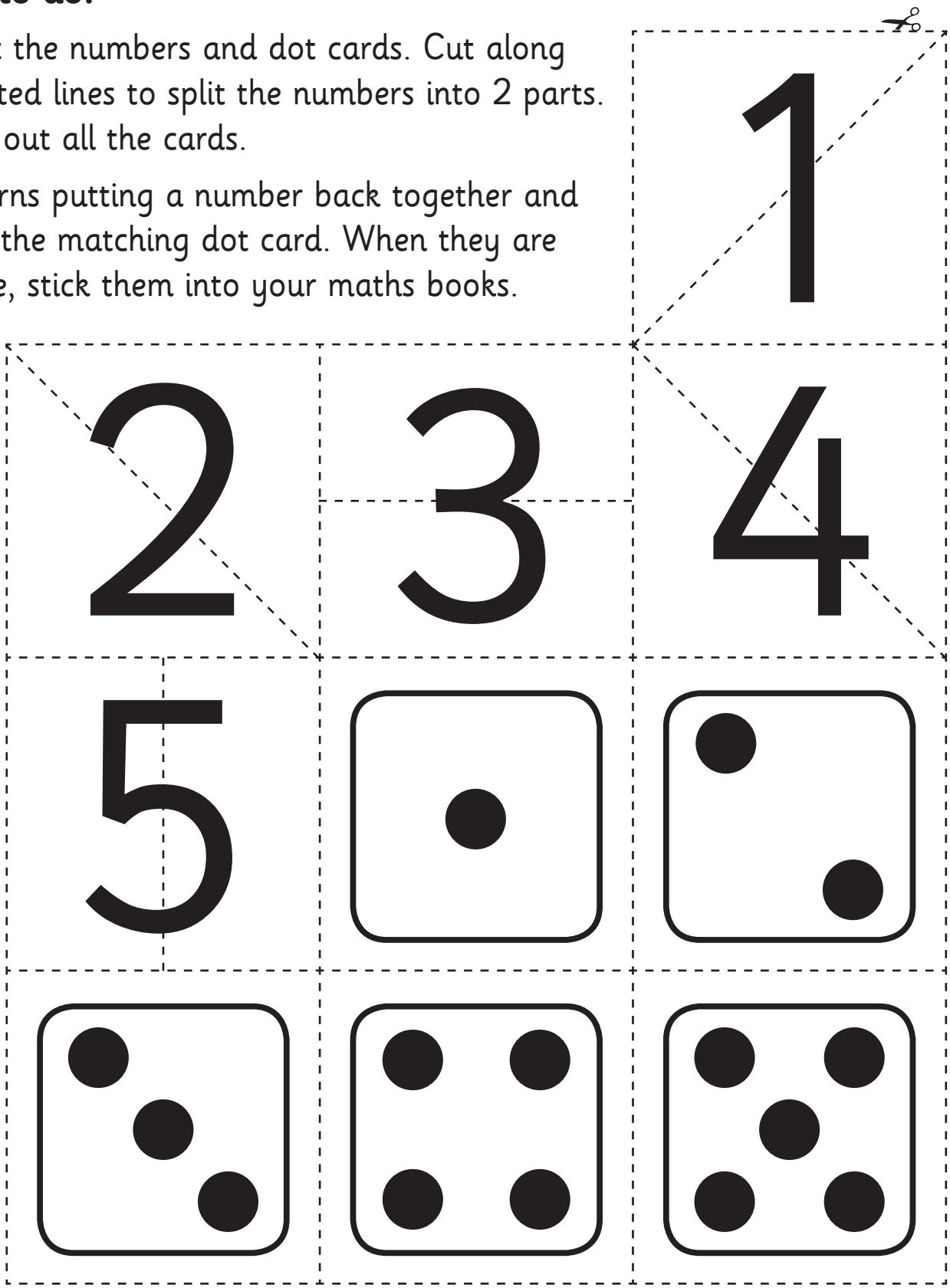
You will need: a partner scissors glue stick

copy

What to do:

Cut out the numbers and dot cards. Cut along the dotted lines to split the numbers into 2 parts. Spread out all the cards.

Take turns putting a number back together and finding the matching dot card. When they are all done, stick them into your maths books.



Copyright © 3P Learning

Numbers to ten – 6 (six)

1 Say and trace.

6 6 6 6 6 six

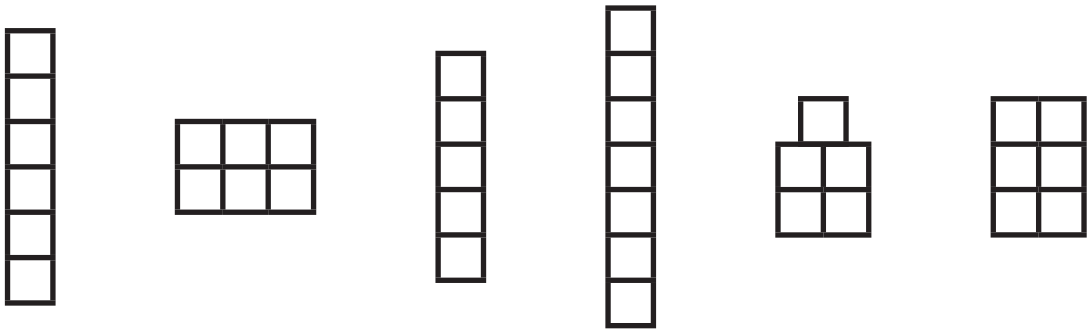
2 Draw these.

6 Weet-Bix

Quick-sticks!

6 mums calling 'Quick-sticks!'

3 Loop the block towers made with 6 blocks.



4 Find a partner and a die. Take turns rolling the die. The first person to roll 3 sixes is the winner!

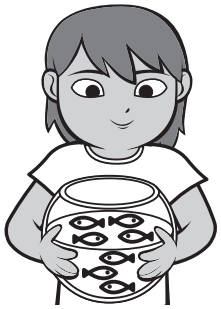
Copyright © 3P Learning

Numbers to ten – 7 (seven)

1 Say and trace.

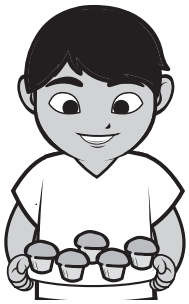
7 7 7 7 7 seven

2 Do these kids have 7 things? Colour **yes** or **no**.



Do I have 7?

yes no

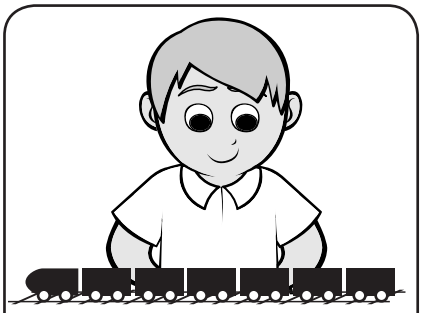


Do I have 7?

yes no

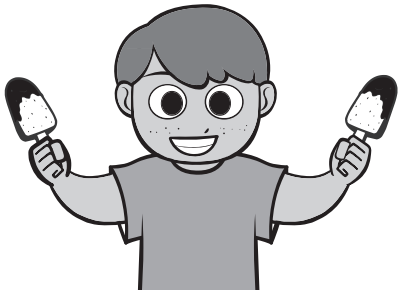
Do I have 7?

yes no



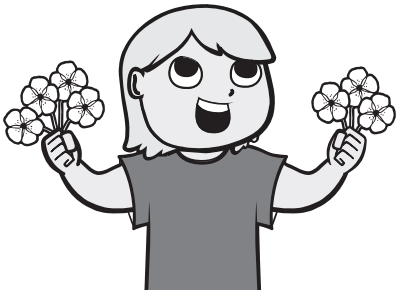
Do I have 7?

yes no



Do I have 7?

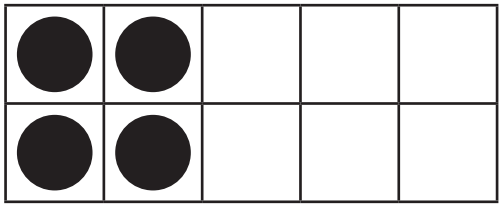
yes no



Do I have 7?

yes no

3 Draw more dots to make 7.



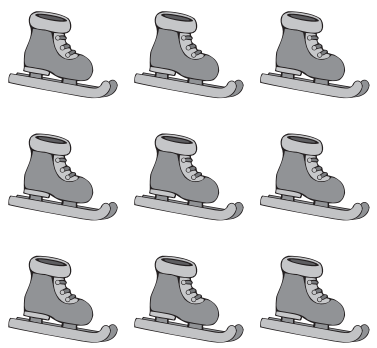
Copyright © 3P Learning

Numbers to ten – 8 (eight)

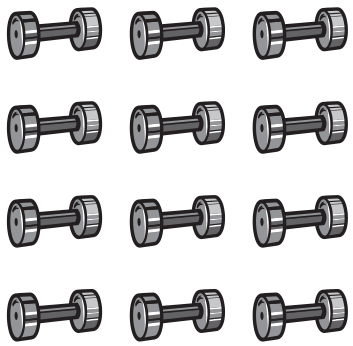
1 Say and trace.

8 8 8 8 8 eight

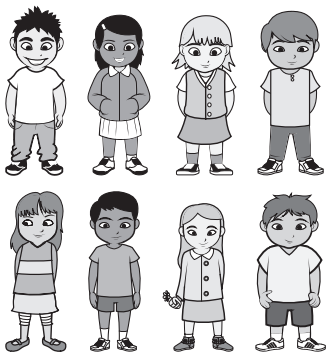
2 Loop 8.



8 skates



8 weights



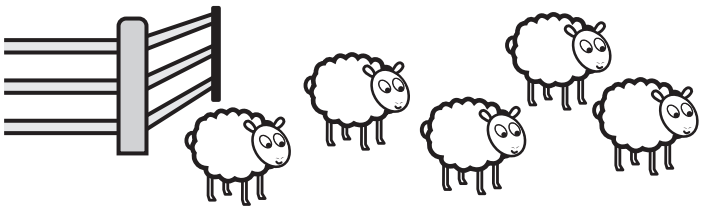
8 great mates

3 Draw apples.

Draw **8** apples on the plate.

Draw **8** apples altogether.
Put some on each plate.

4 Are there 8 sheep at the gate? Draw more if you need to.



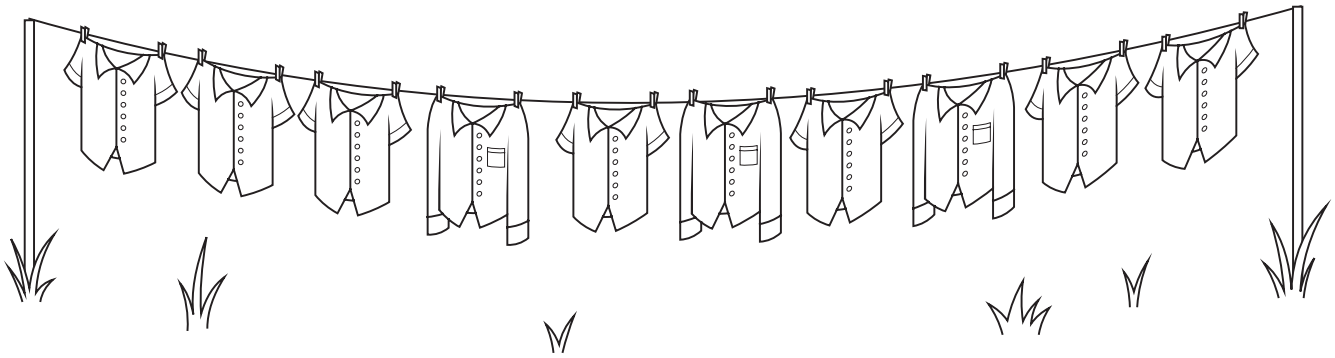
Copyright © 3P Learning

Numbers to ten – 9 (nine)

1 Say and trace.

9 9 9 9 9 nine

2 Colour 9 shirts on the line.



3 This is one way to arrange 9 counters. This is another way.

Work with your partner to find some other ways.

Draw them here.

Copyright © 3P Learning

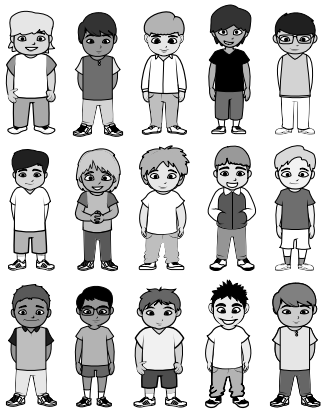
Numbers to ten – 10 (ten)

1 Say and trace.

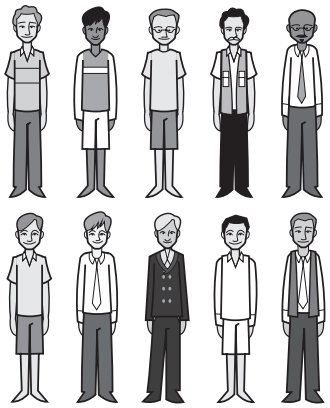
10 10 10 10 10 ten

2 Loop these.

10 pens



10 boys called Ben



10 very tall men

3 Find these things around your room. Put a tick each time you find one. Write 10 when you have 10 ticks.

10 circles 10

10 red things

10 squares

10 green things

Copyright © 3P Learning

Numbers to ten – before and after

1 Fill in the missing numbers on the track.

1	2			5				9	

2 Write the numbers that come **before** and **after**.

before		after
	2	

before		after
	8	

before		after
	6	

before		after
	3	

before		after
	5	

before		after
	9	

3 Find a partner. Take turns giving each other a problem such as 'What number comes **before** 10?' If they are right, give them a counter. Play until you both have 5 counters.

Copyright © 3P Learning

Numbers to ten – count on

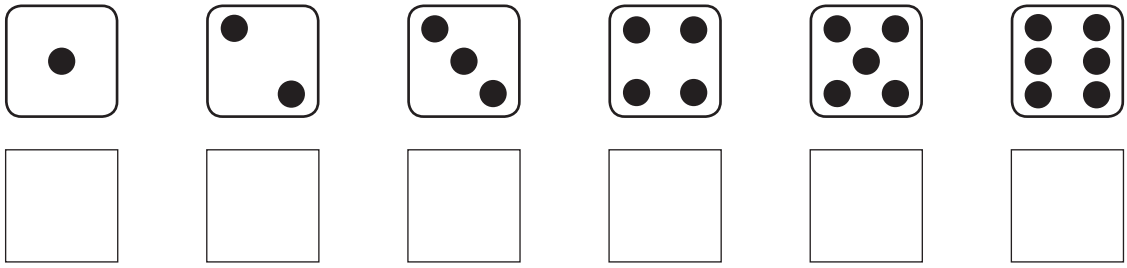
1 Count on to 10.

5	6				10

3	4			7			10

7			10

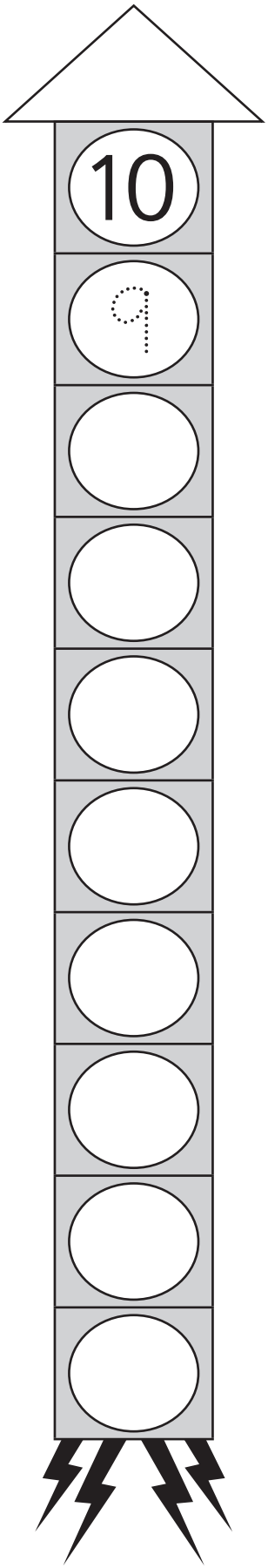
2 Find a partner. Take turns rolling the die. Together, count on to 10 from the number you roll. Tick the die below when you have counted on from its number. Play until you have counted on from every number.



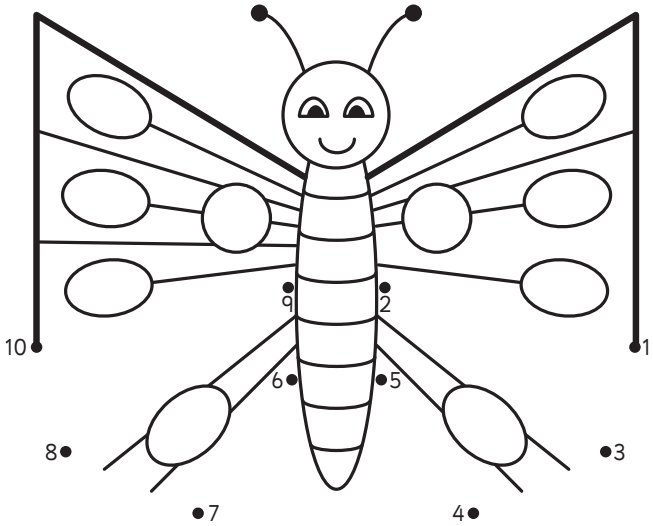
Copyright © 3P Learning

Numbers to ten – counting backwards

1 Help the rocket blast-off. Count back from 10.



2 Count back from 10 to complete this dot to dot.



3 When you are counting backwards, what number do you say **after**:

10	9
5	4
7	
3	
6	

Copyright © 3P Learning

Numbers to ten – using five as a reference

1 Draw more dots to make each number. Finish the statement.

6

6 is [1] more than **5**.

7

7 is [ ] more than **5**.

8

8 is [ ] more than **5**.

9

9 is [ ] more than **5**.

10

10 is [ ] more than **5**.

2 How many **less** than 5 is:

4

4 is [ ] less than **5**.

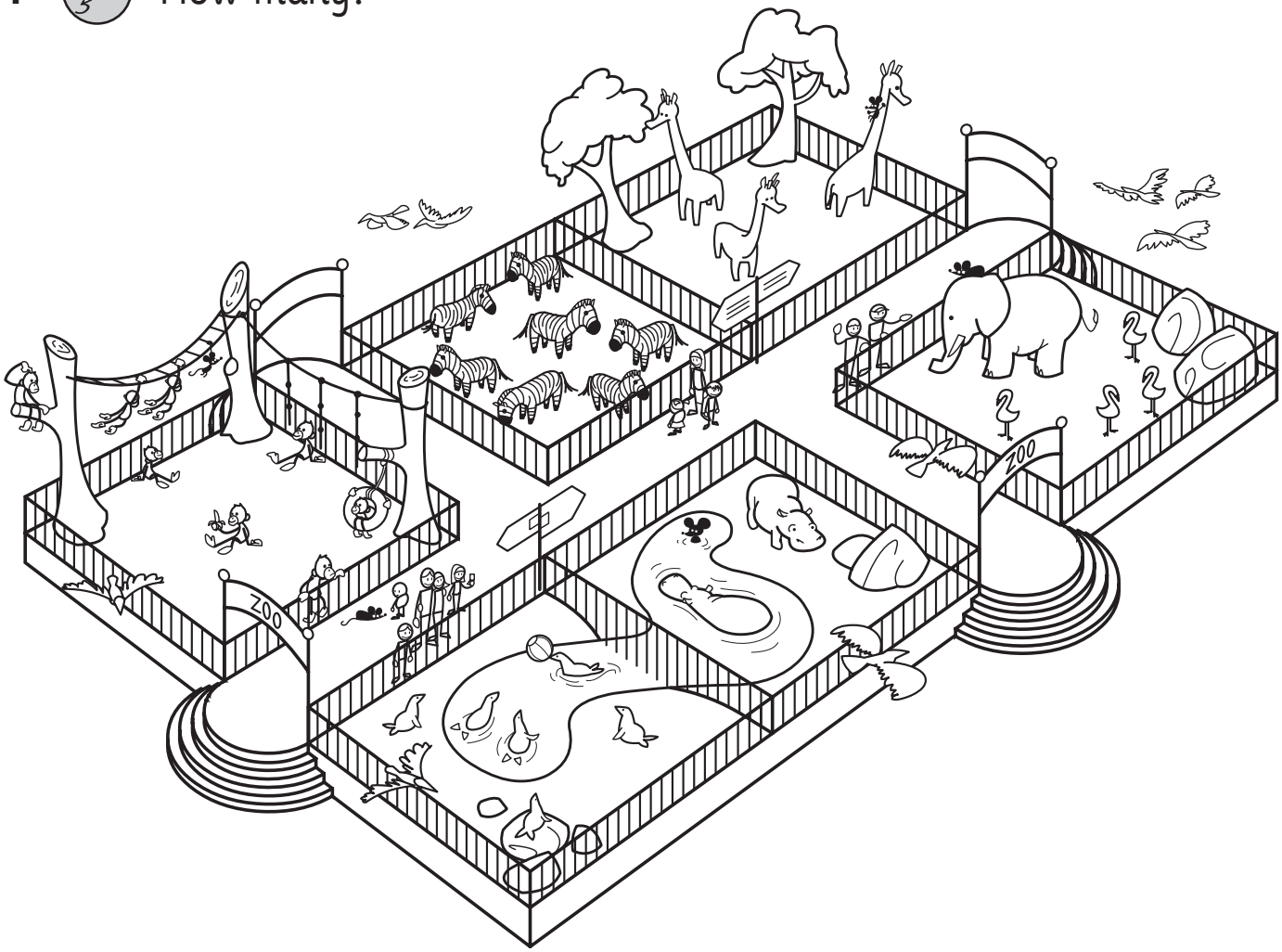
3

3 is [ ] less than **5**.

Copyright © 3P Learning

Numbers to ten – how many?

1 How many?

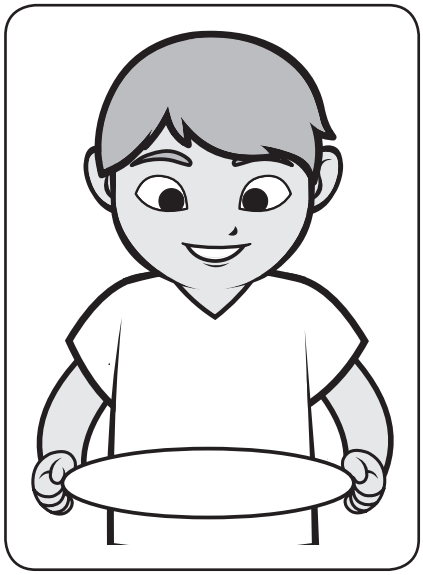


elephants		birds		hippos	
monkeys		giraffes		mice	
seals		flamingos		zebras	
		people			

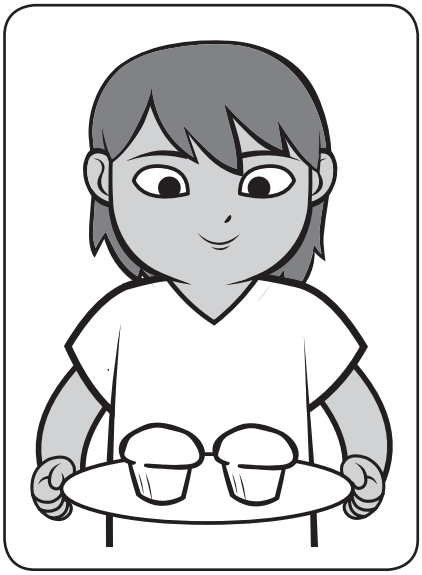
Copyright © 3P Learning

Numbers to ten – more than and less than

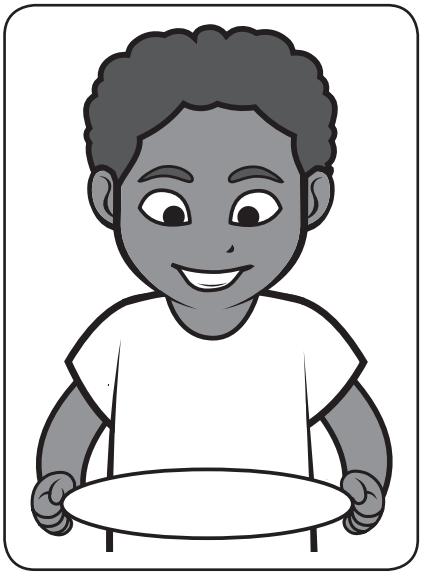
1 Anabelle has 2 cakes. Give Axel **more than** 2 cakes. Give Aman **less than** 2 cakes.



Axel

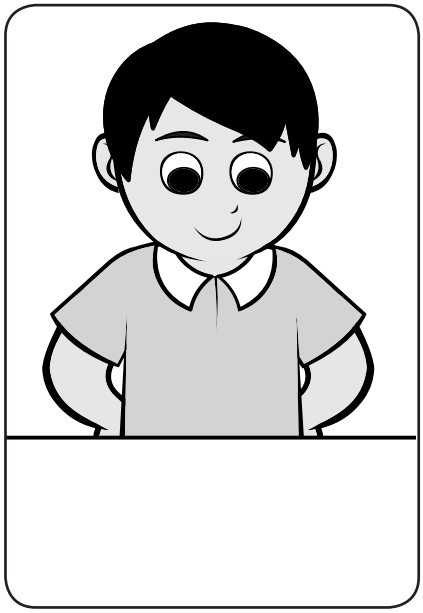


Anabelle

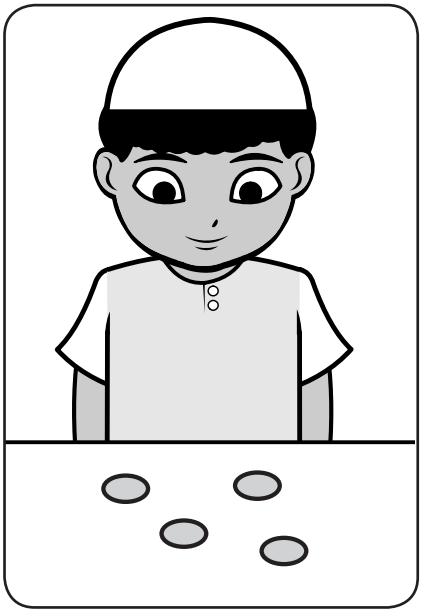


Aman

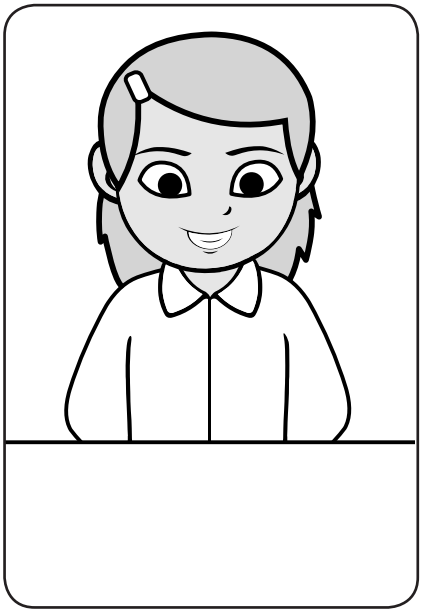
2 Hakim has 4 counters. Give Henry **more than** 4 counters. Give Hannah **less than** 4 counters.



Henry



Hakim



Hannah

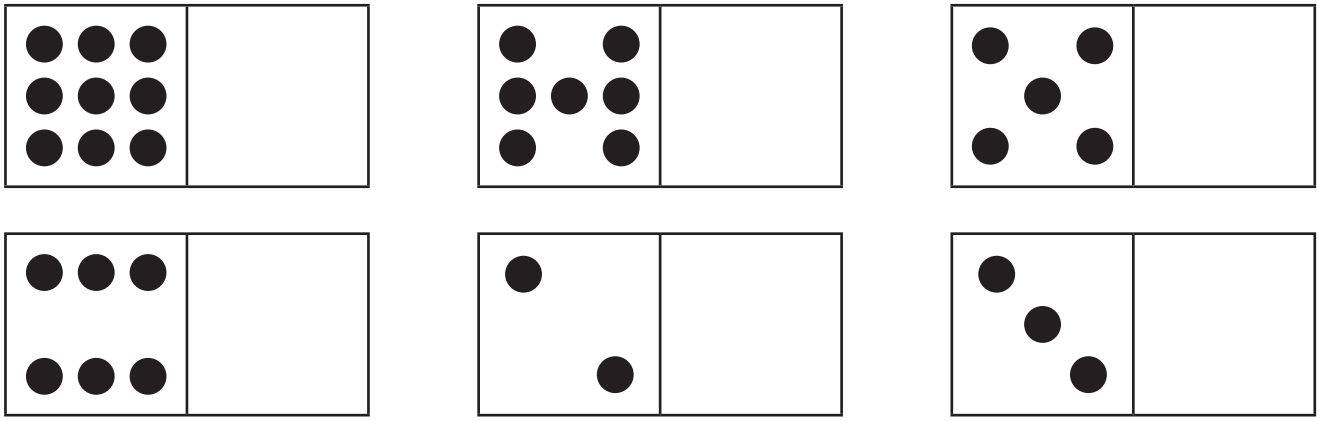
Copyright © 3P Learning

Numbers to 20 – 11 and 12

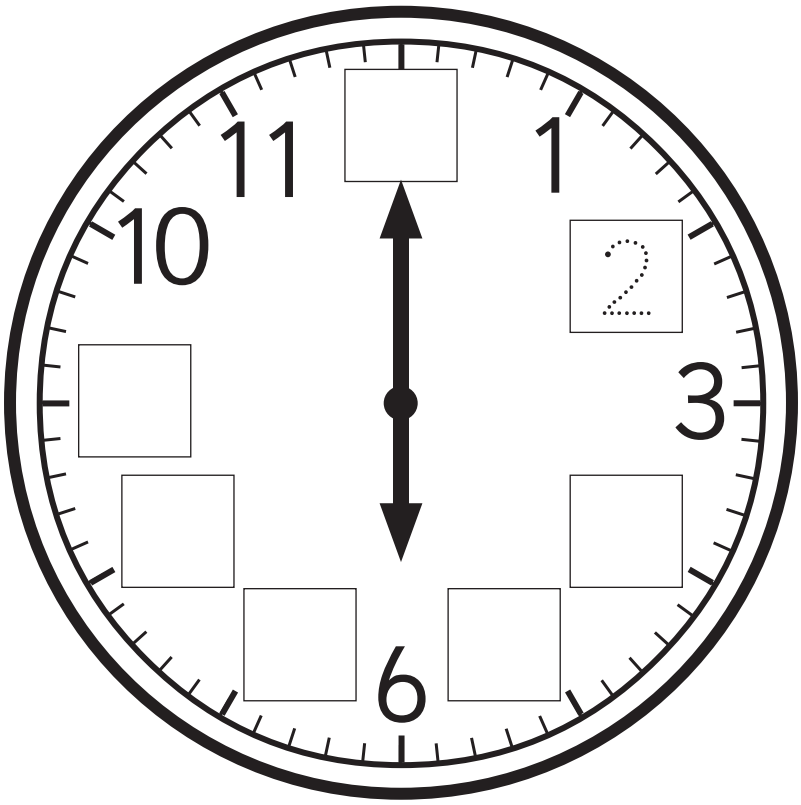
1 Say and trace.

11 11 11 12 12 12

2 Draw more dots so each domino has 11.



3 This clock seems to be missing some numbers. Add them.



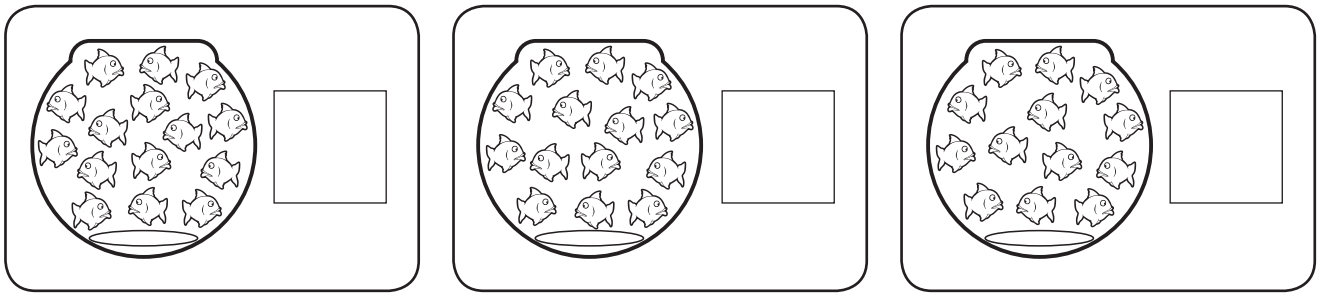
Copyright © 3P Learning

Numbers to 20 – 13 to 15

1 Say and trace.

13 14 15

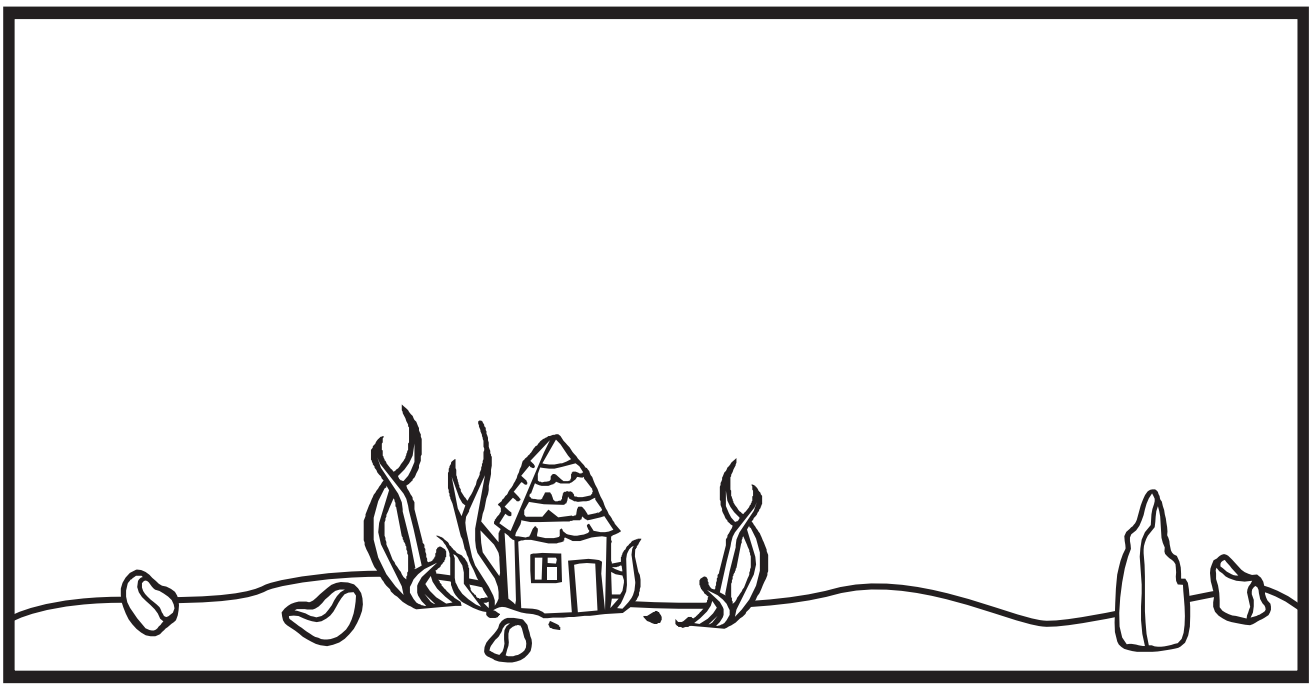
2 How many fish in each bowl? Colour as you count.



Colour the bowl with the **most** fish.

Loop the bowl with the **least** fish.

3 Use an inkpad, your thumb print and coloured pencils to put 15 beautiful fish into this tank.

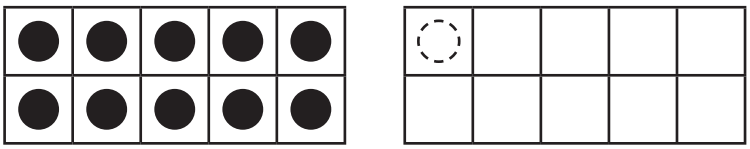


Copyright © 3P Learning

Numbers to 20 – 11 to 15

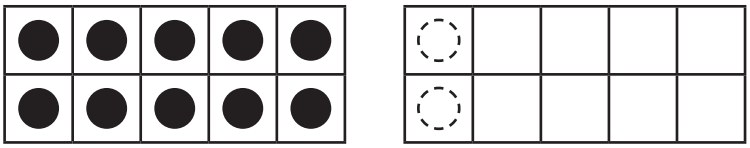
1 Draw more dots to make each number. Finish the statement.

11



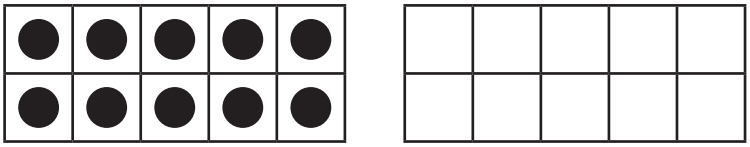
11 is 1 more than **10**.

12



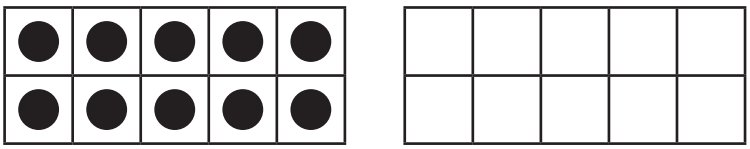
12 is ☐ more than **10**.

13



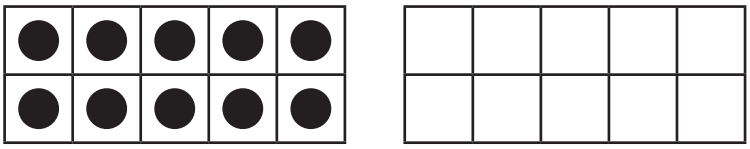
13 is ☐ more than **10**.

14



14 is ☐ more than **10**.

15



15 is ☐ more than **10**.

2 How many more than 10 do you think **16** is? ☐

How many more than 10 do you think **17** is? ☐

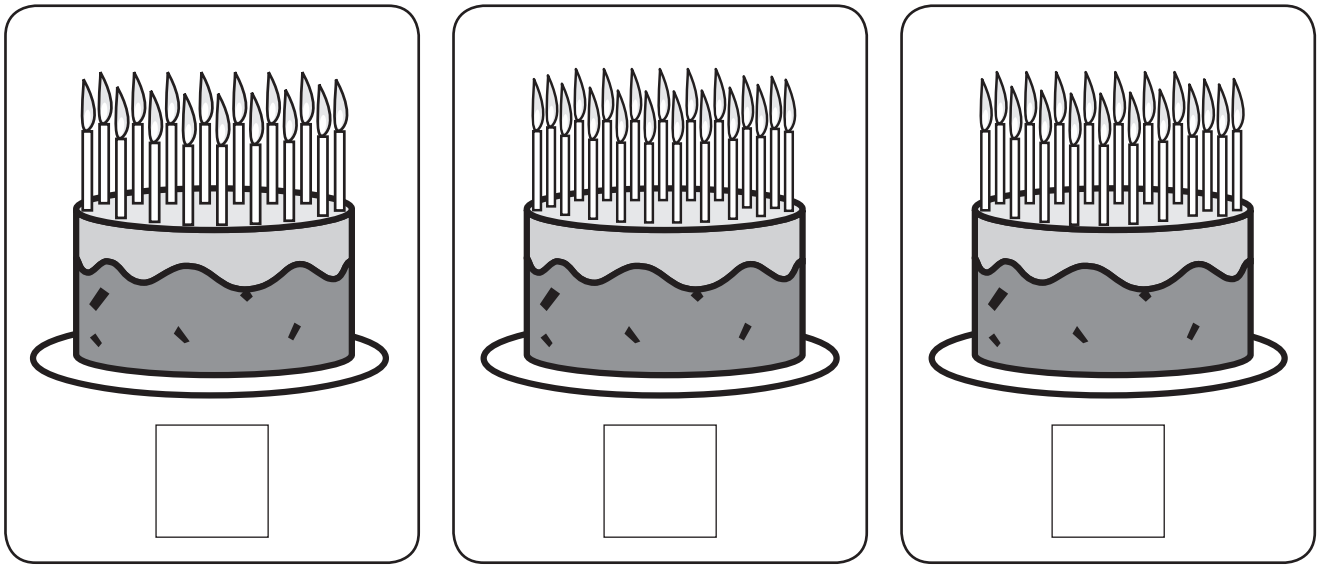
Copyright © 3P Learning

Numbers to 20 – 16 to 19

1 Say and trace.

16 17 18 19

2 How many candles on each cake? Colour each candle as you count.



3 Say these numbers out loud. Are they in the right counting order? Put them in the right order. Say them again. Do they sound right now?

16	18	19	17

16			

16	19	18	17

16			

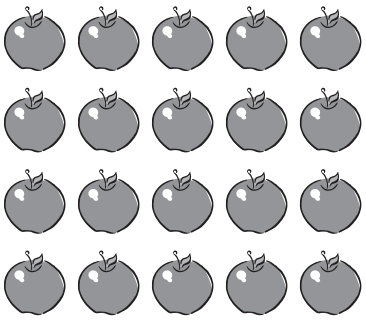
Copyright © 3P Learning

Numbers to 20 – 20 (twenty)

1 We write **20** as **2** and then **0**. Say and trace.

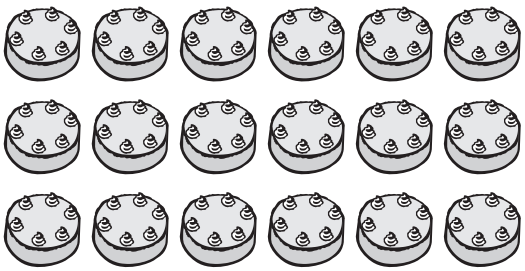
20 20 20 twenty

2 Are there 20? Colour yes or no.



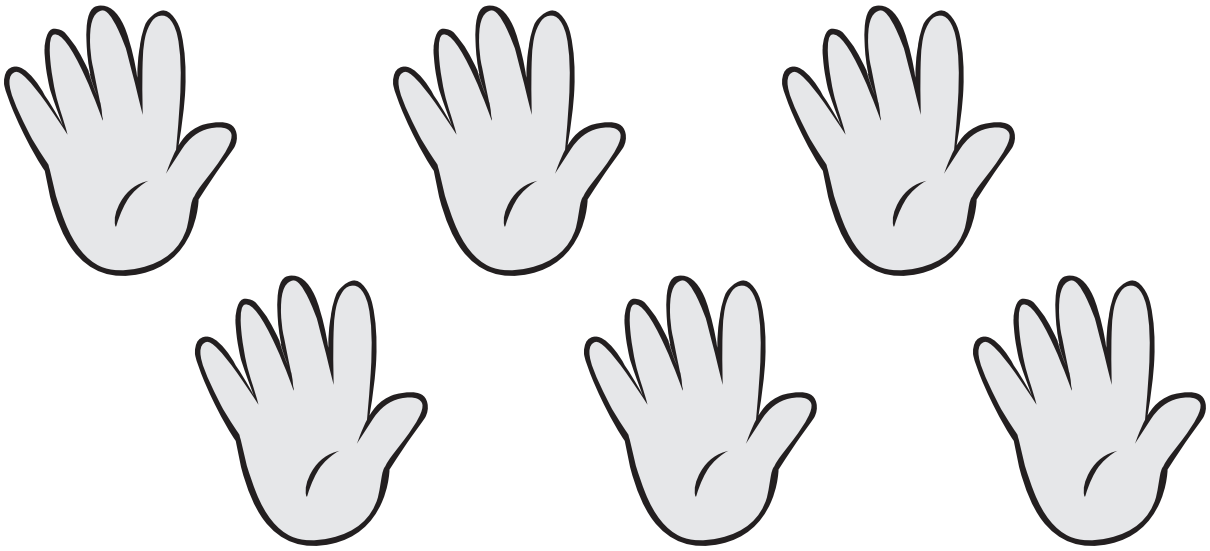
yes no

yes no



yes no

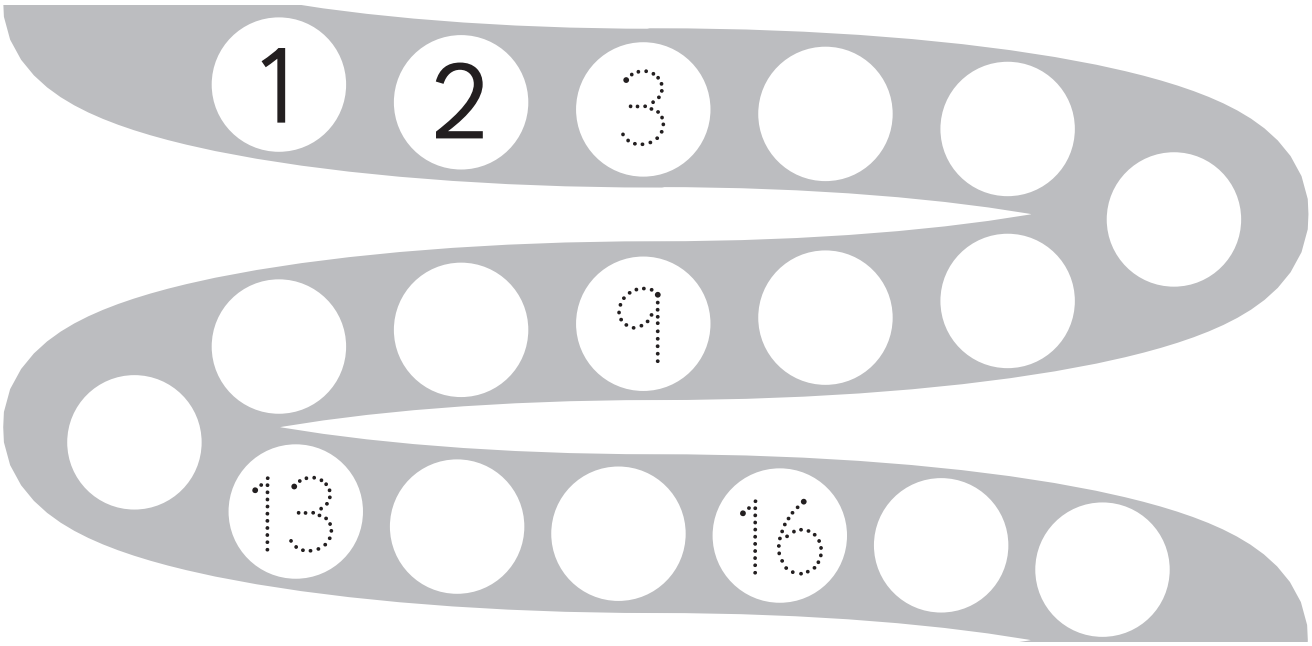
3 Loop the right number of hands to show 20 fingers and thumbs.



Copyright © 3P Learning

Numbers to 20 – 1 to 20

1 Fill in the missing numbers.



2 Write the numbers that come **before** and **after**.

before		after
	17	

before		after
	14	

before		after
	15	

before		after
	12	

3 Write a number that is **more than** 11. ☐

Write a number that is **less than** 15. ☐

Copyright © 3P Learning

Numbers to 20 – count on and back

1 Count on.

a

10	11				15

b

13	14				

2 Count back.

a

20	19			16	15

b

16		14	13		

3 Find a partner. Take turns counting from 1 to 20 or from 20 to 1. Stop around half way and see if your partner can pick up where you left off. Give yourselves a big tick each time you finish it correctly.

Help

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

Copyright © 3P Learning

Numbers to 20 – count on and back

You will need: some partners and a helper counters

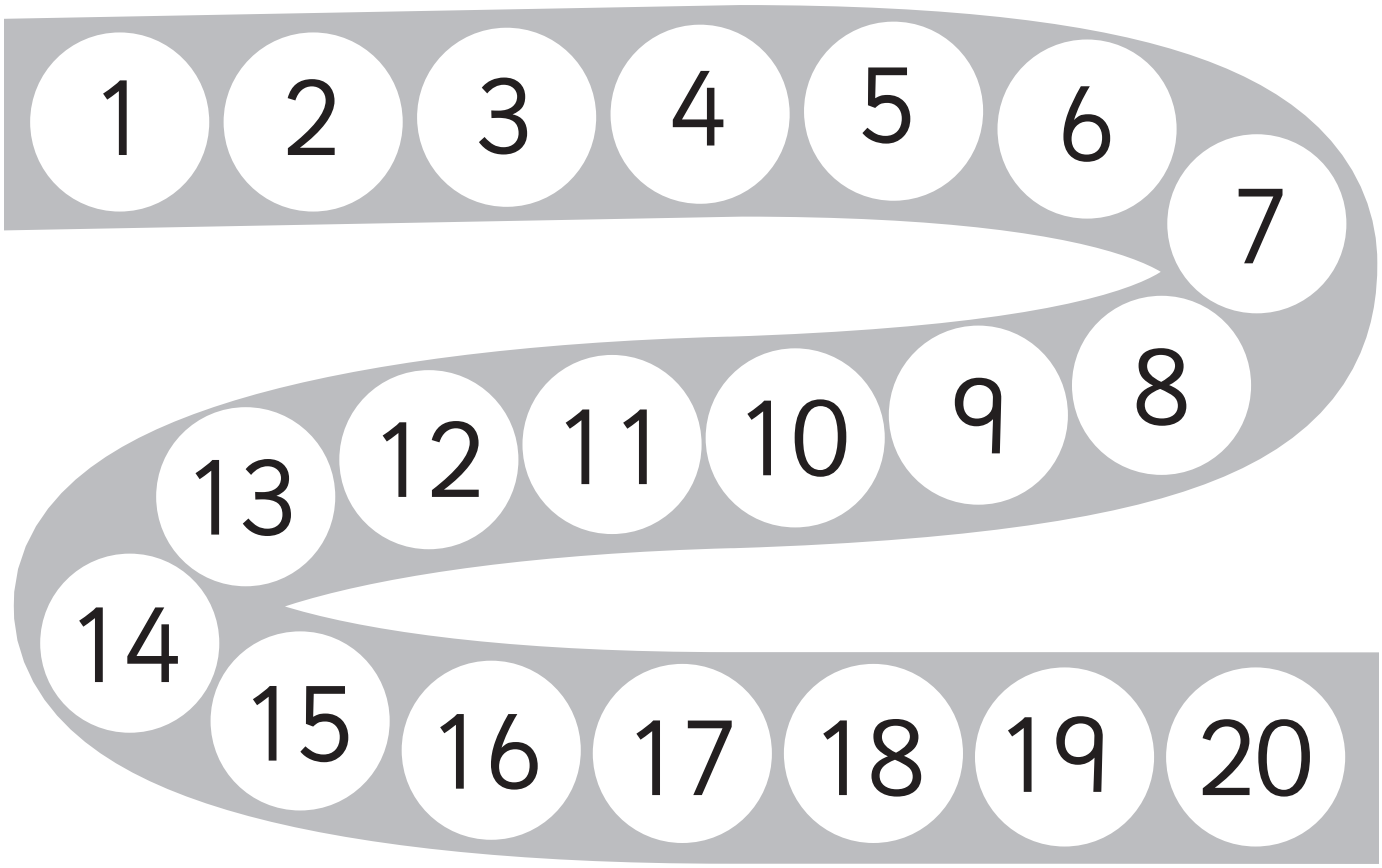
What to do:

Ask your helper to turn away. Each player, put a different coloured counter onto the track below.

When you are ready, tell your helper and they will call out a number between 1 and 20.

If your counter is on that number, you score 3 points. If your counter is closest to the number you score 2 points. If more than one of you are on the number or close to it, you score 1 point. Your helper will assist you with this.

Play until one lucky player scores 10 points.



Copyright © 3P Learning

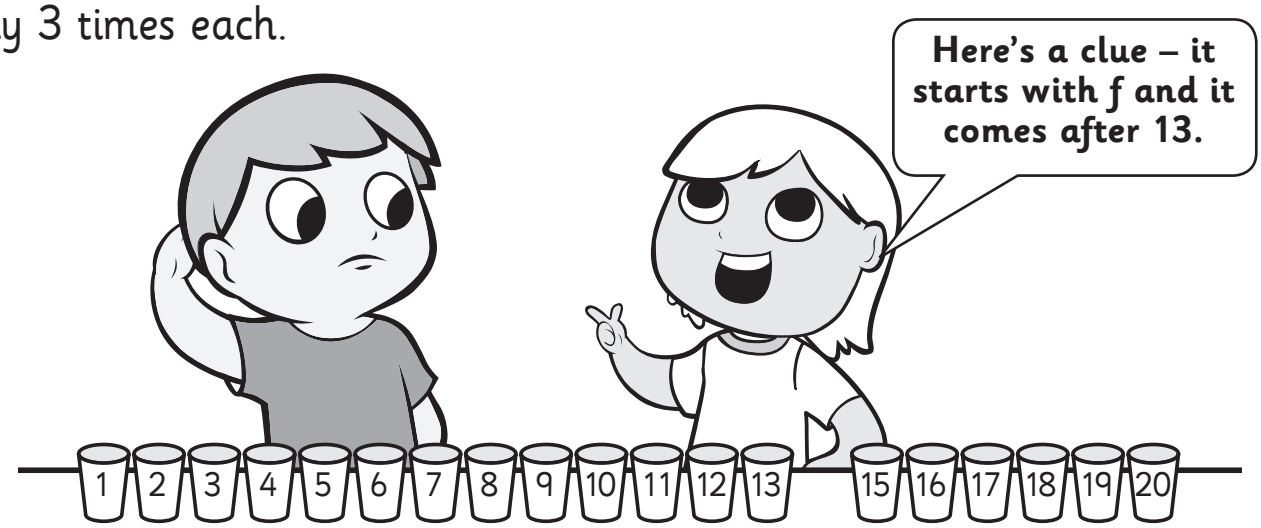
Numbers to 20 – ordering numbers

You will need: a partner, 20 plastic cups, a permanent marker, 20 counters or cubes

What to do:

Label the plastic cups 1 to 20. Mix them up and then put them in order from 1 to 20.

Take turns removing a cup without letting your partner see. Can they guess which one has gone? They must be able to say the number! Play 3 times each.



What to do next:

You will need the 20 cubes or counters and 1 cup. You will also need to play this game in a quiet space.

Player 1, close your eyes.

Player 2, slowly and clearly drop some of the cubes or counters into the cup, one by one.

Player 1 count the drops as you hear them. If you get confused, ask Player 1 to start again.

Say the final number to Player 1. Are you right?

Swap jobs.

Copyright © 3P Learning

Numbers to 20 – tens and ones introduction

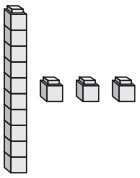
We can make numbers using tens and ones blocks.

This is **10**.

1 tens block and **0** ones blocks

10

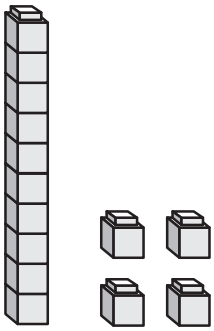
This is **13**.



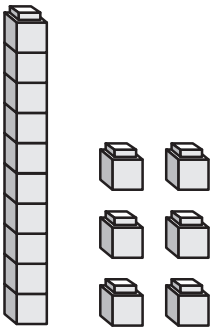
1 tens block and **3** ones blocks.

13

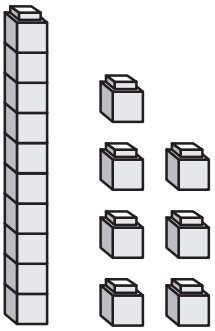
1 How many?



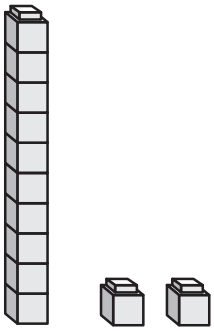
tens	ones	number
1	4	14



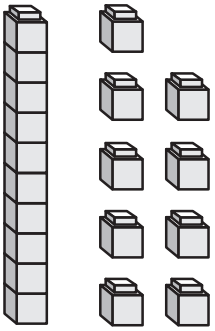
tens	ones	number



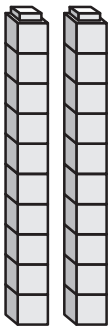
tens	ones	number



tens	ones	number



tens	ones	number



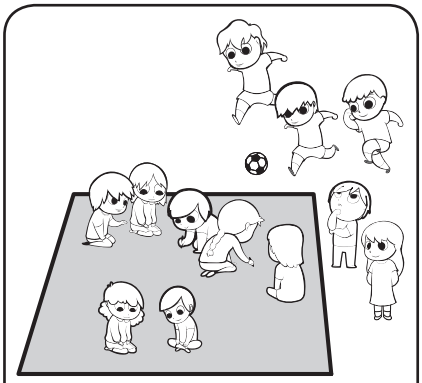
tens	ones	number
	0	

Copyright © 3P Learning

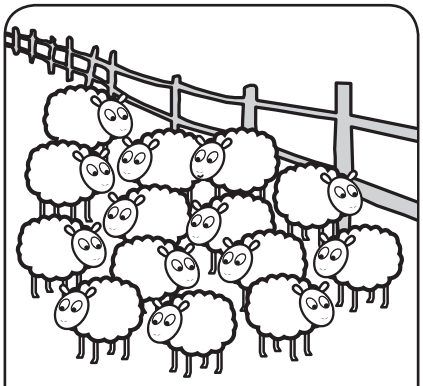
Numbers to 20 – estimation

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

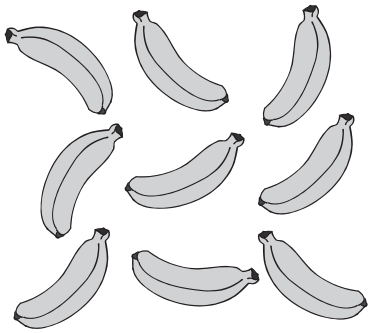
1 How many? Write your estimates (**e**), show a partner and then count (**c**).



e ☐ **c** ☐

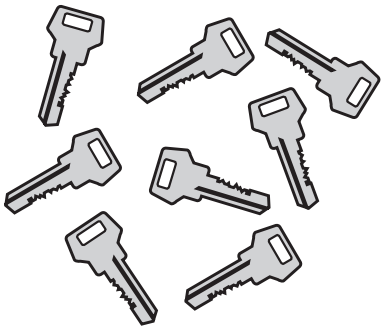


e ☐ **c** ☐

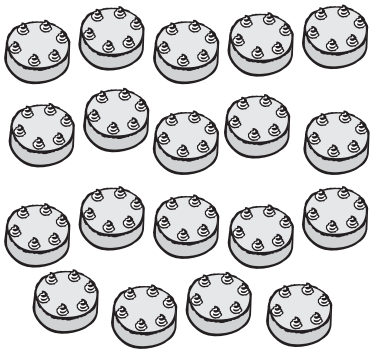


e ☐ **c** ☐

e ☐ **c** ☐



e ☐ **c** ☐



e ☐ **c** ☐

2 You will need a partner, 20 counters and a book to cover them. Take turns picking a handful of the counters **without counting**. Spread them out and both look at them for 5 seconds.
Cover them with the book. Both say your estimates, and then check. Do you get better with practice?

Copyright © 3P Learning

Numbers to 30 – counting

1 Draw a face for each child in your class and finish the statement. How will you know you have counted everyone and counted them only once?

There are ☐ children in my class.

Copyright © 3P Learning

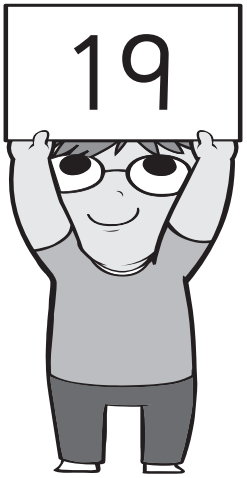
Numbers to 30 – count and order

1 Say the numbers out loud and trace the dotted ones.

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

2 Write 3 numbers that are less than me. Write 3 numbers that are more than me.

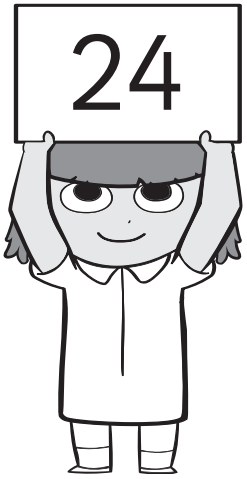
less than



more than

3 Write 3 numbers that are less than me. Write 3 numbers that are more than me.

less than



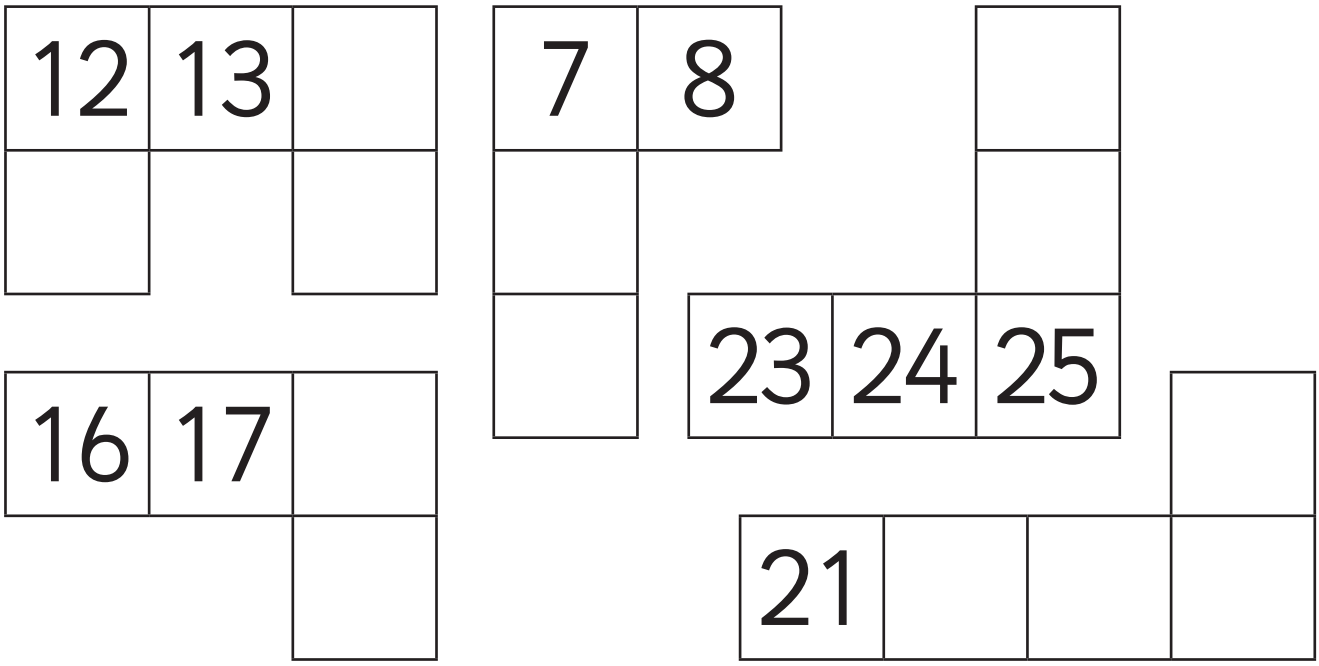
more than

Copyright © 3P Learning

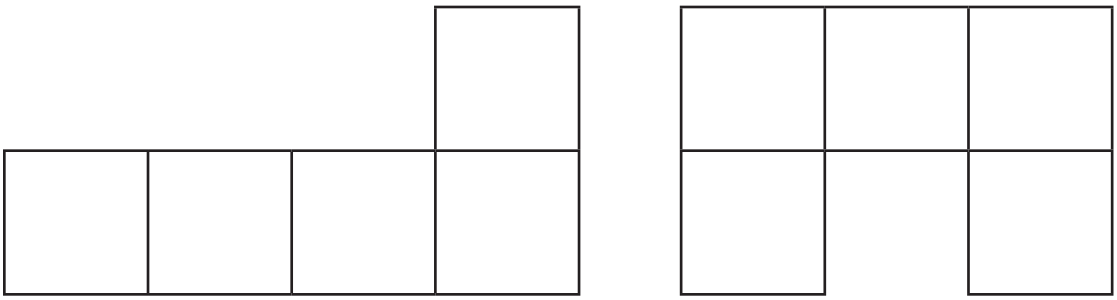
Numbers to 30 – count and order

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

1 Use the grid to help you fill in the missing numbers on these puzzle pieces.



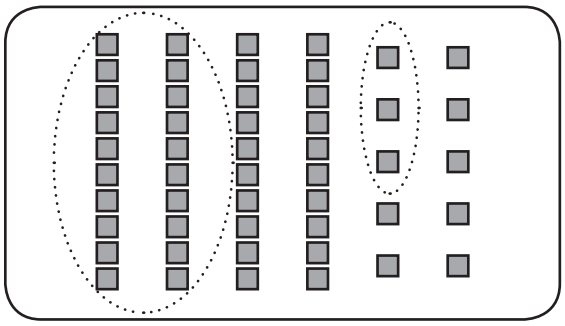
2 What numbers could go on these puzzle pieces?



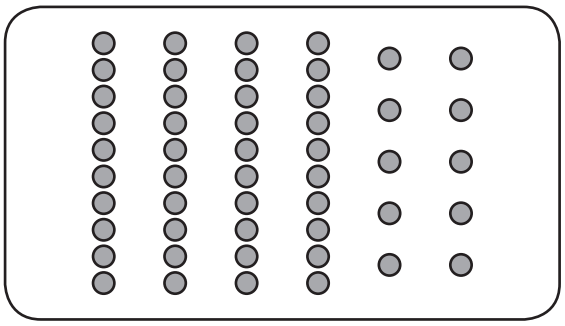
Copyright © 3P Learning

Numbers to 30 – matching amounts

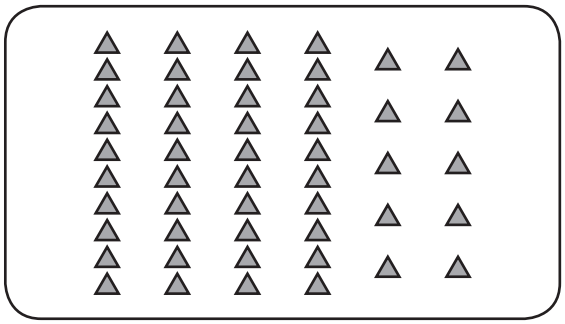
1 Loop the shapes to match each number.



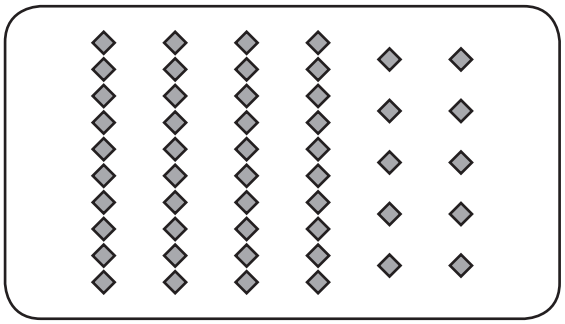
23



22



28



19

2 You will need 30 counters. Work in your own book. Player 1, close your eyes and take some of the counters. Both players look at the counters for 5 seconds and estimate how many. Write your estimate in an **e** box below. Now count and write the number in a **c** box. Player 2, do the same. Play 4 times.

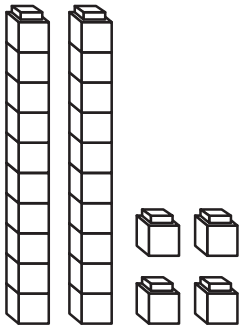
e ☐ **c** ☐ **e** ☐ **c** ☐

e ☐ **c** ☐ **e** ☐ **c** ☐

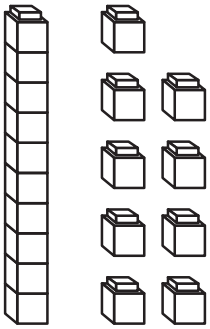
Copyright © 3P Learning

Numbers to 30 – tens and ones

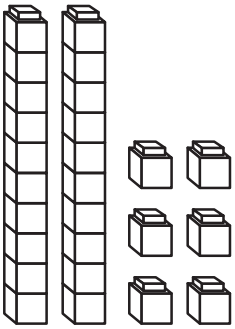
1 How many?



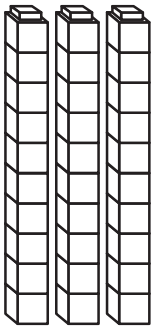
tens	ones	number
2	4	24



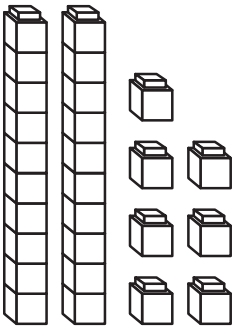
tens	ones	number
1		



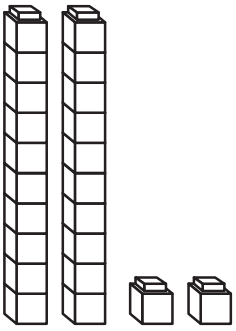
tens	ones	number



tens	ones	number
	0	



tens	ones	number



tens	ones	number

2 Use tens and ones blocks to make these amounts. Tick the numbers when you have made them and show your teacher how you did it.

23 17 26 30

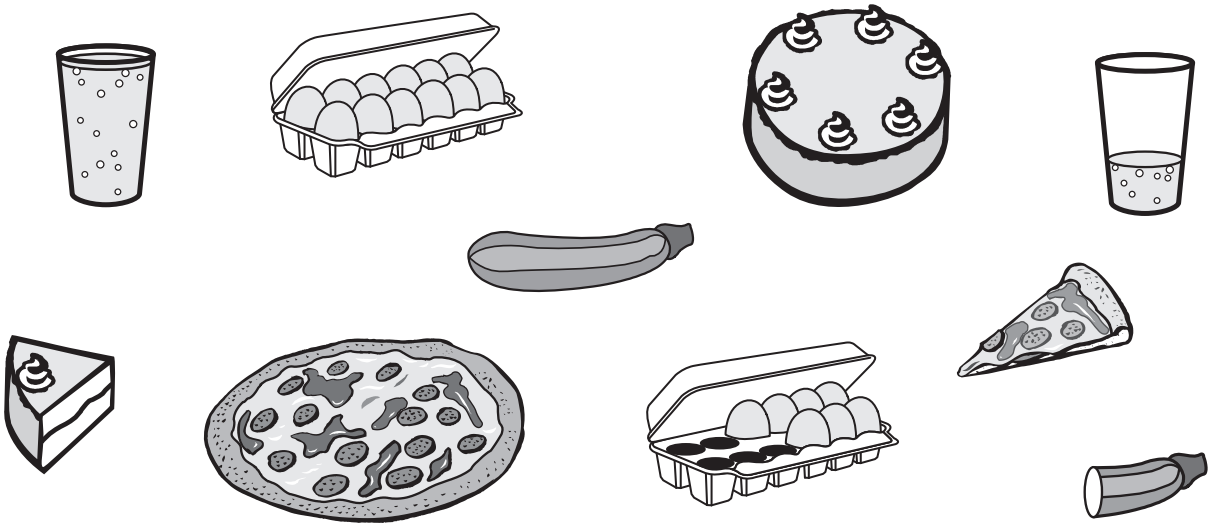
Copyright © 3P Learning

Fractions – parts and wholes

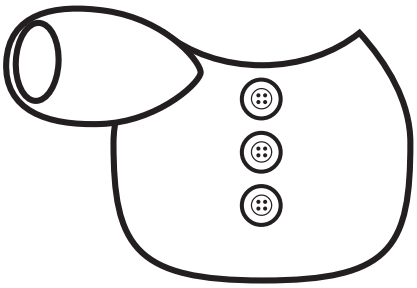
This is a **whole** apple.

This is **part** of a whole apple.

1 Tick the wholes. Loop the parts.



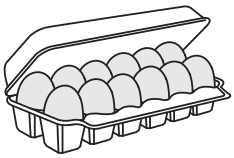
2 This is part of a teddy. Draw the other parts to make a whole teddy.



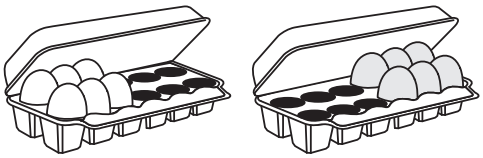
Copyright © 3P Learning

Fractions – parts and wholes

This a whole carton of eggs.

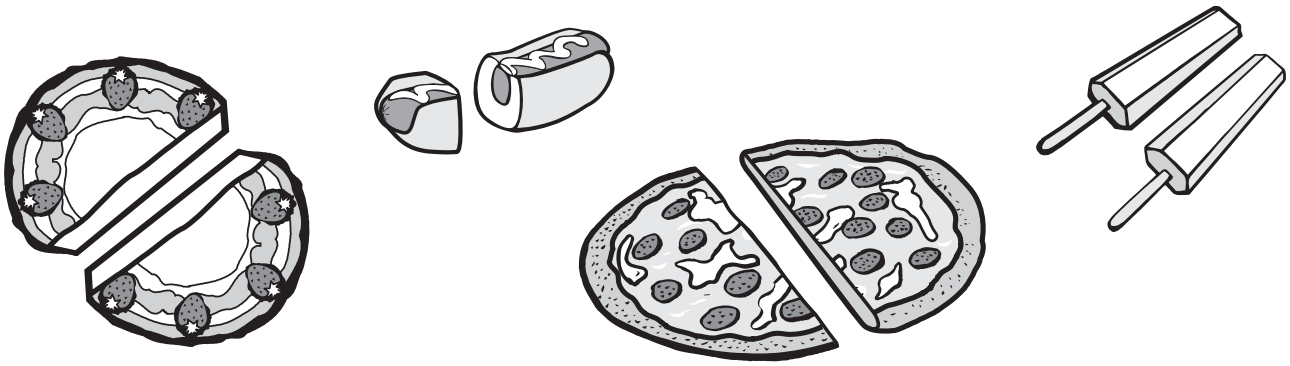


It is now broken into parts.

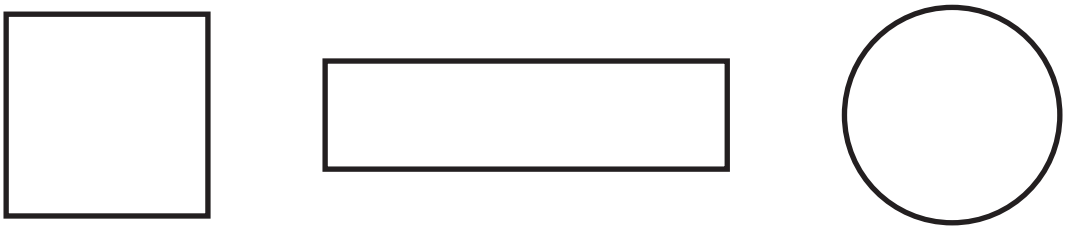


Are the parts **equal** or **the same**? Yes, they are the same.

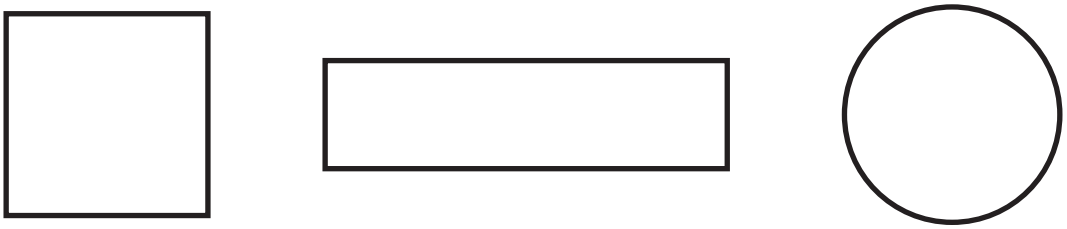
1 Colour the wholes that have been broken into equal parts. This means the parts are the same.



2 Draw lines to split these shapes into 2 equal parts. This means the parts are the same.



Now draw lines to split the shapes so the 2 parts are **not** the same.



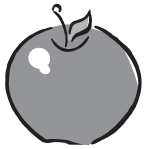
Compare your splits with a partners'. Are they the same? If not, can you both be right?

Copyright © 3P Learning

Fractions – halves

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

This is one whole apple.

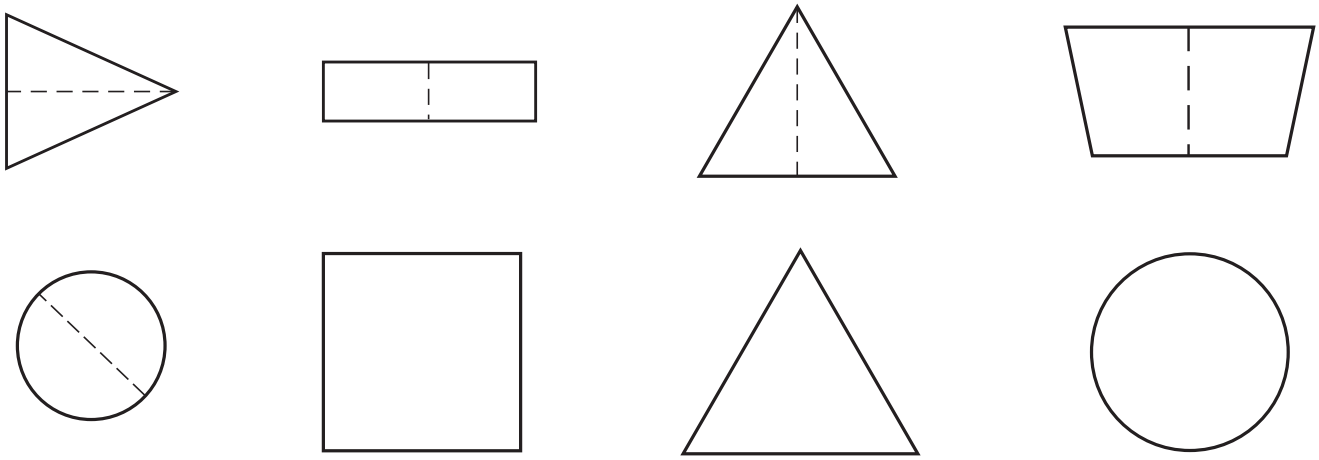


whole

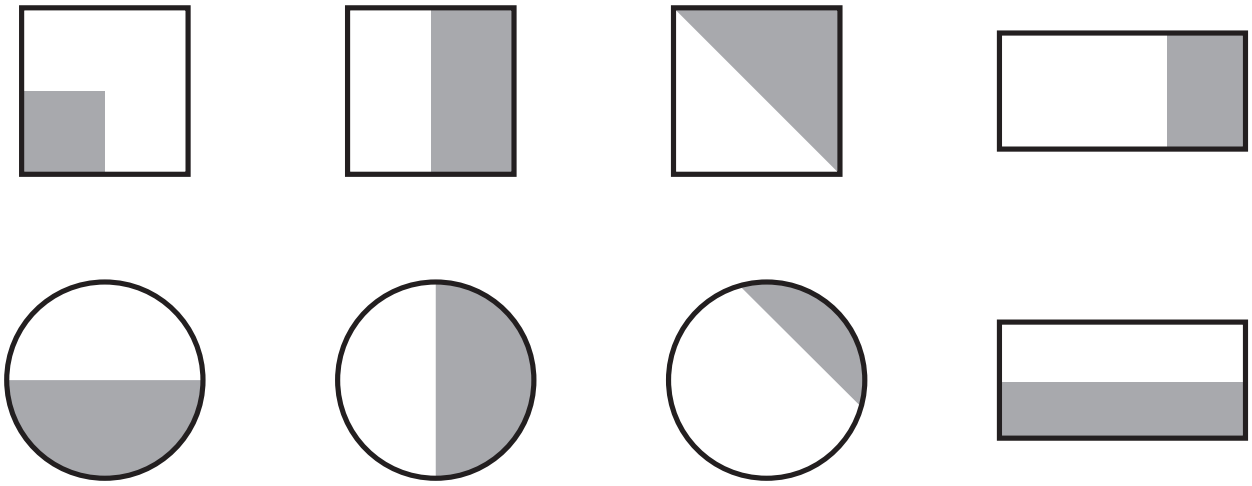
The apple is now cut into halves.

half half

1 Colour 1 half of each shape.



2 Tick the shapes that have 1 half shaded. Remember, halves must be **equal** or the **same**.



Copyright © 3P Learning

Fractions – halves

You will need: scissors

copy

What to do:

Cut out the shapes below. Find some different ways to fold them in halves. Show someone your ways.

Copyright © 3P Learning

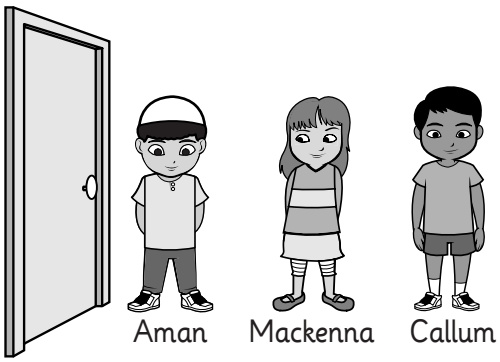
Ordinal numbers – 1st to 3rd

We use ordinal numbers to talk about **order**. Look at this line.

Who is **1st**? Aman is 1st.

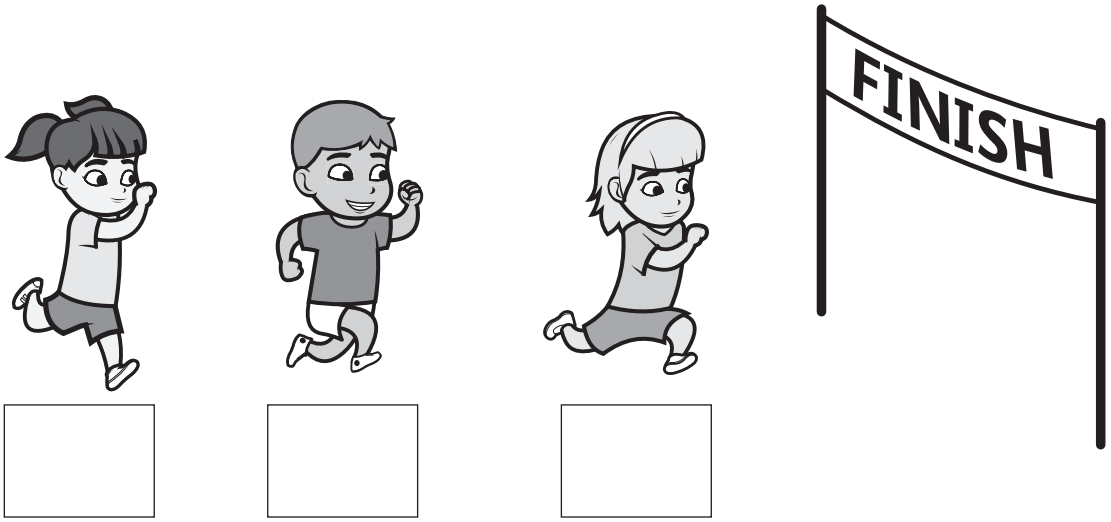
Who is **2nd**? Mackenna is 2nd.

Who is **3rd**? Callum is 3rd.



1 What are some times we say or use the words 1st, 2nd or 3rd? Draw or write them.

2 Look at this race. Write the ordinal numbers to show the order.



Help 1st 2nd 3rd

Copyright © 3P Learning

Ordinal numbers – 1st to 3rd

You will need: scissors pencils or markers

copy

What to do:

Close your eyes and listen to your teacher read the rhyme. Imagine what the people might look like. Now draw each person in their box.

Cut out the boxes and staple them in order to make a book.

Read your book to someone.

In order, please! by _____	1st is the worst.
2nd is the best.	3rd is the person with the treasure chest!

Copyright © 3P Learning

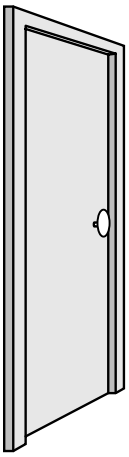
Ordinal numbers – 1st to 10th

1 Say and trace the ordinal numbers.

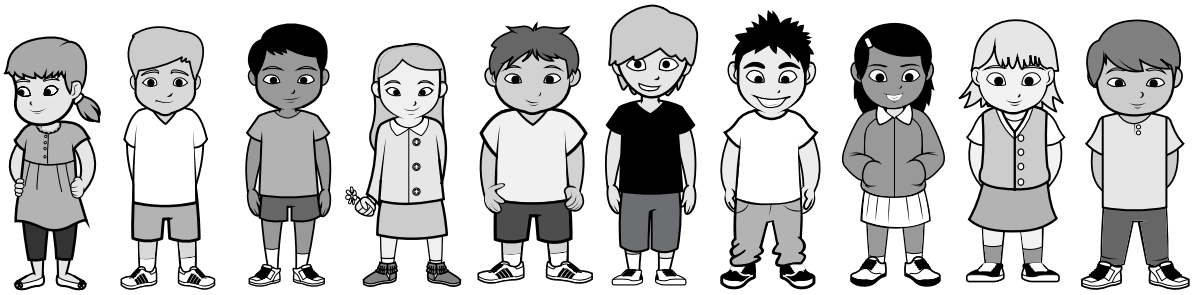
start

1st	2nd	3rd	4th	5th		
				6th		
				7th		
				8th	9th	10th

finish



These children are lining up outside their classroom.



Milly | Karl | Danny | Zara | Luke | Tran | Lachie | Sam | Pat | Jon

2 Who is:

1st? _____

4th? _____

8th? _____

10th? _____

Copyright © 3P Learning

Ordinal numbers – 1st to 10th

You will need: a partner, a counter, 10 plastic cups, a permanent marker

What to do:

Put the 10 cups in a line upside down. Decide which end is the start of your line and put a dot on the 1st cup.

Player 1, cover your eyes. Player 2, hide the counter under one of the cups.

Player 1, you have to guess which cup the counter is under by asking a question like, 'Is it under the 3rd cup?' Player 2, you lift up that cup to show. You can also give clues such as, 'It is near the middle of the line'.

When the counter is found, swap jobs. Play 3 times each.

What to do next:

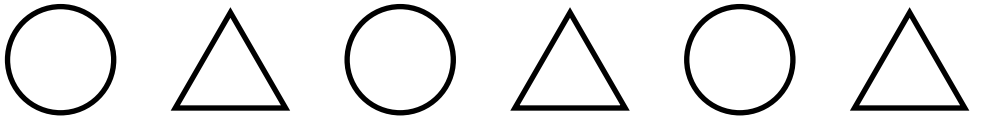
Label the cups 1st to 10th. Mix them up. Race against another pair to put them back into the right order. The first correct team sitting down with their hands on their heads is the winner!

Now, secretly take out a cup from the line. Let your partners guess which cup is missing.

Copyright © 3P Learning

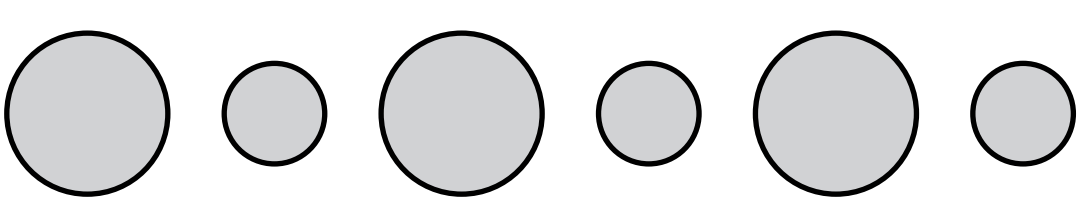
Patterns – continuing repeating patterns

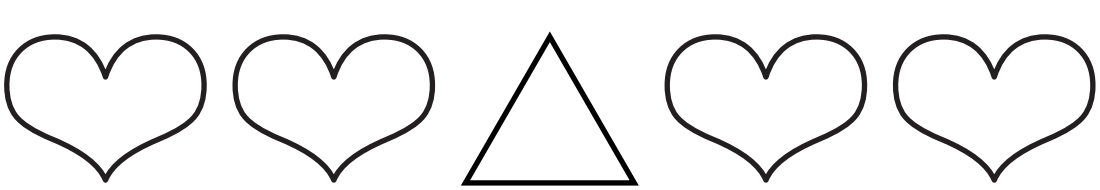
Patterns can repeat. This means they do the same thing over and over again.

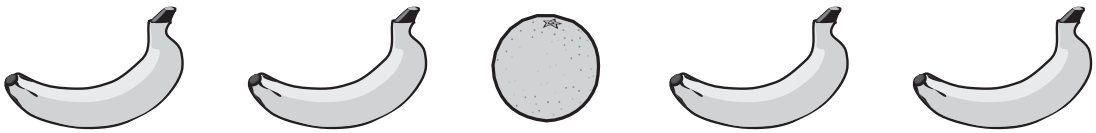


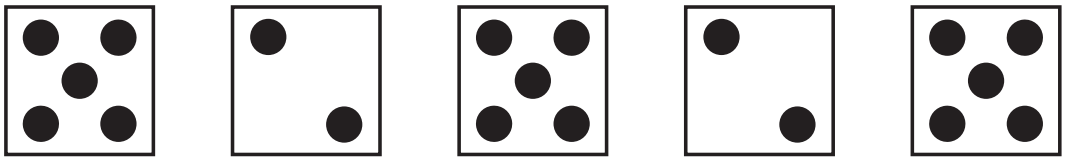
circle triangle circle triangle circle triangle

1 Say each pattern out loud. What comes next? Draw it.







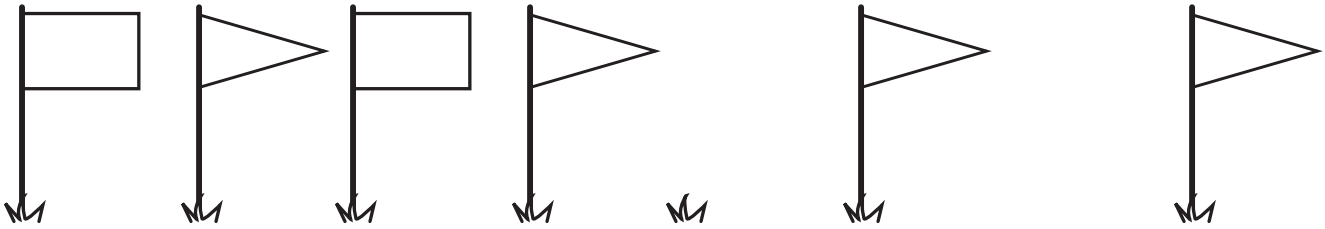


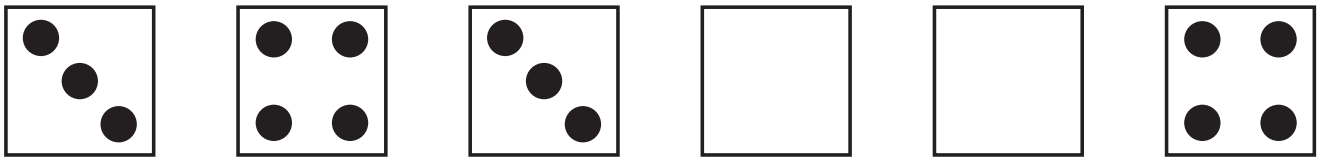
A B A B A B A

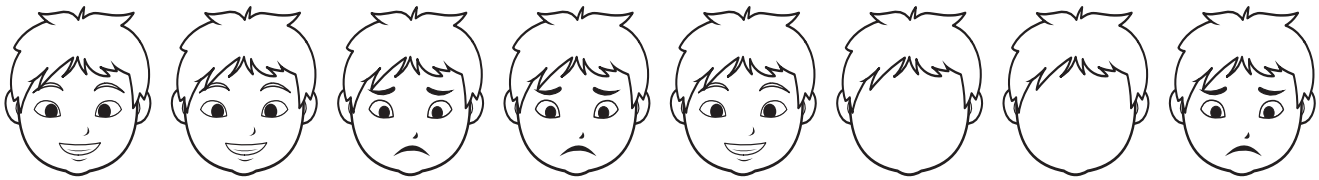
Copyright © 3P Learning

Patterns – identifying missing elements

1 Draw the missing parts.







2 Find a partner. Together make a pattern using ○△□. Ask your partner to hide their eyes while you take 1 block out. Can they tell you which one is missing? Swap jobs.

Copyright © 3P Learning

Patterns – creating repeating patterns

You will need: a partner shape blocks

What to do:

Make a pattern using shape blocks.

Which shapes did you use? Record them here.

What to do next:

This time make a pattern using these blocks △□.

Draw some of it here.

Now make a different pattern using △□ blocks. How can you make it different if the blocks are the same?

Draw some of your new pattern here.

Copyright © 3P Learning

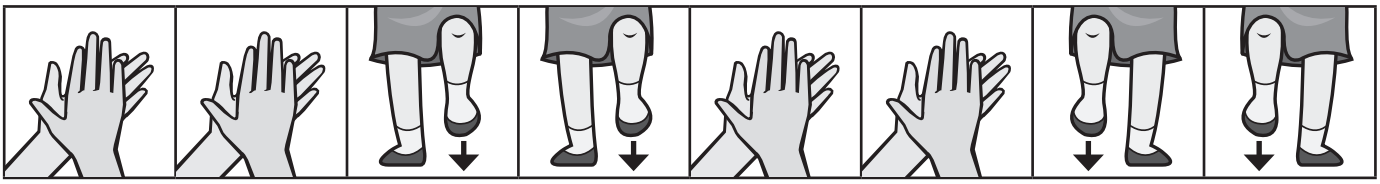
Patterns – creating repeating patterns

We can make patterns using our bodies and our voices.

You will need: a partner

What to do:

Make this pattern with your body. Continue it.

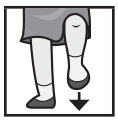


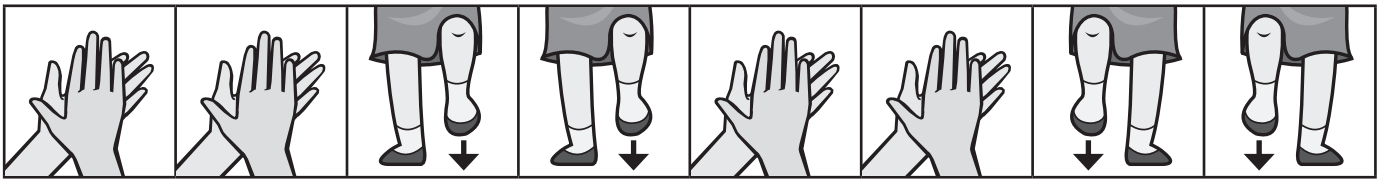
Make up a different body pattern. Can your partner continue it?

Swap roles.

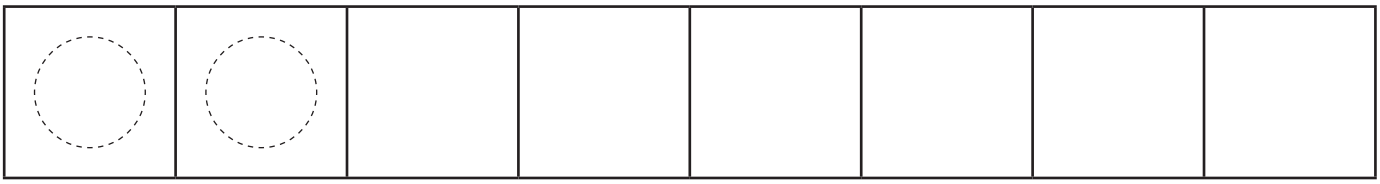
What to do now:

We could record this pattern using shapes.

○ for △ for 



Record this pattern below.



What to do next:

Say this pattern out loud. Continue it.

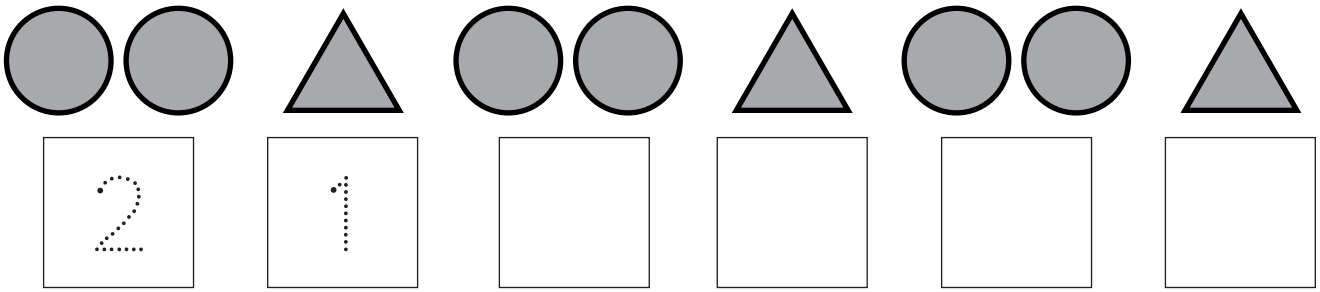
Whoop, whoop … dingle dingle … whoop, whoop, dingle dingle …

Invent your own voice pattern. Share it with the class.

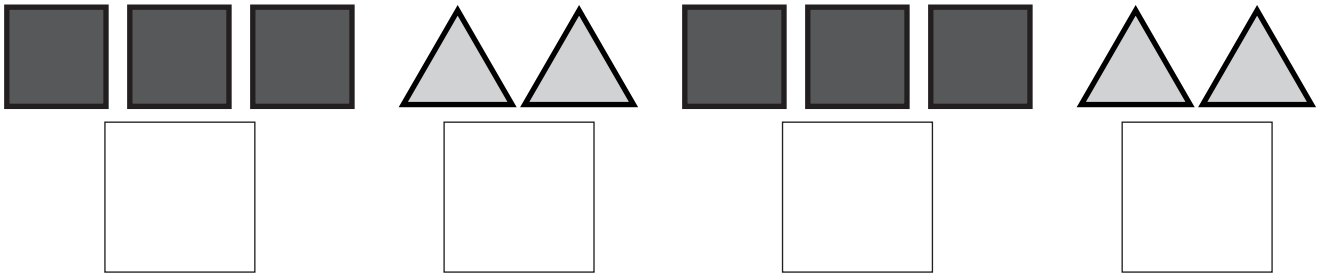
Copyright © 3P Learning

Patterns – introducing number patterns

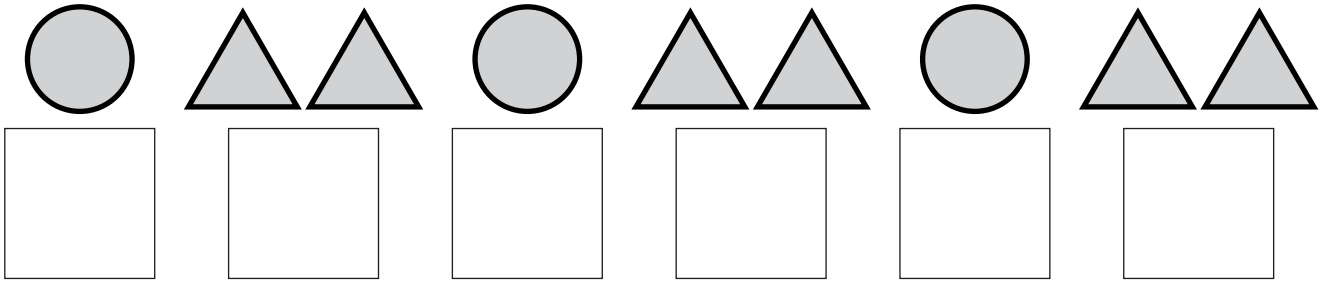
1 Say each pattern out loud. Write numbers to match.



circles	triangle	circles	triangle	circles	triangle
2	1				



squares	triangles	squares	triangles



circle	triangles	circle	triangles	circle	triangles

2 Make this pattern with blocks. Draw it.

2	1	2	1	2	1
circles	square	circles	square	circles	square

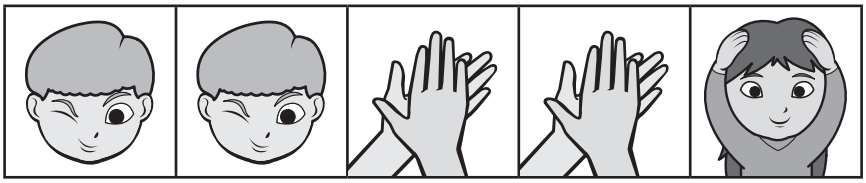
Copyright © 3P Learning

Patterns – introducing number patterns

1 Draw faces to match.

2	1	2	1	2	1
happy	sad	happy	sad	happy	sad

2 Write the numbers to match this body pattern.



winks	claps	hands on head

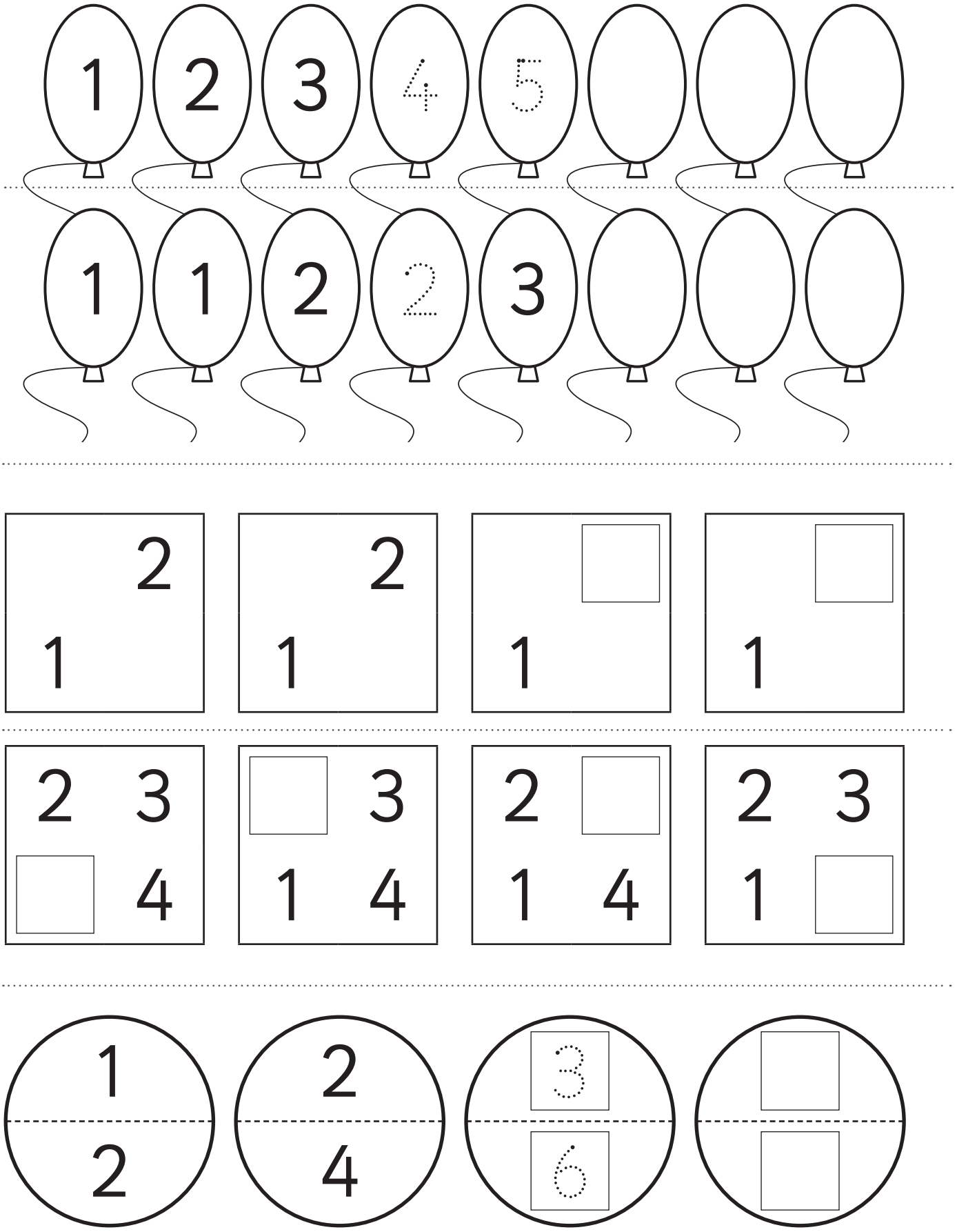
Make this pattern with your body. Continue it.

3 Make up your own body pattern. Show a partner. Record it below using pictures and numbers.

Copyright © 3P Learning

Patterns – number patterns

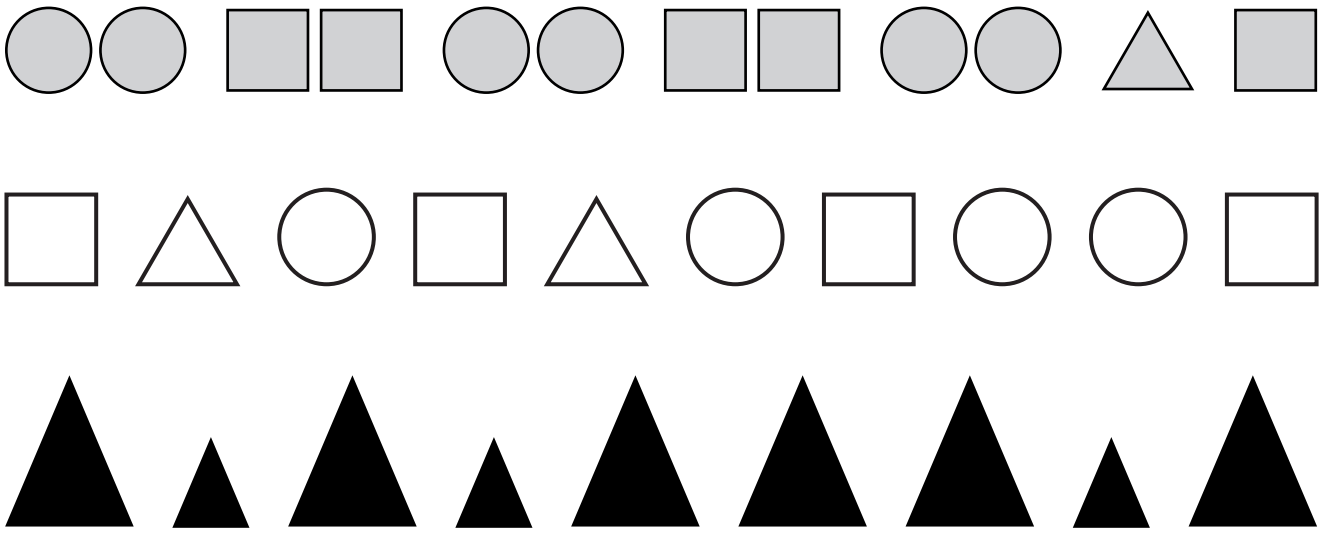
1 Look at each number pattern. Complete them.



Copyright © 3P Learning

Patterns – find the mistake

1 Say each pattern out loud. Can you spot the mistake? Loop the parts that are wrong.



2 Say each counting pattern out loud. Can you spot the mistake? Loop each mistake.

1	2	3	4	6	5	7	8	9	10

10	9	8	7	6	5	4	2	3	1

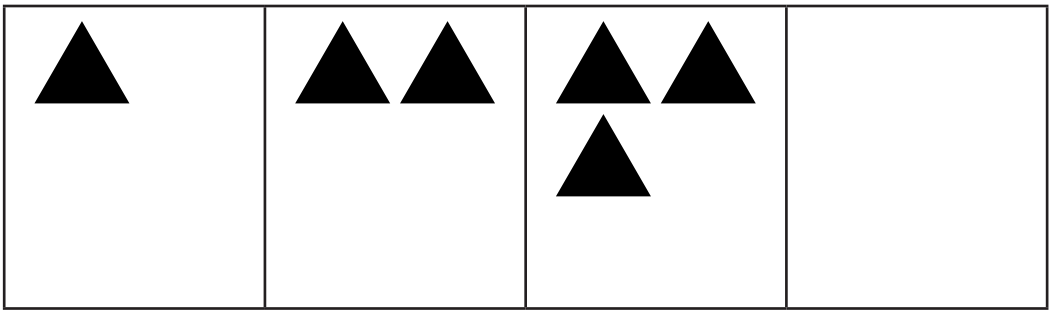
3 Use shape blocks to make a pattern. Make a mistake and see if your partner can spot it. Swap jobs.

Copyright © 3P Learning

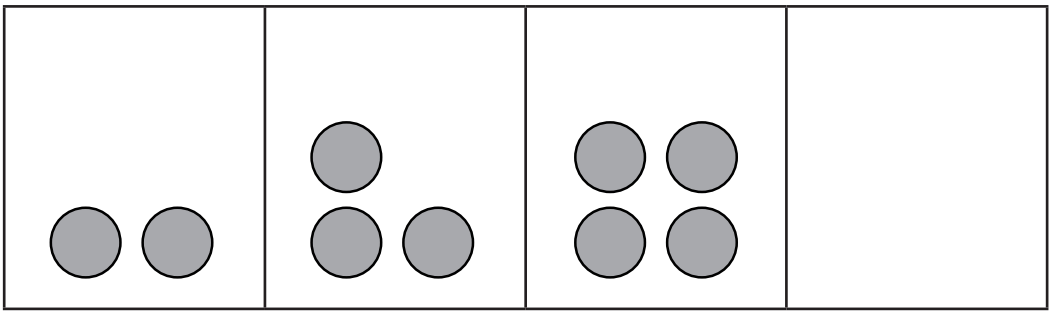
Patterns – growing patterns

Some patterns grow. They get bigger by the same amount every time.

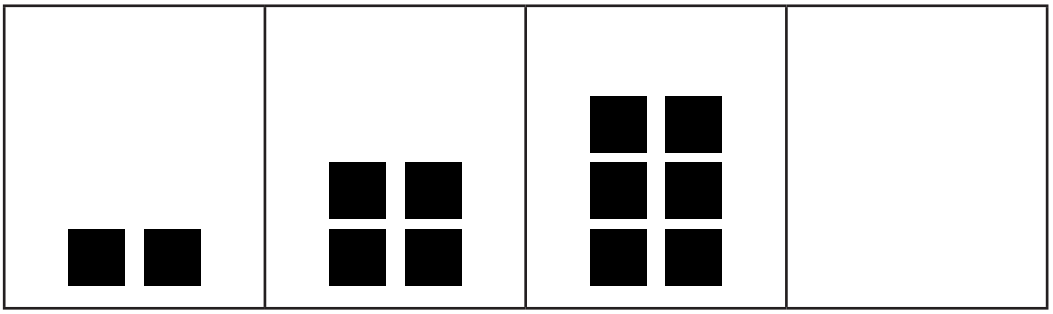
1 Draw shapes to complete these growing patterns.
Name the rule.



The rule is add 1

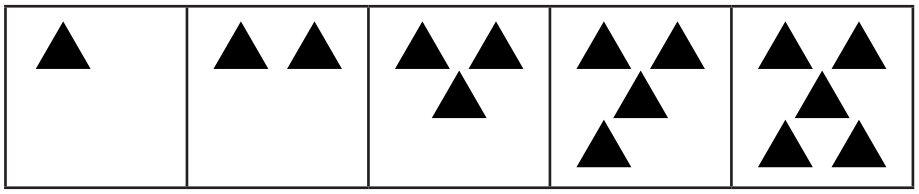


The rule is add ___

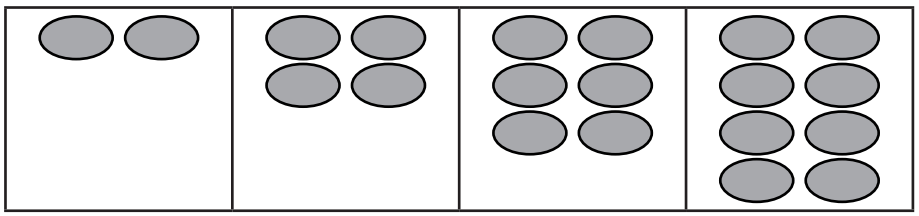


The rule is add ___

2 Draw lines to match the growing patterns with their rule.



add 2



add 1

Copyright © 3P Learning

Patterns – growing patterns

You will need: a partner shape blocks

What to do:

Choose a shape to build a growing pattern with. Ask your partner to guess the rule.

Draw part of your pattern and write its rule below.

Swap jobs.

What to do next:

Tell your partner a rule and see if they can build the growing pattern to match.

Copyright © 3P Learning

Number relationships – equality

1 Find someone who is the **same** height as you. Record your answer.

.....

2 Find someone who has the **same** number of brothers as you.

.....

3 Find someone who has the **same** colour hair as you.

.....

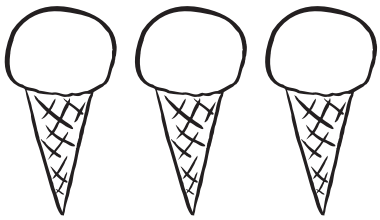
4 Find someone who has the **same** ranking on Level 1 Live Mathletics as you.

Copyright © 3P Learning

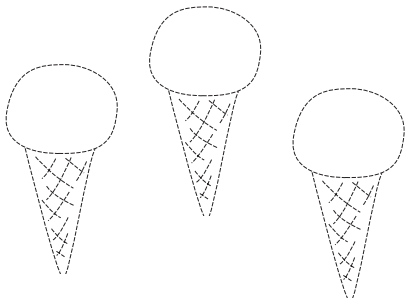
Number relationships – equality

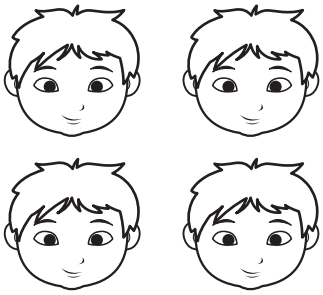
When groups have the same amount we say they are **the same** or **equal**.

1 Draw pictures to make the groups the same.



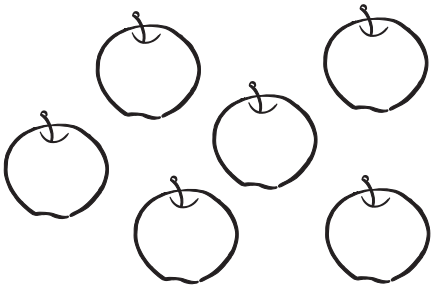
is the same as





is the same as

is the same as

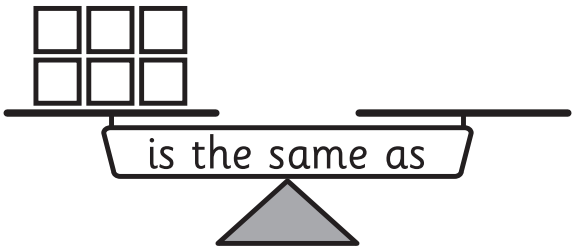


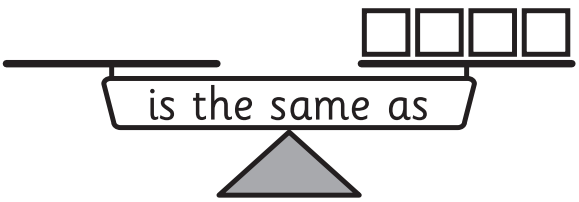
is the same as

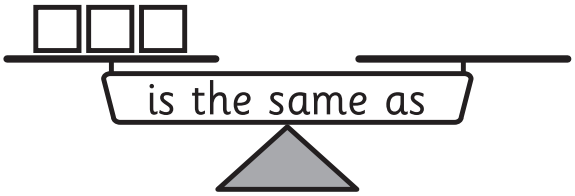
Copyright © 3P Learning

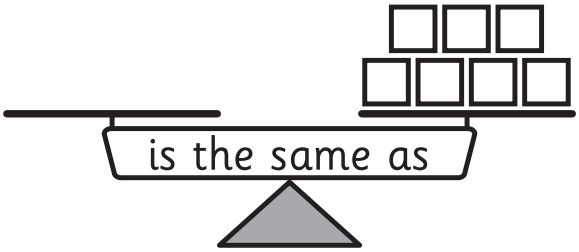
Number relationships – equality

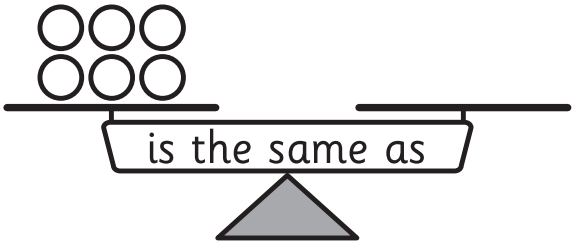
1 Draw blocks to make the scales balance. This means the sides have the **same** amounts of blocks. They are **equal**.

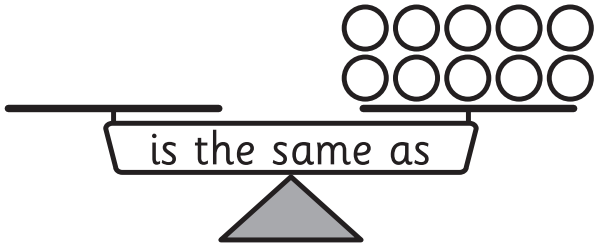










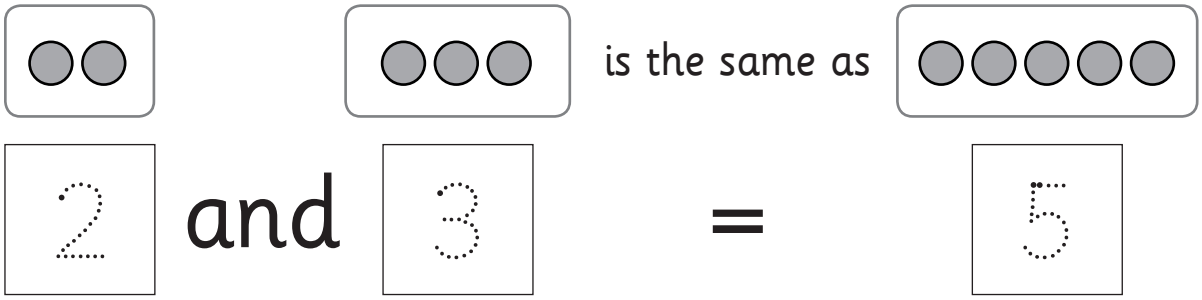


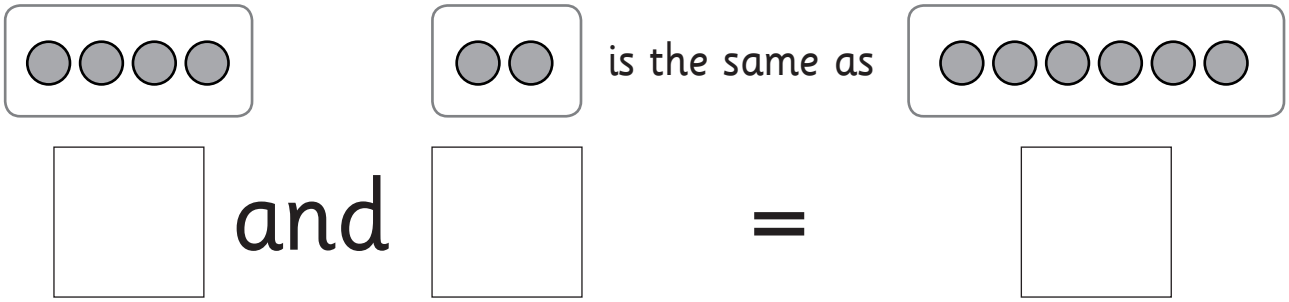
Copyright © 3P Learning

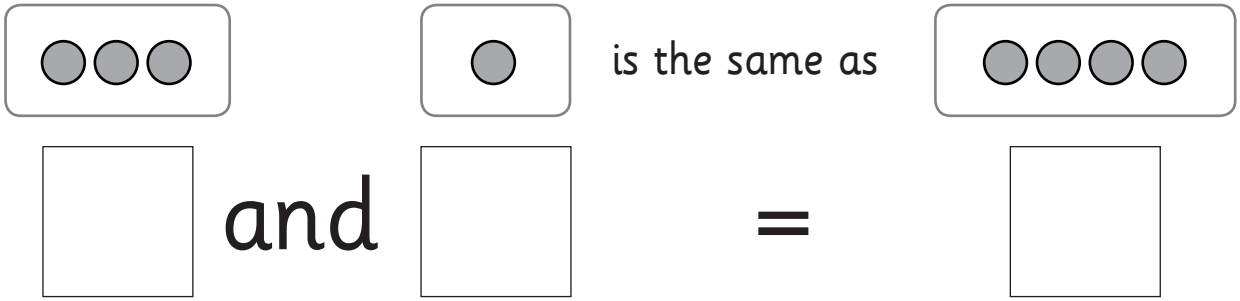
Number relationships – equality

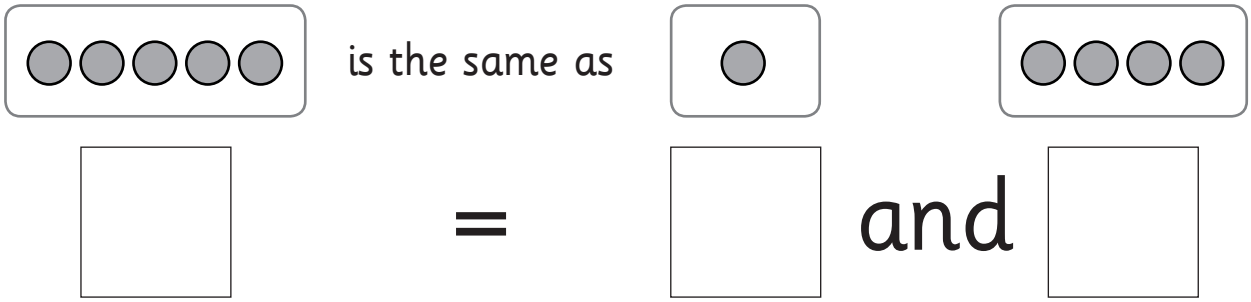
This is the equals sign **=** It means the **same as**.

1 Count. Complete the statements and read them to a partner.









Copyright © 3P Learning

Number relationships – equality

You will need: a partner 5 blue counters and 5 yellow counters

What to do:

Here is 1 way you can equal 5.

● ● ● ● ● = 5

Here is another way.

● ● ● ● ○ = 5

Work with your partner to find 5 other ways you can equal 5. Record them below by colouring the circles.

○ ○ ○ ○ ○ = 5

○ ○ ○ ○ ○ = 5

○ ○ ○ ○ ○ = 5

○ ○ ○ ○ ○ = 5

○ ○ ○ ○ ○ = 5

What to do next:

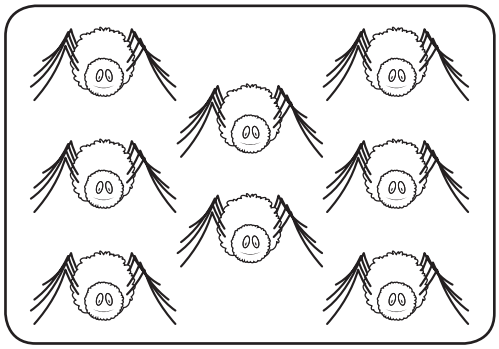
Choose another number and find some ways to equal it.

Copyright © 3P Learning

Number relationships – inequality

If groups **do not** have the same amount we say they are not equal. This means one group has **more than** or **less than** the other.

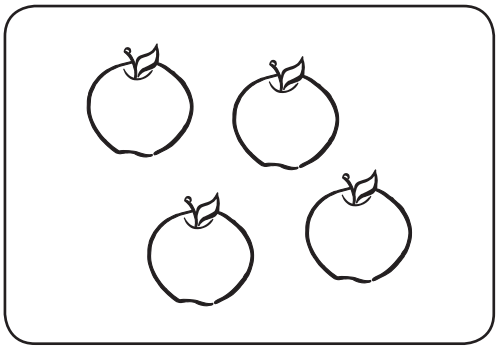
1 Draw pictures so that:



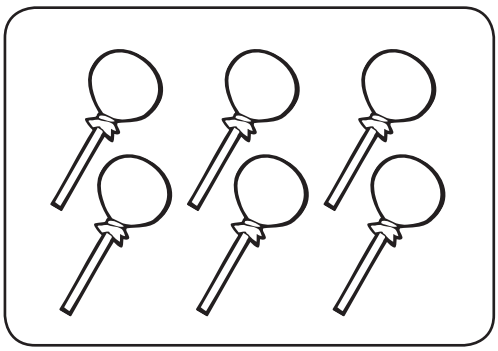
is **more** than

is **less** than

is **more** than



is **less** than



Copyright © 3P Learning