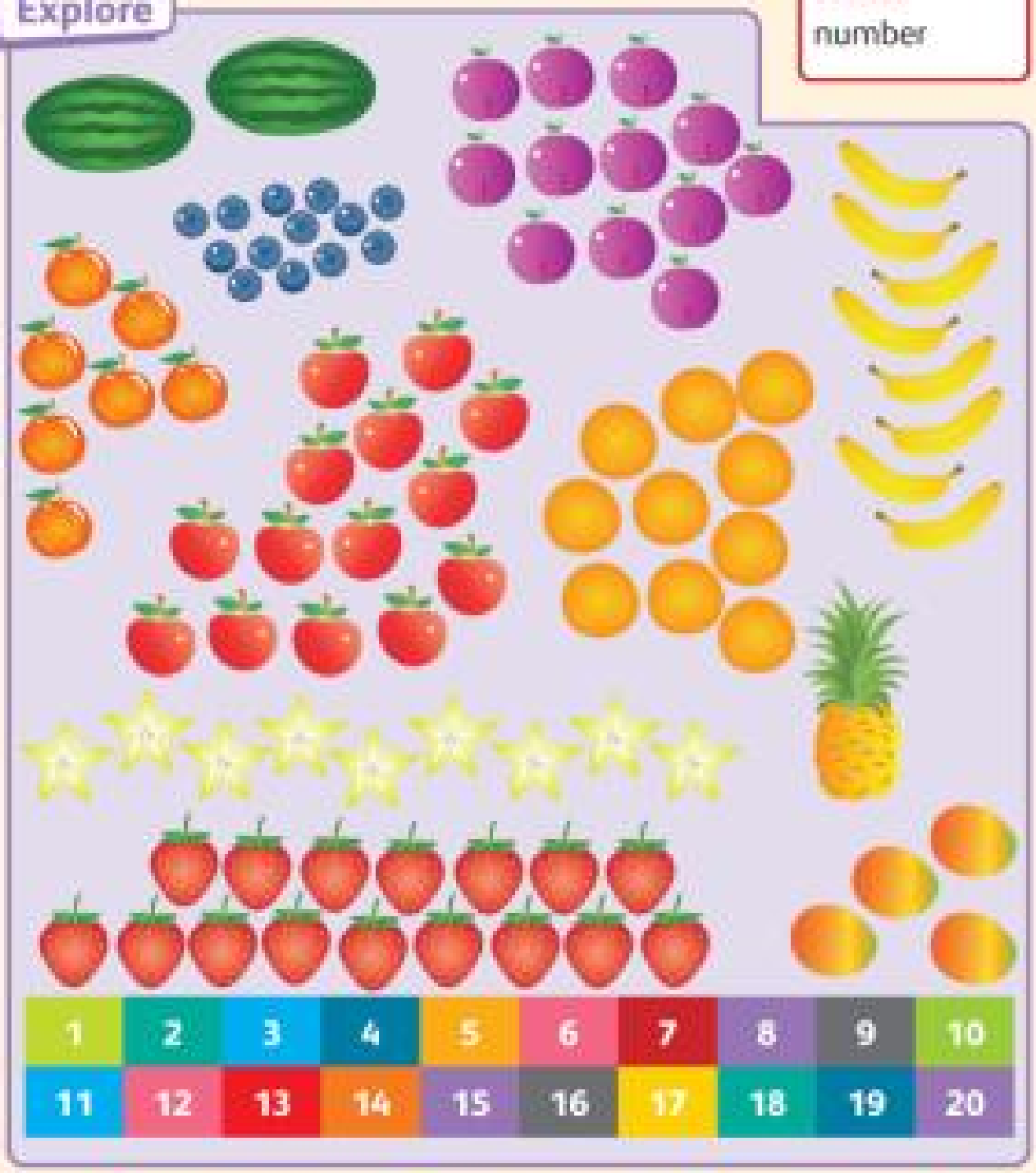
1a Counting

Key word
number

Explore



Saying numbers in order

Learn

Say these numbers in order.
Put your finger on each number as you say it.

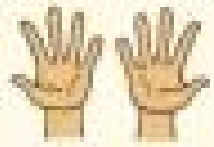
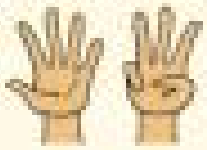
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Think like a mathematician

Use the numbers to 10 to help with numbers to 20.
6 comes before 7, so 16 comes before 17.

Practise

1 Use your fingers to make each number. Count and write the number.

a  b  c  d 

2 Count to 20. Start with each number shown in the pictures.

a  b 

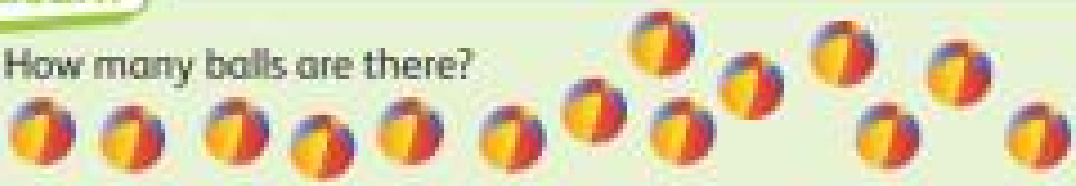
3 Say the numbers from 1 to 20 in order slowly.

Can you say them more quickly?

Counting up to 20 objects

Learn

How many balls are there?



Point to each ball. Say each number to count them.

There are 14 balls.

Practise

1 Make these groups with cubes.

a 

I used ____ cubes.

b 

I used ____ cubes.

c 

I used ____ cubes.

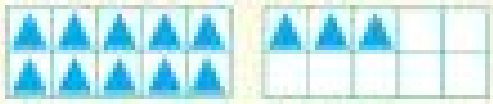
d 

I used ____ cubes.

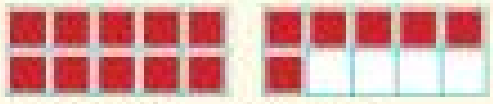
2 Count each group.

a 

There are ____ circles.

b 

There are ____ triangles.

c 

There are ____ squares.

d 

There are ____ stars.

3 Count as you do these.

a Draw 8 circles.

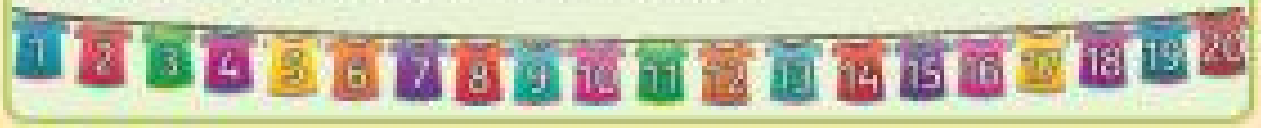
b Make a pile of 10 books.

c Draw 17 triangles.

Reading and writing numbers

Learn

Read the numbers from 1 to 20 in order.



Practise

1 Draw these numbers in the air with your finger.

a 12 b 15 c 18 d 20

2 Use your finger to trace each number. Say the number as you trace it.

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

3 Use a number track to help you fill in the missing numbers.

a	1	2	3		5	6		8		10
b	11	12	13			16	17	18		20
c	5		7		9		11		13	
d	1	2		4	5	6	7		9	10
e	11		13		15			18		20

Try this

Use the numbers 0, 1, 2, and 7 to write as many different numbers from 1 to 20 as you can.

Example:

0 1

can make

10

Think like a mathematician

Read and say numbers you see around you. Your house might have a number. A clock has numbers. Your age is a number.

1b Comparing numbers

Key words
more
less
order

Explore

Someone has mixed up these numbers!

What order should they be in?

Bigger and smaller numbers

Learn

Use tens frames to make each number.

12

15

Who has the bigger number?

Practise

1 Use cubes to make pairs of towers. Which tower is taller?
The first one has been done for you.

a 9 cubes or 5 cubes?

The tower of 9 cubes is taller.

b 8 cubes or 10 cubes?

c 13 cubes or 14 cubes?

d 20 cubes or 19 cubes?

e 15 cubes or 5 cubes?

2 Count each kind of shape. Which has more?

a 

b 

c 

3 Look at each pair of numbers. Which is bigger?

a 

b 

c 

d 

Think like a mathematician

If you have two numbers and you are not sure which is more, look for the numbers on a number track and compare them.

Putting numbers in order

Learn

1 Order these numbers from smallest to largest.

16 17 15 14

2 Write the smallest number first.

14 16 17 15

3 Now write the next smallest number.

14 15 17 16

4 What is the next smallest number?

14 15 16 17

These numbers are now in order from smallest to largest.

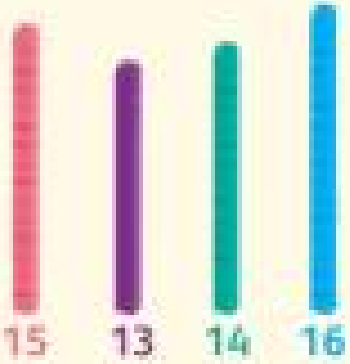
Practise

1 Make towers of cubes.
Order them from smallest to largest.

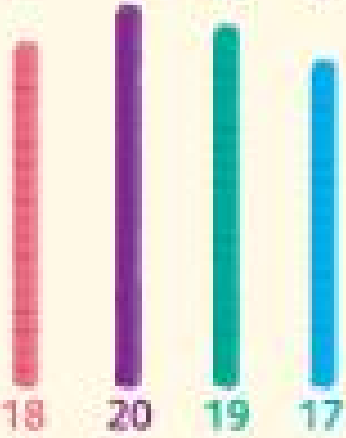
a

b

c



d



2 These number cards have not been pegged in the right order.
Write them in the correct order.

a

b

c

3 Write each set in order from smallest to largest.

a 6 1 13 9

b 15 8 3 11

c 12 10 14 17

d 19 15 8 20

Try this

Put these numbers in two different orders.

14 17 18 16 15

1c Addition and subtraction

Key words
add
take away
subtract
total
altogether
more
less

Explore

Make totals of 6 people in different ways.

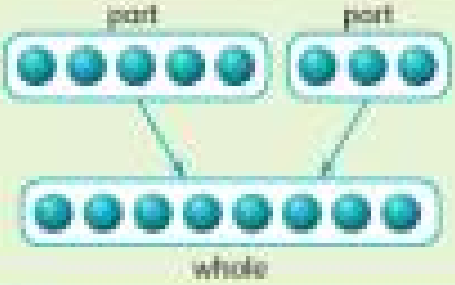
Who is at 2 less than 7?

Finding totals

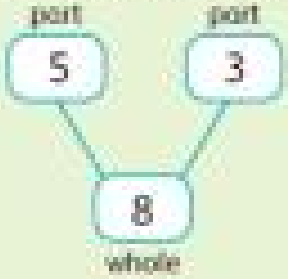
Learn

How many balls are there altogether?

Put them together and add.



5 and 3 make a total of 8.



Practise

1 Use cubes to add these.

a 

__ and __ make __.

b 

__ and __ make __.

c 

__ and __ make __.

d 

__ and __ make __.

2 Add to find the total.

a 

__ • dots

b 

__ • dots

c 

__ • dots

d 

__ • dots

3 What is the total for these? The first one has been done for you.

a 

b 

c 

d 

e 

f 

Think like a mathematician

Use facts you know to help with others.
Do you know the total of 3 add 3?
Then 3 add 4 is just 1 more.

Try this

How many counters must be in each shape to make these totals?

 and  make 8 .

 and  make 10 .

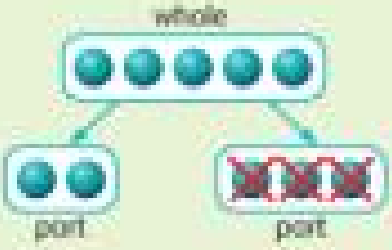
Taking away

Learn

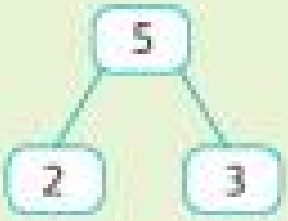
There are 5 pies on this plate.
Jo takes away 3 pies.

How many pies are left on the plate?

Take away 3 pies from 5 pies and 2 are left on the plate.



5 take away 3 leaves 2.



Practise

1 Write the number sentence for these pictures.

a 

6 take away ___ leaves ___.

b 

5 take away ___ leaves ___.

c 

7 take away ___ leaves ___.

d 

8 take away ___ leaves ___.

2 Use counters to help answer these.

a 7 take away 1 → ____

b 7 take away 3 → ____

c 7 take away 5 → ____

d 7 take away 7 → ____

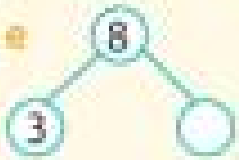
3 Write the missing number in each of these.

a 

b 

c 

d 

e 

f 

Try this

Write additions and subtractions for this picture.

Counting on and back

Learn

Put a finger on number 16.

Count **on** 1.
Which number are you on?

Now count **on** 2.
Which number are you on?

Now count **back** 1.
Which number are you on?

Now count **back** 2.
Which number are you on?

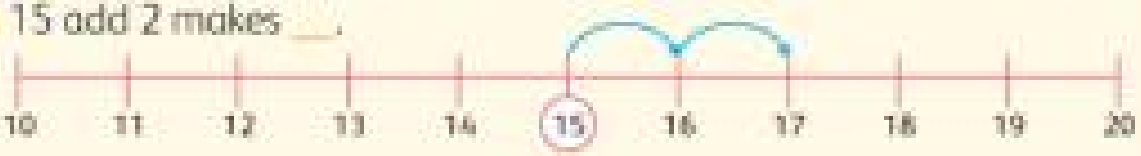
What do you notice?

Practise

1 Count on 2 for each of these. The first one has been done for you.

a 14 add 2 makes 16.

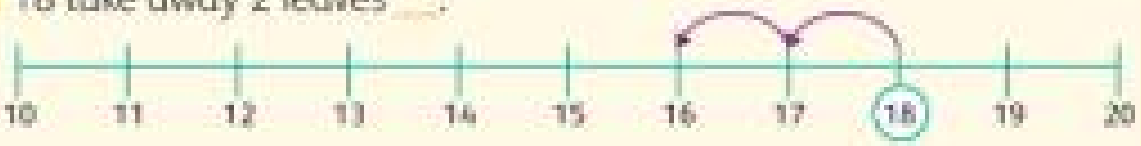
b 15 add 2 makes ___.



c 16 add 2 makes ___.

2 Count back 2 for each of these.

a 18 take away 2 leaves ___.



b 17 take away 2 leaves ___.

c 16 take away 2 leaves ___.

3 Use a counter on this number track to help you add or subtract.

1	2	3	4	5	6	7	8	9	10

a Add 2

6 add ____

b Add 3

6 add ____

c Add 4

6 add ____

d Take away 2

9 subtract ____

e Take away 4

9 subtract ____

f Take away 6

9 subtract ____

Self-check

A Counting

1 How many cubes are there?

2 Make a tower with this many cubes.

20

B Comparing numbers

19 16

1 Which number is larger?

2 Put these number cards in order from smallest to largest.

14 16 13 15

C Addition and subtraction

1 There are 10 cubes on this tray. How many cubes are under the other cup?

2 Write the missing number.

3 Copy this number line. Use it to show this addition.
6 add __ makes 10.

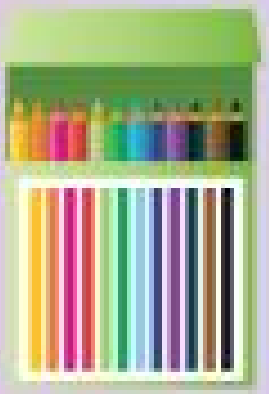
Unit 2 Geometry and problem solving

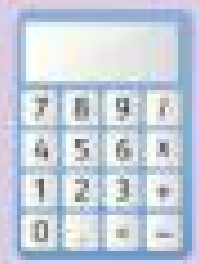
2a Patterns and shapes

Key words

2-D shape
side
reflection
symmetry
triangle
square
rectangle
circle

Explore





Look around you.
What shapes do you see in your classroom?

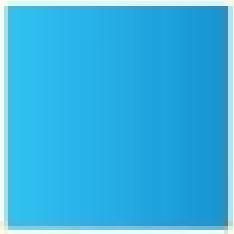
Naming shapes

Learn

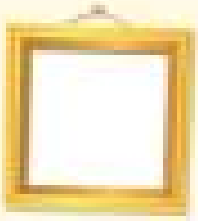
What is the same about these shapes?
What is different about these shapes?

Practise

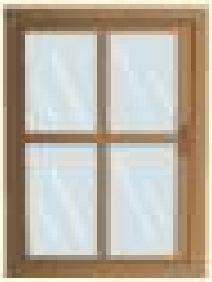
1 Match the shapes with the pictures.





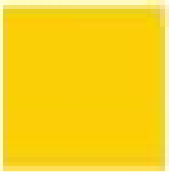



2 Look around you. Where do you see these shapes?

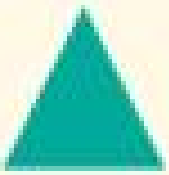
a a circle

b a square



c a rectangle

d a triangle



Describing and sorting shapes

Learn

Some shapes have straight sides.

Count the straight sides.

Some shapes have curved sides.

Count the curved sides.

The sides help to tell us what the shape is.

Practise

1 Look at these shapes. Which box would you sort them into?

2 What are the mystery shapes?

a My shape has three straight sides.

b My shape has one curved side.

c My shape has four straight sides. They are all the same size.

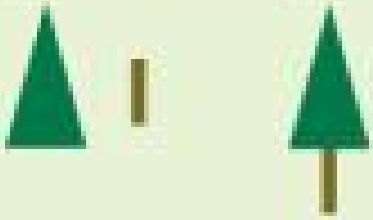
d My shape has four straight sides. Two sides are shorter than the other two sides.

Making patterns and pictures

Learn

We can make patterns or pictures by putting different shapes together.

This tree is made from a triangle and a rectangle.



Patterns repeat themselves.

Which shape comes next?

b

c

d

Practise

1 Use shapes to draw each picture.

a

2 What comes next in each pattern?

a 

b 

c 

Reflections and symmetry

Learn

This picture has symmetry.

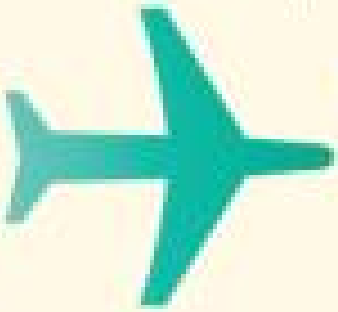
This picture does not have symmetry.

Both halves of a picture with symmetry look the same.
Each half is a reflection of the other.

Practise

Which of these shapes have symmetry?

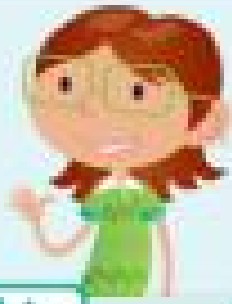
1



2

3

4



Try this

Find five different objects in your classroom that have symmetry.

Find five different objects in your classroom that do not have symmetry.

2b Making shapes

Explore

What shapes can you see?

Key words

face
cube
sphere
pyramid
cone
cuboid
cylinder

Naming shapes

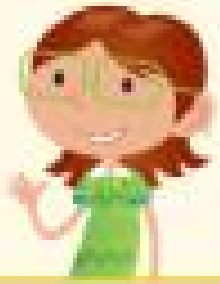
Learn

3-D shapes are solid shapes.

Practise

1 Make these 3-D shapes with clay.

a a cone
b a cube
c a sphere
d a pyramid
e a cuboid
f a cylinder



2 Match the shapes with the pictures.

3 Which shape comes next?

a 

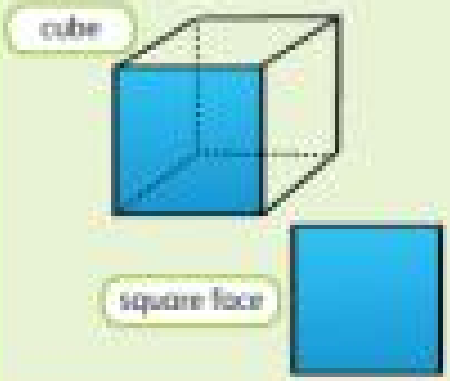
b 

c 

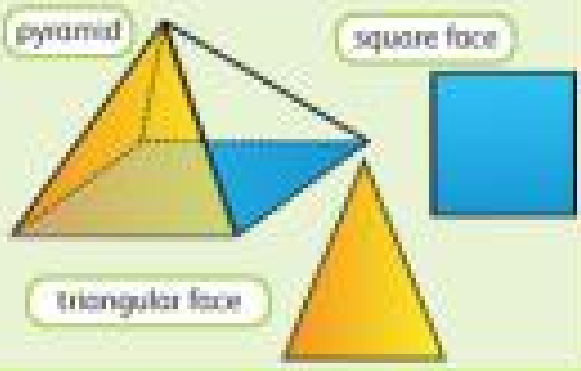
The faces of 3-D shapes

Learn

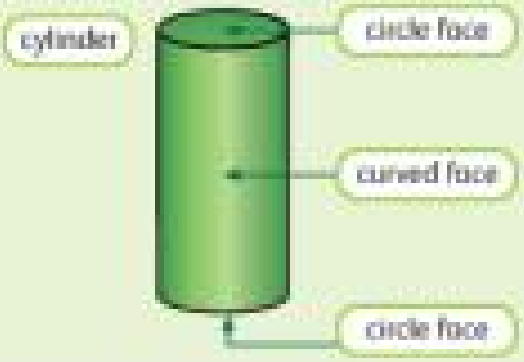
This cube has square faces.



This pyramid has triangle faces and a square face.



This cylinder has a face that curves all the way around. There are circle faces at the top and bottom.

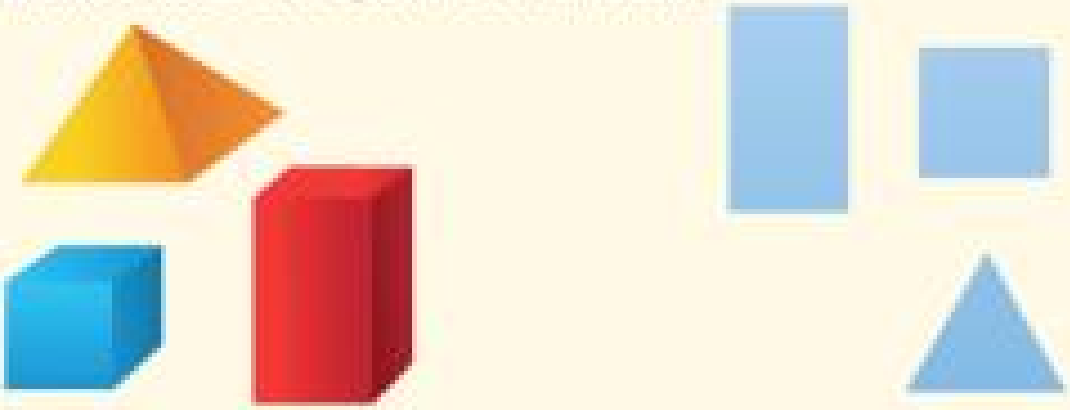


Practise

1 Press these 3-D shapes into clay or sand. What shapes do they make?

a a cube b a pyramid c a cuboid d the ends of a cylinder

2 Match these 3-D shapes with their faces.



3 Khaled has written about the faces of some 3-D shapes. What are the 3-D shapes?

a This shape has faces that are all squares.
b This shape has rectangles and squares as its faces.
c This shape has three triangles and one square face.

Self-check

A Patterns and shapes

1 Name the shapes you can see in this picture.

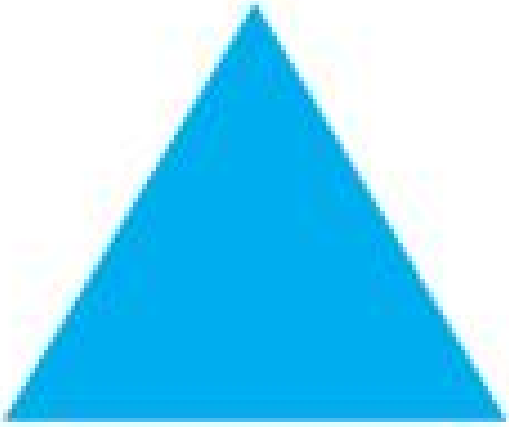
2 Does the tree or the house have symmetry?

3 How many shapes in the picture have straight sides?

4 How many shapes have curved sides?

B Making shapes

This is the mark a 3-D shape makes when it is pressed into clay.



What could this shape be? Why?

Unit 3 Number and problem solving

3a Numbers to 20

Key words
how many
bigger
smaller

Explore

What number is each animal on?

How many birds are there?

Writing numbers

Learn

0 1 2 3 4 5 6 7 8 9

We can write all the numbers to 20 with these numbers.

Practise

1 Write these numbers in sand or rice using a stick.

a  b  c  d 

2 Use your finger to trace each number onto the back of your hand. As you do it, say its name.

What do you notice?

a 1 2 3 4 5 b 6 7 8 9 10

11 12 13 14 15 16 17 18 19 20

3 Write the two numbers that come after these.

a 9 ___ ___ b 12 ___ ___ c 15 ___ ___ d 18 ___ ___

Try this

Write the numbers from 1 to 20.

How many numbers can you write without lifting your pencil off the page?

How many are there?

Learn

We can count objects by pointing at them, touching them or moving them to one side.

How many are there?

How many are there now? Count to check. Are there more or less?

How many are there now?

What do you notice?

Practise

1 Count the numbers. Make them with cubes.

a 

b 

c 

2 How many are there?

a 

b 

3 Try to find these objects in your classroom.

a 13 pencils b 15 books c 18 shoes

Comparing numbers

Learn

Which number is more? 16 11

16 comes after 11, so 16 is more than 11.

Practise

1 a Listen to your teacher clap and then tap a number of times. Which is the larger number?

b Count the number of letters in your full name. Compare with your friends. Who has the longest name?

2 Put a counter on a number line for each number pair. Which is the larger number?

a 8 or 18 b 11 or 9 c 16 or 12 d 17 or 19

3 Which number is the largest? How do you know?

a 8 2 5 b 6 13 10 c 12 15 20 d 17 19 18

Try this

Sofia and Sergio each take a number card.
Sofia says, "My number is 16."
Sergio says, "My number is bigger than yours and less than 20."
What could Sergio's number be?

3b Addition and subtraction

Key words

add
take away
subtract
total
altogether
equals

Explore

How can you make a group of 10?

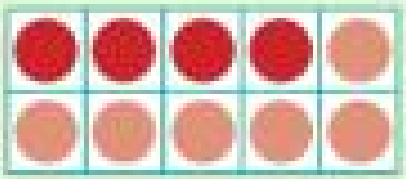
How many trips will the school bus make if only 10 children can go at a time?

Use the number line to help you make groups of 10.

Learn

There are 4 counters.

How many more make 10?



4 and 6 make 10.

Practise

1 What makes 10?

Use your hands to show pairs that make 10.

a 5 and ___ make 10.

b 8 and ___ make 10.

c 3 and ___ make 10.

2 How many more do you need to make 10?

a 

b 

c 

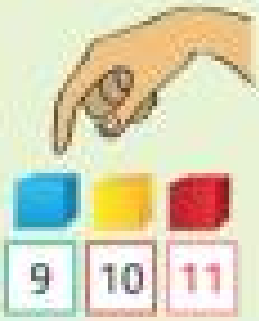
Adding numbers by counting on

Learn

I have 8 cubes and 3 more cubes. What is the total?

Start with the larger number and count on.

8



There are 11 cubes in total.

8 **plus** 3 **is equal to** 11.

So we can write 8 + 3 = 11

+ means **plus**

= means **is equal to** or **is the same as**

Practise

1 Use cubes. Count on to work out the total.

a 5 plus 3 equals ___ cubes.

b 7 plus 6 equals ___ cubes.

c 12 plus 5 equals ___ cubes.

d 9 plus 4 equals ___ cubes.

e 15 plus 2 equals ___ cubes.

f 11 plus 8 equals ___ cubes.

2 Count on to work out the total. The first one has been done for you.

a 

3 more than 6 is 9.

b 

5 more than 7 is ___.

c 

4 more than 10 is ___.

d 

2 more than 9 is ___.

e 

3 more than 8 is ___.

f 

1 more than 15 is ___.

3 Use a number track to count on from the larger number.

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

a 5 + 4 = ___

b 5 + 9 = ___

c 4 + 12 = ___

d 13 + 6 = ___

e 18 + 2 = ___

f 5 + 15 = ___

Subtracting numbers by counting back

Learn

If you have 9 cubes and take away 3, how many are left?

Count back from the first number.

9

8 7 6

There are 6 cubes left.

9 take away 3 is equal to 6.

So we can write 9 – 3 = 6

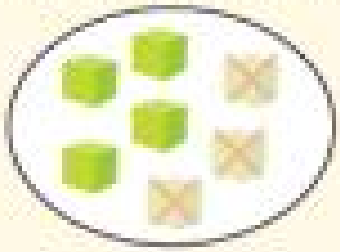
– means take away

= means is equal to or is the same as

Practise

1 Count back. How many are left?

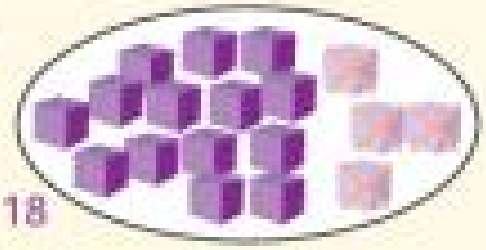
a



7

7 take away 3 equals ___.

b



18

18 take away 4 equals ___.

2 Count back on the tens frames.

a

4 less than 9 is ___.

b

5 less than 20 is ___.

3 Use a number track. Count back from the first number.

a 10 – 5 = ___ b 13 – 3 = ___

c 19 – 4 = ___ d 14 – 7 = ___

Solving problems

Learn

Do you need to add or take away to solve these problems?

Krishna has 16 nuts. She gives 4 to a friend. How many nuts does she have left?

Alisha has 16 nuts. She is given another 4. How many nuts does she have altogether?

Practise

1 Add or take away to find the answers.

a There are 12 goats in a field. 5 of them escape. How many goats are left?

b 4 children are sitting around a table. Another 3 children join them. How many children are sitting around the table now?

2 Count on or back to answer these.

a There are 18 paintbrushes in the classroom. 4 are lost during a lesson. How many paintbrushes are there now?

b There are 9 yellow flowers and 7 red flowers in a pot. How many flowers are there in total?

3c Counting patterns

Explore

I think that there are about 12 chickens because I think that there are more than 10, but less than 15.

I think that there are about 8 chickens.

I think there are more than 15 chickens, but not as many as 20.

Without counting, what do you think?

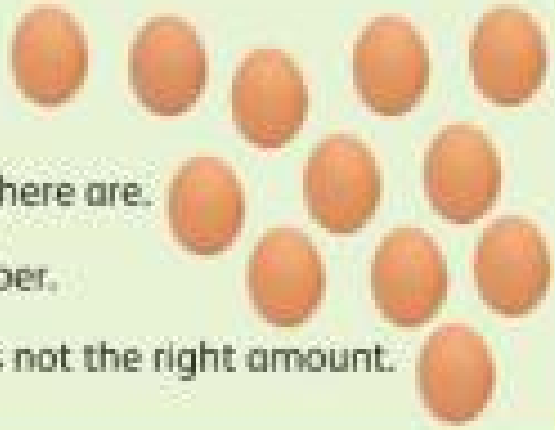
Key words

estimate
amount
double
twice
more
less

Subtracting numbers by counting back

Learn

Look at these eggs, but do not count them.



Estimate how many eggs you think there are.

Count the eggs to work out the number.

It does not matter if your estimate is not the right amount. It just needs to be a close guess.

Practise

1 Take a handful of beads but do not count them.
Try to take these amounts.

a Take about 6 beads.

b Take about 10 beads.

c Take about 15 beads.

2 Without counting, estimate each amount.
Count to check if you were near your estimate.

a 

b 

c 

Try this

Work with a partner.
Try to take about 15 cubes from a pile without counting them.

Count your cubes.

Whose estimate was nearer to 15?

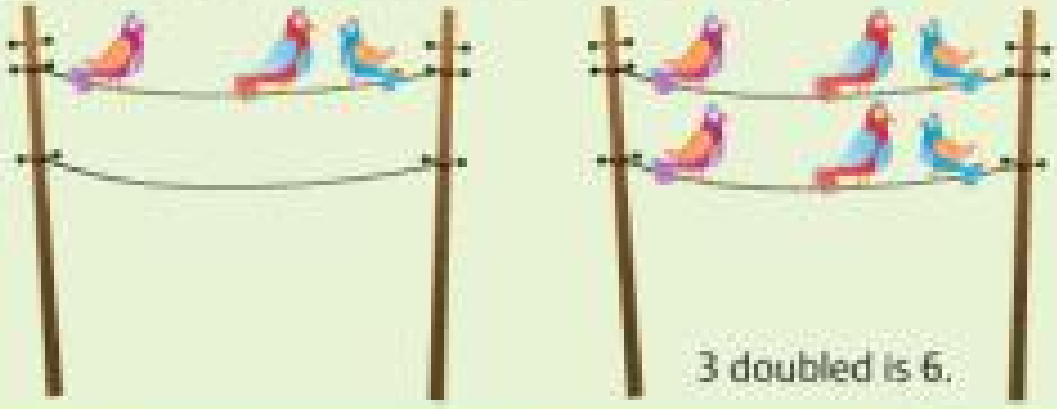
Think like a mathematician

Put the beads on tens frames to help you count how many there are.

Doubling numbers to 10

Learn

The number of birds has doubled.
First there were 3. There are now twice as many.



Practise

1 Double the number of clay balls. How many balls have you made?

a 

b 

c 

d 

2 Double these numbers.

a 1 b 5

c 6 d 8

Try this

If you hold up 2 fingers in a mirror you can see 4 fingers altogether.

How many do you see if you hold up 3 fingers?

How many do you see if you hold up 7 fingers?

What is the largest number you see using your fingers and the mirror?

Counting on in ones and tens

Learn

Count on in ones. 14 15 16 17 18

Count on in tens.

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

Practise

1 Put five counters on a number square to show each sequence. What numbers do you cover up?

Count **back** in **ones** from **22**.
Count **on** in **tens** from **6**.

1	2	3	4	5	●	7	8	9	10
11	12	13	14	15	●	17	●	●	●
●	●	23	24	25	●	27	28	29	30
31	32	33	34	35	●	37	38	39	40
41	42	43	44	45	●	47	48	49	50

a Count on in ones from 12.
b Count on in ones from 34.
c Count back in ones from 20.
d Count on in tens from 10.
e Count back in tens from 60.
f Count on in tens from 23.

2 Copy and complete the patterns. Are you counting forwards or backwards? Are you counting in ones or in tens?

a 10 20 __ __ __ __ __
b 19 18 __ __ __ __ __
c 11 __ __ __ 15 __ __
d 80 __ 60 __ __ __ __

Think like a mathematician

Use a hundred square to check that you are counting correctly. If you count in ones, you count along a row. If you count in tens you count up or down.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