

Year 1

Using and applying mathematics

- Solve problems involving counting, adding, subtracting, doubling or halving in the context of numbers, measures or money, for example to 'pay' and 'give change'

I am going to ask each of you in turn to find a coin for me in this container. Put your coin back in the container after your turn.

- Child A: a 5p coin
- Child B: a 20p coin
- Child C: a 10p coin
- Child D: a 2p coin

KS1 2000 level 1 [oral]

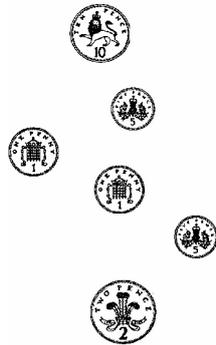
There were 24 biscuits in a packet. Jack put some of the biscuits on a plate.

- Child A: 7
- Child B: 6
- Child C: 8
- Child D: 9

How many biscuits were left in the packet?

KS1 2001 level 1 [oral]

Kay has these coins.



How much money has she altogether?

KS1 1996 level 2c

Amy has these coins in her purse.



How much is in Amy's purse?

Amy spends 10p. How much does she have left?

KS1 2002 level 2c

Ella wants to buy one banana.



She has 20p.

How much more money does she need?

KS1 2003 level 2c

Jon is nine years old today. Sarah is twelve years old today. How many years older than Jon is Sarah?

KS1 1999 level 2c [oral]

At the shop, all packets of crisps cost the same. Hannah buys 2 packets. She pays 40 pence. How much does one packet cost?

KS1 2002 level 2c

There are 4 fewer boys than girls in Mr Hill's class. There are 18 girls. How many boys are there in Mr Hill's class?

KS1 1998 level 2c

Framework review

- Describe a puzzle or problem using numbers, practical materials and diagrams; use these to solve the problem and set the solution in the original context

There are three people on the bus. One more gets on. How many people are on the bus now?
 Use these cubes.
 Show me how to work out the answer.
[oral question]

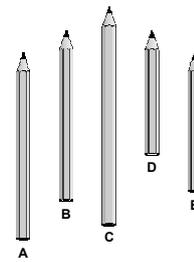
There are five baby birds in the nest. One flies off. How many are left?
 Use these cubes.
 Show me how to work out the answer.
[oral question]

Desi has these coins.

 How much does he have altogether?
KS1 2004 level 2c
[oral question]

Here are five rectangles of the same size.
 Use some or all of the rectangles to make a bigger rectangle.

[oral question]

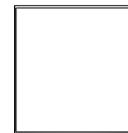


Pencil C is the longest pencil. Order the rest of the pencils. You may use a ruler.



KS1 2002 level 2c
 I am going to choose two stickers for each of you to buy. Tell me how much it will cost to pay for both stickers.
 Now find the right coins to pay for the stickers.
KS1 2000 level 1 [oral]

Draw a line on this square to make two triangles.
 You may use a ruler.

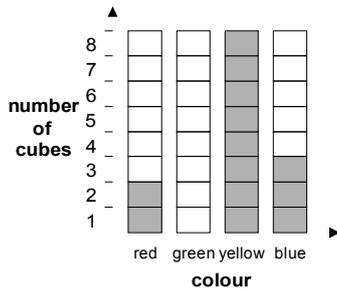


KS1 1998 level 2c

Framework review

- Answer a question by selecting and using suitable equipment, and sorting information, shapes or objects; display results using tables and pictures

Look at this.



Emma used 8 cubes of one colour. Which colour? Write your answer.

KS1 2002 level 1 [oral]

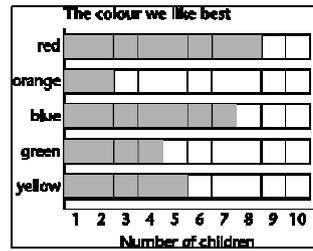
Weather chart

	morning	afternoon
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

How many mornings were sunny?

KS1 2003 level 2c

Some children made this graph.



How many children liked red best? How many more children liked yellow than orange?

KS1 2001 level 2c

A shop sells scooters.

Number of scooters sold	
December	57
January	30
February	23
March	45
April	52
May	39

In which month did the shop sell most scooters?

KS1 2004 level 2c

Look at these three boxes.

Find out which of them is the heaviest.

What equipment will you need?

[oral question]

- Describe simple patterns and relationships involving numbers or shapes; decide whether examples satisfy given conditions

You have a picture of a pattern which uses two of the shapes in the container.

Look at your pattern. Find the next two shapes in your pattern.

Put the shapes on the two lines to continue your pattern.

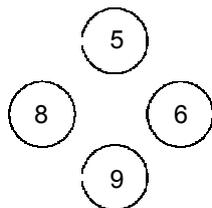
KS1 2000 level 1

Draw a ring around each odd number.

6 7 8 9 10 11 12

KS1 1999 level 2c

Tick (✓) two numbers which add up to 17.



KS1 2000 level 2c

Draw a ring around each of the two letters which are made with straight lines only.

E P A C S

KS1 2002 level 2c



Find two shapes with only 5 straight sides. Draw a circle around them.

KS1 1996 level 2b

Put numbers in the shapes to add to 12.

$$\bigcirc + \triangle = 12$$

KS1 1996 level 2c

Framework review

- Describe ways of solving puzzles and problems, explaining choices and decisions orally or using pictures

[Ask children to sort, match or order flat or solid shapes.]

Tell me how you have sorted/matched/ordered these shapes.

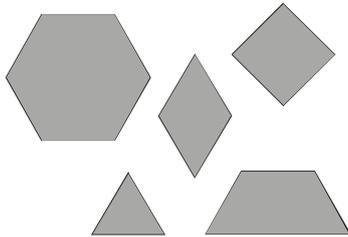
[oral question]

How many animals altogether are there in the three fields?

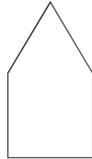
Explain how you worked out your answer.

[oral question]

Desi has some shapes.



He fits two of the shapes together to make the shape below. Draw a tick (✓) on the two shapes.



2004 level 2c

Make a string of beads for me. First a red one, then a blue one. Carry on threading one red, one blue.

What colour is the sixth bead on your string?

What colour will the tenth bead be?

How do you know?

[oral question]

These bricks are in piles.

You can move one or more brick at a time.



Make all the piles the same height.

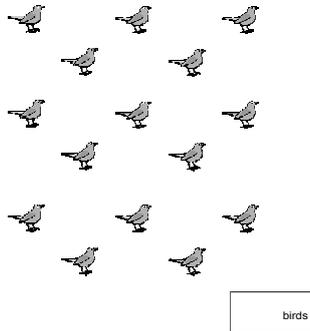
How can you do it in just two moves?

[oral question]

Counting and understanding number

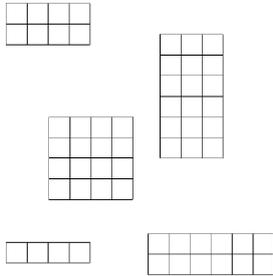
- Count reliably at least 20 objects, recognising that when rearranged the number of objects stays the same; estimate a number of objects that can be checked by counting

How many birds are there?



KS1 2003 [oral practice question]

One marble fits in each space in the box. Tick (✓) the box which can hold 18 marbles.



KS1 2003 level 2c

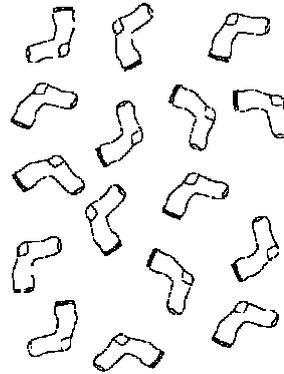
Estimate the number of pencils.



Check how many there are by counting them

[oral question]

Estimate how many pairs of socks you could make.



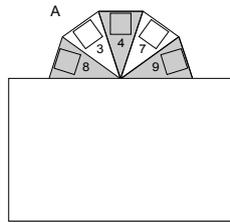
Now check by counting the pairs.

[oral question]

Framework review

- Compare and order numbers, using the related vocabulary; use the equals (=) sign

I'm covering some numbers on your number wheel.
For example:



Point to the smallest number you can see.
Now point to the largest number you can see.

KS1 2001 level 1

I'm giving each of you a strip of card with some numbers on [five numbers at random from 10 to 20].

Point to the smallest number you can see.
Now point to the largest number you can see.

KS1 1998 level 1

15 12 18 10 17 9

Write the numbers in order.

smallest

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

KS1 1996 level 2c [adapted]

Look at these cards.



Use two of the cards to make a number more than 50.

--	--

KS1 1998 level 2c

Look at these numbers.

37	12
45	60
72	27

Which of these numbers is the largest?
Which of these numbers is between 10 and 20?

KS1 1997 level 2c

Ling is going to write these numbers in order.

45 54 32 23 40

What number must she write in the white box?

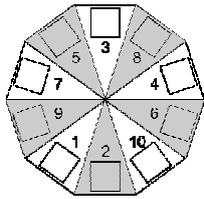
--	--	--	--	--

smallest largest

KS1 2005 level 2c

- Read and write numerals from 0 to 20, then beyond; use knowledge of place value to position these numbers on a number track and number line

Look at the number wheel.



When it's your turn, point to the numbers I say on your wheel.

Child A: 10 3 6

Child B: 7 9 3

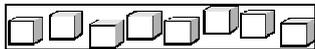
Child C: 2 10 8

Child D: 4 7 10

Now read to me each number in the shaded parts of your wheel.

KS1 2001 level 1 [oral]

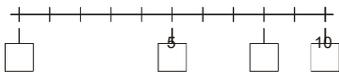
How many cubes are there? Write the number.



[oral/practical question]

Look at this number line.

Write the missing number in the 2 empty boxes.



KS1 2004 level 2c

Look at the number grid.

7	8	9	10	11	12
13	14	15	16	17	

Write the number 24 in the correct place on the grid.

KS1 2002 level 2c

Look at the grid.

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49

I want you to find some numbers on the grid. Put a ring around each of these numbers:

twenty-five;
thirty-seven;
forty-three.

KS1 1998 level 2c [oral]

Write the number thirty-two.

KS1 1997 level 2c [oral]

- Say the number that is 1 more or less than any given number, and 10 more or less for multiples of 10

Look at your numbers.

Child A: 21, 19, 15

Child B: 14, 23, 17

Child C: 18, 13, 22

Child D: 16, 20, 12

Point to your smallest number. What number is it?
Tell me the number one more than that number.

Point to your largest number. What number is it?
Tell me the number one less than that number.

KS1 1997 level 1 [oral]

Tim is thinking of a number. It is 10 more than 20.
What number is Tim thinking of?

KS1 1999 level 2c

I will clap where a number is missing.

12 22 32 42 [one clap] 62

Write the missing number.

KS1 2004 level 2c [oral]

Write the answers.

$$5 + 10 = \square$$

$$15 + 10 = \square$$

$$25 + 10 = \square$$

KS1 2001 level 2c

23 $\xrightarrow{10 \text{ more}}$ **33**

77 $\xrightarrow{10 \text{ more}}$

KS1 1996 level 2b

Write the missing number in each box.

19 $\xrightarrow{\text{is 1 less than}}$

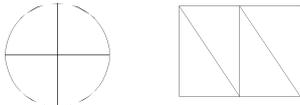
19 $\xrightarrow{\text{is 10 less than}}$

KS1 2002 level 2a

Framework review

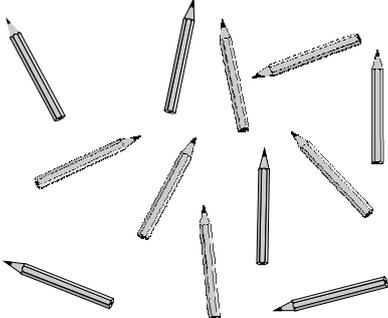
- Use the vocabulary of halves and quarters in context

Shade one quarter of each shape.



[oral question]

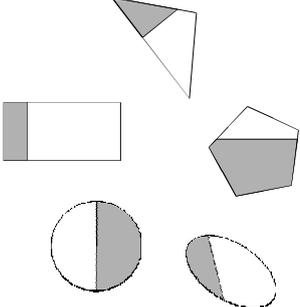
Here is a set of 12 pencils.



How many is half the set?

KS1 2002 level 2c

Tick (✓) the shape which has more than half blue.



KS1 2001 level 2c

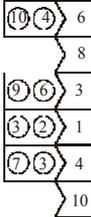
There are twenty children in a classroom.
Half of them are girls.
How many are boys?

KS1 1997 level 2b [oral]

Knowing and using number facts

- Derive and recall all pairs of numbers with a total of 10 and addition facts for totals to at least 5; work out the corresponding subtraction facts

Choose an arrow card. Subtract (take away) the smaller number from the larger number on the card. Then match the card to its answer on your strip.



Now do the same for the other three cards.

KS1 1998 level 1 [oral]

I'm giving each of you two number cards [from 0 to 5].
Add the numbers together and tell me the answer.

KS1 1999 level 1 [oral]

Give each child a grid of numbers up to 10 and counters.]
Cover a number that is two more than five.
Cover a number that is two less than six.
Cover two numbers that add up to ten.
Now cover another two numbers that add up to ten.

KS1 1999 level 1

Look at these cards.



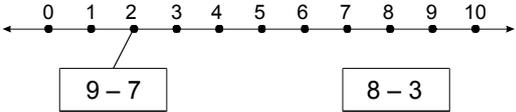
Use one card each time to make these correct.

$$7 + \square = 10$$

$$10 - \square = 4$$

KS1 2001 level 2c

Match each box to its answer on the number line.



KS1 1998 level 2c

Write a number in the box to make this correct.

$$2 + 8 = 6 + \square$$

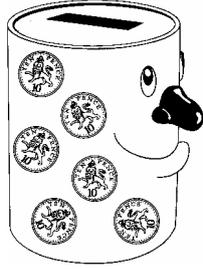
KS1 1999 level 2b

Framework review

- Count on or back in ones, twos, fives and tens and use this knowledge to derive the multiples of 2, 5 and 10 to the tenth multiple

Count five hops of two along this number line.
What number will you reach?
[oral question]

I will clap where a number is missing.
10 20 30 [one clap] 50 60
Write the missing number.
KS1 2004 [oral practice question]

How much money is in the money box?

KS1 2001 level 2c

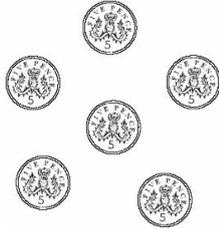
Draw a circle around each even number.
8 9 10 11 12 13 14 15
KS1 1996 level 2c

Write the next number in this sequence:
Five, ten, fifteen, twenty ...
KS1 2001 level 2c [oral]

The numbers in the shaded squares make a sequence. Continue the sequence by shading more squares.

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

KS1 2001 level 2c

Ella puts these coins in a box.

How much does she put in the box altogether?
KS1 2004 level 2c

- Recall the doubles of all numbers to at least 10

What is four add four?
[oral question]

What is double six?
[oral question]

When I doubled a number, the answer was eighteen. Which number did I double?
KS1 2001 level 2b [oral]

Write the missing number. One is done for you.
5 → double and add 3 → 13
8 → double and add 3 →
KS1 2003 level 2b

Calculating

- Relate addition to counting on; recognise that addition can be done in any order; use practical and informal written methods to support the addition of a one-digit number or a multiple of 10 to a one-digit or two-digit number

Show me your arrow card which has numbers on it that add up to three. Match the arrow card to the number 3 on your strip.



Now do the same for the other cards.

KS1 1998 level 1 [oral]

Add these numbers:
5 and 6 and 2.

KS1 2001 level 2c [oral]

What is fifty-three add ten?

[oral question]

What is thirty-seven add five?

[oral question]

Write the total.

$$35 + 40 =$$

KS1 1998 level 2c

- Understand subtraction as 'take away' and find a 'difference' by counting up; use practical and informal written methods to support the subtraction of a one-digit number from a one- or two-digit number and a multiple of 10 from a two-digit number

I'm giving each of you two number cards [from 0 to 5].

What is the difference between your two numbers?

KS1 1999 level 1 [oral, adapted]

15 ducks are on the pond. 11 of them go away.
How many are left?



KS1 1999 level 2c

What is the difference between twelve and sixteen?

KS1 1998 level 2b [oral]

What is left if five is subtracted from twelve?

Y4 optional test Mental test level 2

What is forty-eight subtract ten?

[oral question]

What is thirty-two subtract five?

[oral question]

Find the answer.

$$72 - 8 =$$

KS1 1999 level 2c

Write the answer.

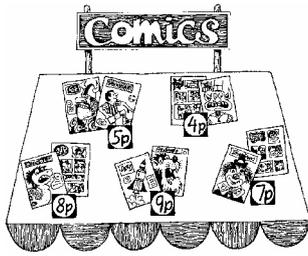
$$65 - 40 =$$

KS1 1998 level 2c [adapted]

Work out the difference between 80 and 20.
Show how you worked it out in the box.

KS1 2000 level 2a [adapted]

- Use the vocabulary related to addition and subtraction and symbols to describe and record addition and subtraction number sentences



Buy 2 different comics and spend 16p. Tick the 2 comics.

Write an addition to show what you did.

KS1 1999 level 1 [oral]

Look at the numbers.

15 7 16 8

Use two of these numbers to make this correct.

$$\square - \square = 7$$

KS1 2004 level 2c

Write a number in the box to make this correct.

$$16 - \square = 10$$

KS1 2000 level 2c

Write numbers in the shapes to add to 12.

$$\square + \triangle = 12$$

KS1 1996 level 2c

Write the total.

$$7 + 3 + 8 + 2 =$$

KS1 2004 level 2c

Write the answer.

$$25 - 12 =$$

KS1 2005 level 2c

Match each subtraction to its answer.

$16 - 6$	\square
$15 - 10$	\square
$19 - 11$	\square
$18 - 9$	\square
	\square

KS1 1999 level 2c

Put a number in the box to make this correct.

$$3 + \square + 9 = 17$$

KS1 1998 level 2b

Framework review

- Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups

Add these three numbers: five and five and five.

KS1 2003 level 2c [oral]

There are 10 crayons in each box.

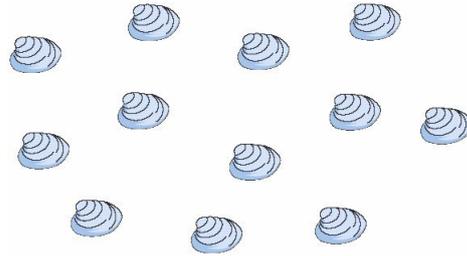


How many crayons are there altogether?

KS1 2000 level 2c

Four children share these shells.

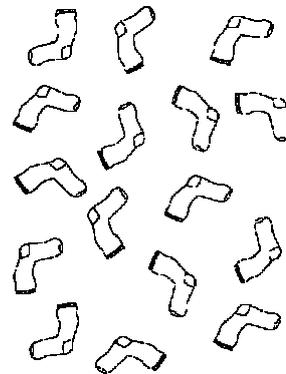
They each get the same number of shells.



How many shells does each child get?

KS1 2005 level 2c

How many pairs of socks are there?



KS1 2000 level 2b

How many



coins make 20p?

KS1 2005 level 2b

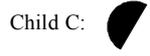
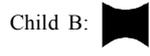
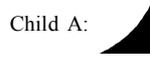
Understanding shape

- Visualise and name common 2-D shapes and 3-D solids and describe their features; use them to make patterns, pictures and models

Pick up a shape which has no curved sides.

KS1 1997 level 1 [oral]

Give each child this shape:



Look at the shape I have given you. Tell me one thing about the shape.

KS1 1997 level 1 [oral]

[Hand each child this shape.

Child A: cylinder

Child B: triangular prism

Child C: cone

Child D: cube]

Look at the shape I have given you. Tell me one thing about the shape.

{Give each child two different shapes.}

Tell me something that is the same about the two shapes.

Now tell me something that is different about the two shapes.

KS1 2000 level 1 [oral]

Look at the names of the shapes in the box. They say:

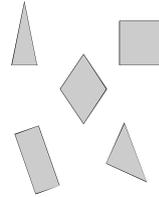
pentagon, square, triangle, hexagon, rectangle.

Tick the names of the shapes that have four sides.

KS1 2004 level 2c [oral]

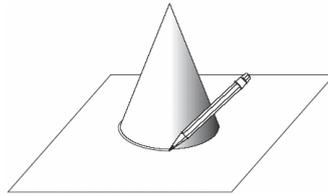
One shape has 2 long sides and 2 short sides.

Tick (✓) it.

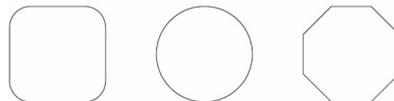


KS1 2003 level 2c

Fred draws round the bottom of a cone.



Tick (✓) the shape that Fred draws.



KS1 2005 level 2c

Framework review

- Identify objects that turn about a point (e.g. scissors) or about a line (e.g. a door); recognise and make whole, half and quarter turns

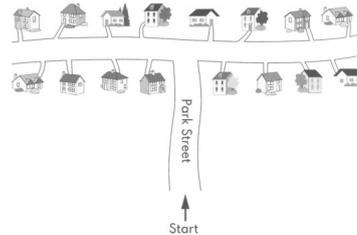
Stand up and face the front wall of the classroom.
Make a half turn.
Which wall of the classroom are you facing now?

[oral question]

The big hand of the clock is pointing to the 3.
What number will it point to when it has made half a turn?

[oral question]

Look at the map. Go to start.
Follow this route, from there.
Go to the end of Park Street. Turn left.
Go to the fourth house on the right.
Draw a ring around it.



KS1 2004 level 3 [oral]

- Visualise and use everyday language to describe the position of objects and direction and distance when moving them, for example when placing or moving objects on a game board

I am going to say something to each of you about your cards. What I say will be wrong. I want you to tell me what I should have said.

Meg's hands are outside her pockets.

Jim's number 2 is on the back of his T-shirt.

Kim's hands are at the top of her T-shirt.

Bob is looking up at his trainers.

KS1 1999 level 1

Look at this map.



Desi's house is the 2nd on the left. Tick (✓) it.

KS1 2003 level 3

Measuring

- Estimate, measure, weigh and compare objects, choosing and using suitable uniform non-standard or standard units and measuring instruments (e.g. a lever balance, metre stick or measuring jug)

Look at the five paper strips.
Put all your five strips in order, from longest to shortest.
Now put your longest strip on its own on the table.
Find two strips which, put together, are the same length as your longest strip.

KS1 2001 level 1 [oral]

Put this box on one side of the balance (scales).
Find two other boxes that together balance this one. [Point to the box on the balance.]
Tell me when both sides balance.
Use the balance (scales) to find out which of these three boxes is heaviest, which is the lightest, and which is in between.

KS1 1998 level 1 [oral]

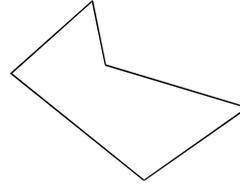
5 children used cubes to balance one of their shoes.
This table shows the number of cubes they needed.

	cubes
Roma	16
Tina	13
Gareth	18
Ali	20
Susan	15

Whose shoe is heaviest?
Whose shoe is two cubes lighter than Gareth's shoe?

KS1 1997 level 2c

Tick (✓) the side of the shape which is 7cm (centimetres) long. Use a ruler.



KS1 1999 level 2c

Draw a line 12 centimetres long. Use a ruler.

KS1 2004 level 2b



Ann measured the height of these 2 dolls in blocks.
How many blocks taller is the large doll?

KS1 2001 level 2b

Look at the words in the box. The words say:
kilograms, metres, hours, centimetres, litres.
One of the words completes this sentence.
Ella is 97 [one clap] tall.
Tick the correct word in the box.

KS1 2003 level 2b [oral]

Framework review

- Use vocabulary related to time; order days of the week and months; read the time to the hour and half hour

Here are some picture cards to look at. The pictures on the cards tell a story. Look at your cards and think what the story might be about.

Put the cards in time order.
What do you think happens next?

KS1 2002 level 1

[Give each child in turn a card showing an o'clock time.]

Child A: Pat wakes up at this time.

What time is this?

Child B: Bola goes to bed at this time.

What time is this?

Child C: Jack leaves school at this time.

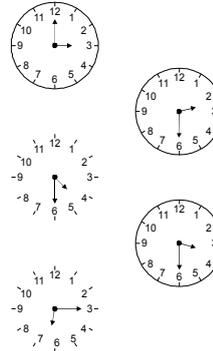
What time is this?

Child D: Amar starts school at this time.

What time is this?

KS1 2002 level 1

Draw a tick (✓) on the clock which shows half past three.

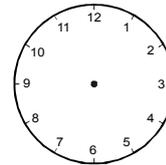


KS1 2002 level 2b

Sam's school starts at 9 o'clock.

Sam went to the dentist and got to school half an hour late.

Draw the time Sam got to school on the clock.

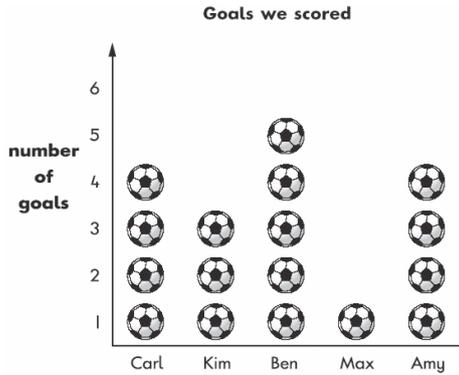


KS1 2000 level 2b [oral]

Handling data

- Answer a question by recording information in lists and tables; present outcomes using practical resources, pictures, block graphs or pictograms

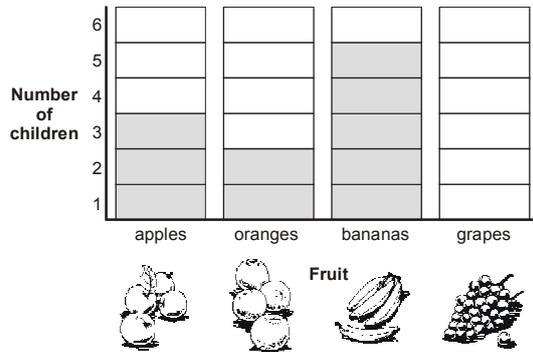
Look at the chart.



Which children scored the same number of goals?

KS1 2005 level 2c

Some children made a graph of fruit they like best.



4 children like grapes best.
Show this on the graph.

KS1 1996 level 2c

Gemma asked children which fruit they like best.

The fruit we like best	
fruit	number of children
apples	7
grapes	4
bananas	6
pears	3

How many children did Gemma ask altogether?

KS1 2002 level 2b

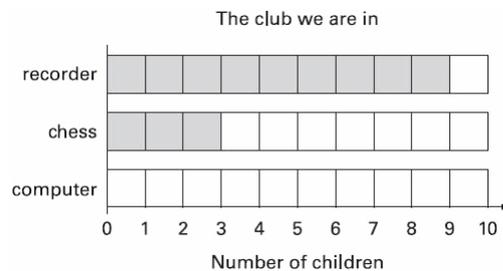
Some children in Class 4 are in a club.
This table shows the club they are in.



club	number of children
recorder	
chess	
computer	

How many more children go to recorder than chess?

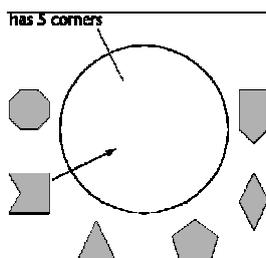
This graph should show the same data as the table.
Shade in the correct number of blocks for computer club.



Y3 optional test 2003 level 2

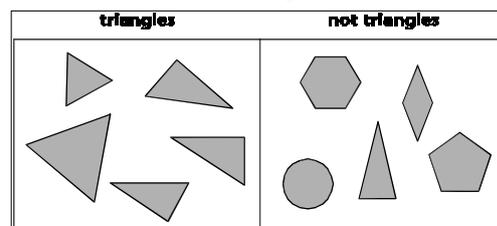
- Use diagrams to sort objects into groups according to a given criterion; suggest a different criterion for grouping the same objects

Draw arrows to show which shapes belong in the set.



KS1 2001 level 2c

These shapes have been sorted. Put a cross (✖) on the shape that is in the wrong place.



KS1 1998 level 2c

Framework review

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