

# **Mental Maths**

## **Year 1**

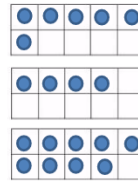
I can count, read and write numbers to 100

Q How many red cubes and how many green cubes are there?

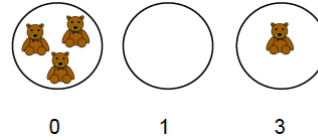


Sing number rhymes (ten green bottle, five little ducks, ten fat sausages, five little aliens, five speckled frogs).

Write the number shown on the tens frame in numerals.



Match the teddies to the correct number.



Use the picture to complete the sentences:

There are \_\_\_\_\_ green cars.

There are \_\_\_\_\_ yellow cars.

There are \_\_\_\_\_ red cars.



Sarah has counted the toy cars and said:



There are 3 cars.



Explain the mistake she could have made.

Q What does zero look like?

Draw a picture to show this.

Using counters, show how many balloons there are.

1	2	3	4	5

Q How can the 5 frame help you?

Q Do we always have to use counters to show an amount?

Q How many ways can you draw 3?

Q How many ways can you represent 6 glasses of apple juice?

Q How many ways can you show me less than 4 sweets?


Q How can you show me that there are more green cars than blue cars?

Q Use different resources to show this (e.g. counters, cubes)

Close your eyes:

**Q** Can you count the number of pennies that I am dropping into the tin?

Complete the table:




Picture 	Number  
Draw it  	Show it  



I am going to count on from 28.



**Q** Will I say the number 16?

Explain your answer.

Complete the number tracks.

		
1	2	

		
Three		Five

		
4	5	

Complete the number tracks:

1		3	4	5			8	9	
---	--	---	---	---	--	--	---	---	--

one		three	four	five			eight	nine	
-----	--	-------	------	------	--	--	-------	------	--

Fill in the missing numbers

\_\_\_, 1, 2, 3

3, 4, \_\_\_, 6

17, \_\_\_, 19, 20

six, \_\_\_\_\_, \_\_\_\_\_, nine

Write the number in words: 3, 14, 26

Write the word in numbers: six, seventy three, ninety nine

Match the numbers to the words.

seventeen	15
twenty	12
fifteen	17
twelve	20

Spot the mistake:

19, 18, 16, 15, 14

**Q** What is wrong with this sequence of numbers?

I count backwards from 30.

**Q** How many steps does it take me to get to 27?

Play Get 20. You will need at least 2 players.  
Take turns to count on 1, 2, or 3 numbers starting at 1.  
Count to 20.  
e.g. Player 1: 1, 2, 3  
Player 2: 4, 5  
Player 1: 6  
Player 2: 7, 8, 9  
Keep counting on. Whoever says 20 wins!

**Q** How many numbers can you find in the word search?

s	e	v	e	n	t	e	e	n
t	h	r	e	e	w	l	e	i
f	o	u	r	t	e	e	n	n
e	i	g	h	t	n	v	o	e
e	n	s	i	x	t	e	e	n
t	h	i	r	t	y	n	t	o

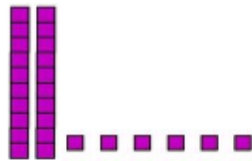
Dan says:

I can make all the numbers  
from eleven to twenty using  
the numbers 1-9

**Q** Do you agree?

Explain your reasoning.

What is my number?



**Q** What's the same and what's different about the numbers?

Fourteen and Forty  
Thirty-one and Thirteen

Kate says:

"I have 3 tens and 8 ones. My number must be 308."

Explain the mistake Kate has made.

Create a word search for a friend, including the words eighteen, forty and twenty four.

Create a number story using the number 40.

Use the number cards to make a number greater than 30.

Use two of the digit cards to make a number less than 20 but greater than 15.

**Q** What is the smallest 2-digit number you can make?



I can count back from 50/ I can count back from 100

Complete:

5	4	3	2	
---	---	---	---	--

9	8	7		
---	---	---	--	--




7			4	3
---	--	--	---	---

Complete the number tracks:

10		8	7	6			3	2	
ten		eight	seven	six			three	two	

Fill in the empty boxes.

Q How can we use our counting skills to help?

 6	 5	 	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <span style="font-size: 20px;">•</span> </div> <div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div> <div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;"></div>
6	5		3		1	

When we are counting backwards, we always start at 10.

Q Do you agree or disagree?

Explain your answer.

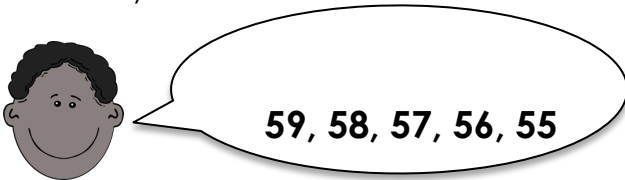
Spot the mistake:

5, 6, 8, 9, 10  
27, 26, 24, 23, 22  
91, 89, 88, 87, 86

Simon is counting.

Q Is he counting forwards or backwards?

Q How do you know?



I am going to count backwards from 10.

Q How many steps will it take until I reach 4?

Complete the missing numbers:

31, \_\_\_\_, \_\_\_\_, 28, 27

40, \_\_\_\_, 38, \_\_\_\_, 36

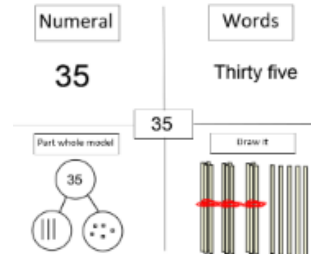
What numbers are missing from the torn number square?

1	2	3	4	5
6	7	8	9	10
11	12	13	14	
16	17	18		
21	22			

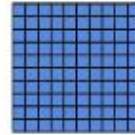
**I can count across 100, forwards and backwards**

Use a hundred square.  
Count forwards from 42.  
Count backwards from 80.  
Count forwards from 30, when you get to 50, count back to 40.

Complete the diagram to show 62 four different ways.  
Repeat with any 3 digit number.



Here is a 100 base ten block.  
**Q** What number would come next?



Use base 10 to help count forward over 100.  
When you reach 120, count back to 80.

**Q** Can you work out what number I started counting from using the clues?  
- I say 10 2 digit numbers and finish on the number 34.  
- I count backwards 13 numbers and finish on 90.

**Q** Which number will be in the bold square on the grid?

125	126		
129		131	
	<b>?</b>		

## I can count in steps of 10

Continue the pattern:  
Use Numicon to build each number.

10, 20, 30, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Find the missing numbers:

0	10			40	50			80
---	----	--	--	----	----	--	--	----

**Q** True or false?

I count in tens from 0.  
I say the number 55.

Explain your answer.

Spot the mistake:

10, 20, 30, 40, 50, 60, 80, 90, 100

**Q** How many gloves are there?

**Q** How many fingers are there?



Lily is counting in 10s on a number line.



**Q** What number does she start on?

**Q** What number does she end on?

**Q** True or false?

I have 2 tens and 7 ones. If I take 1 ten away, I will have 17.

Explain why.

Hassan is counting in 10s.

He says:

I will never say a number that ends in 1.

**Q** Is he correct?

Explain your answer.

Look at the grid. Choose a number and complete the second grid.

		50	
Count in 1s	49	50	51
Count in 10s	40	50	60

		?	
Count in 1s			
Count in 10s			

Gemma thought of a number. One more than her number was 18.

**Q** What was her number?

Gemma thought of a number. Ten more than her number was 67.

**Q** What was her number?

Gemma thought of a number. Ten less than her number was 71.

**Q** What was her number?

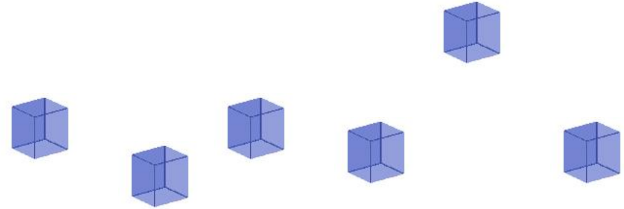


**I can say 1 or 10 more or less than any number up to 30**

Children should know that one more is the number after and they should use their counting skills or number track. Using dice and dominoes should be included to keep using subitising skills.

**Q** How many cubes are there?

Place another cube to find one more.  
Then write: 1 more than \_\_\_\_\_ is \_\_\_\_\_



Use the number track to find 1 more than 16:

10	11	12	13	14	15	16	17	18	19
----	----	----	----	----	----	----	----	----	----

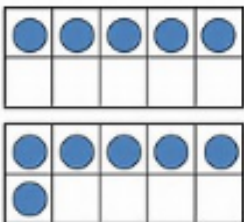
Roll a dice, represent the number using counters on a track, then add 1 more.  
Then, complete the sentences:

1 more than \_\_\_\_\_ is \_\_\_\_\_  
\_\_\_\_\_ is one more than \_\_\_\_\_

Complete the more and less boxes below:



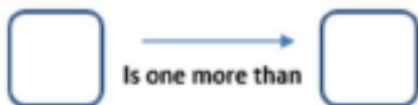
**Q** What's the same and what's different about the ten frame?



Complete each box using a picture, a numeral and a word:

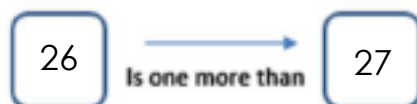
	→ one more →	<input type="text"/>
3	→ one more →	<input type="text"/>
six	→ one more →	<input type="text"/>

**Q** Using number cards 0 to 10, how many different ways can you make this true?



**Q** True or false?

Explain your answer.



Timmy rolls the number that is 1 more than the dice below.

He says that he rolls 2.



Explain his mistake.

Dan says:

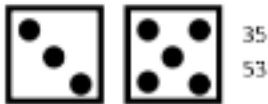
Q How old is Dan?

Q Who is oldest?



Explain why.

Roll 2 dice and make two 2-digit numbers.  
e.g.



Work out one more and one less of each number.

Q What comes next?

$$6+1=7$$

$$7+1=8$$

$$8+1=9$$

Choose a number between 1 and 100.  
Then, complete the sentences

1 less than \_\_\_\_\_ is \_\_\_\_\_  
\_\_\_\_\_ is one less than \_\_\_\_\_

Complete each box using a picture, a numeral and a word:

one less →

1 → one less →

nine → one less →

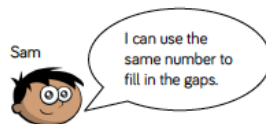
Q True or false?

One more than 7 is the same as 1 less than 9.  
Use a number track to help you.

Q Can you think of another statement like this?

One more than \_\_\_\_\_ is 1.

One less than \_\_\_\_\_ is 1.



Is he correct?

Explain how you know.

Anna thinks 1 more than 14 is 24.

Q Can you explain her mistake?

**Q** True or false?

1 more than 10 is the same as 1 less than 30.

Calvin is finding 1 more and 1 less of a number. Here are some numbers he has found:

21, 22, 34

34, 35, 36

17, 18, 19

Calvin says:

“No matter what number I pick the tens will stay the same. It is only the ones that change.”

**Q** Is he right?

Explain why.

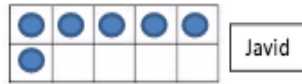
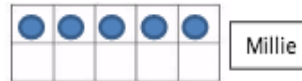
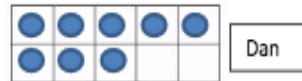
**Q** Can you move two of the counters so Millie has 1 more than Dan and Javid has 1 less than Millie?

Complete the sentences to describe the new frames.

Millie has \_\_\_\_\_ Saqib.

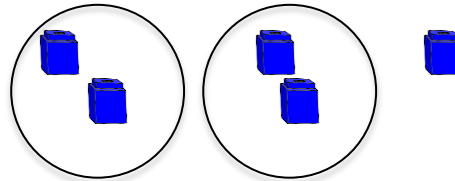
Dan has \_\_\_\_\_ Saqib.

Millie has \_\_\_\_\_.



## I can recognise odd and even numbers to 20

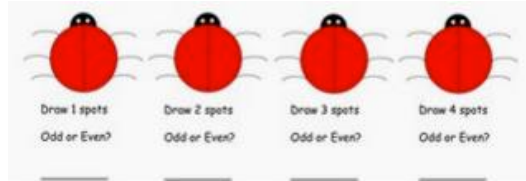
If I try to share 5 into 2 people, this happens.  
This shows it is an **odd** number.



Use cubes to decide whether the following numbers are **odd** or **even**: 3, 4, 7, 2

Draw spots on the ladybird's back.

**Q** Is the number odd or even?



Colour odd numbers in blue and even numbers in red.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

**Q** What do you notice?

**Q** Why is there this pattern?

Spot the mistake.

1, 3, 5, 7, 9, 13, 15, 17, 19

Captain Sam says:

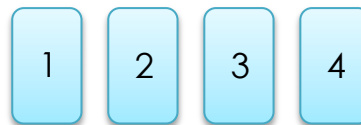
"An odd number + an odd number = an even number".

**Q** Is this **sometimes**, **always** or **never true**?



Use two of the digit cards to make an odd number.

**Q** How many different odd numbers can you make?



Repeat for even numbers.

Complete the Carroll diagram.

	Between 5 and 15	Not between 5 and 15	
Digits add to even number			1 2 3
			4 5 6
			7 8 9
			10 11 15
			13 14 12
Digits add to odd number			16 17 18
			19 23 21
			22 20 27
			25 26 24

Find different ways to make these totals:

Write only **odd** numbers in **triangles**.

Write only **even** numbers in **circles**.

$$\bigcirc + \triangle + \triangle = 12$$

$$\triangle + \bigcirc + \bigcirc = 13$$

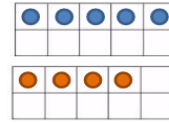
$$\bigcirc + \triangle + \triangle = 14$$

Three birds each lay an odd number of eggs.  
They have 9 eggs altogether.

**Q** Can you think of more than one way to do it?  
Use cubes to help you solve the problem.  
Or could you draw a picture to help you solve it?  
Write your answer in a number sentence.

I know by heart all number bonds that total 5, 6, 7, 8, 9

Here are two ten frames.



Combine the numbers to find out how many there are altogether.

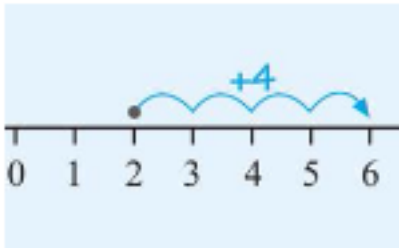
Write a number sentence to show your working.

Solve the subtraction:



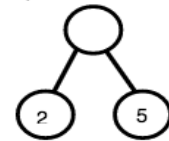
$8 - 2 = \underline{\quad}$

Look at the diagram and write a number sentence to describe it.



Complete the part-whole model.

The two numbers at the bottom add up to make the number at the top.



Continue the pattern:

- $0 + 8 = 8$
- $1 + 7 = 8$
- $\underline{\quad} + 6 = 8$
- $3 + \underline{\quad} = 8$
- $\underline{\quad} + \underline{\quad} = 8$

Q Can you make a similar pattern to 9?

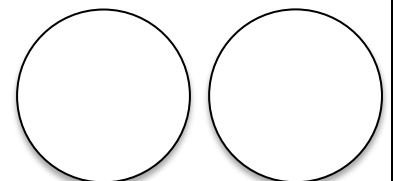
Here are 8 cubes.



Q How many ways can you use the cubes to complete the number sentence?

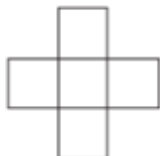
$\underline{\quad} + \underline{\quad} =$

Place the cubes in two circles and write the addition sentence below.



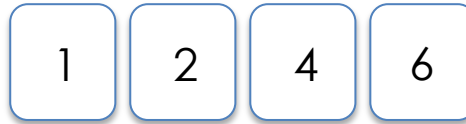
Q How many pairs can you find?

Write the numbers 1 to 5 in the squares so that each row and column add up to the same number.



Pick a pair of numbers.  
Add them together.

Q How many different totals can you make?



Choose a pair of numbers and take away one from the other.

Q How many totals can you make now?

Q How many different ways can you complete the empty boxes?

$$2 + \underline{\quad} = 9 - \underline{\quad}$$

Sid has two bean bags. He is throwing them into the buckets.

More than one bean bag can go in each bucket.

Q What is the highest/lowest score?



Write a number sentence to describe the ten frame.

Q Can you write a different number sentence using the same numbers?



Write the missing symbols in these number sentences: +, - and =

$$7 \underline{\quad} 2 \underline{\quad} 9$$

$$8 \underline{\quad} 4 \underline{\quad} 4$$

If you know this,

$$6 + 3 = 9$$

Q What other facts do you know?

Q Which four number sentences link these 3 numbers?

3, 4, 7

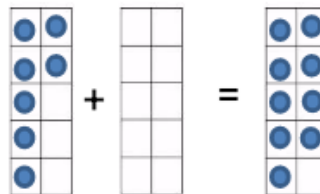
Tom is bowling.

Q Which pins must he knock down to score 7?

Q How many different ways can you do it?



Find and make the missing number.



Complete the number sentence.

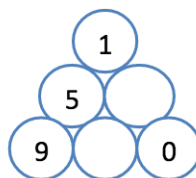
Use cubes to help you solve the problem.

$$5 + 2 = 3 + \underline{\quad}$$

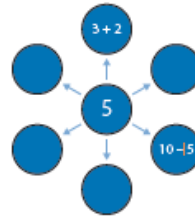
In the triangle, the number above the two numbers is the difference between the numbers. E.g. 3 above 7 and 4.

Find the missing numbers.

Q Can you do it in more than one way?



Q If you know one fact, what other facts do you know?





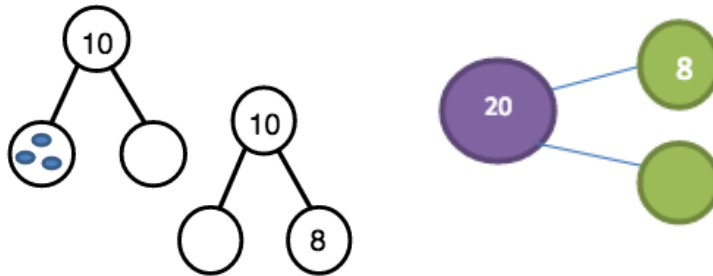
I know by heart all number bonds that total 10, 20

Use a tens frame to complete the number bonds to 10:



Complete the part-whole model to find number bonds to 10.

Repeat with 20.



Q What number goes in the missing boxes?

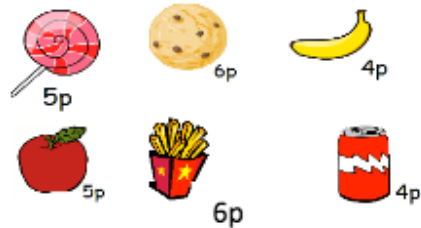
$9 + \underline{\quad} = 10$       $10 - \underline{\quad} = 9$

$14 + \underline{\quad} = 20$       $20 - \underline{\quad} = 14$

I have 10p to spend.

Q Which two items could I buy?

Q How many different ways can you do it?



All the dots have fallen off the toad stools.

Q How many different ways can you put them back on?



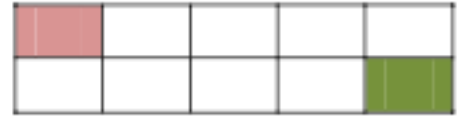
Write the missing symbols in the following number sentences.

$17 \underline{\quad} 3 \underline{\quad} 20$

$20 \underline{\quad} 5 \underline{\quad} 15$

$16 \underline{\quad} 20 \underline{\quad} 4$

Beth needs to colour in the boxes in two different colours. One box of each colour has been coloured.



**Q** How many different ways can she colour the boxes?

This stick of cubes shows  $8 + 1 = 9$ .



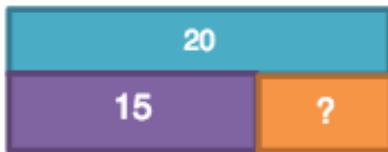
This stick of cubes shows  $1 + 8 = 9$ .



Use cubes to find out if:

$7 + 3 = 3 + 7$

Use the bar model to write 4 number sentences: 2 additions and 2 subtractions.



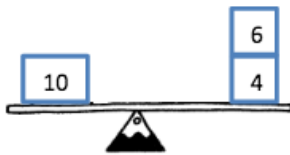
Continue the pattern:

$10 + 5 = 15$

$9 + 6 = 15$

**Q** Can you make a similar pattern for 20?

The see-saw must balance. One has been done for you.



**Q** How many ways can you complete the see-saw?



The number in the green top left corner adds to the number in the blue top left corner to make the number in the orange top left corner.

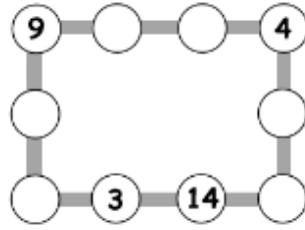
Use this rule to complete the orange square.

Use the same rule to complete the next square.

3	7	2	6	7	1	9	14	
9	1	4	4	5	3	13		
5	8	6	9	2	8			

3	7	1		9	5	4		
9	2	6	2				6	13
4	8	5		8	3	10		

Make each line add up to 20.



Find the total.

$$\square + \square = 10$$

$$\bigcirc + \bigcirc = 12$$

$$\square + \bigcirc =$$

Q True or false?

$$17 + 3 = 18 + 2$$

Q Why haven't I put 20 after the equals sign?

The following numbers are given to two children:

14, 6, 20

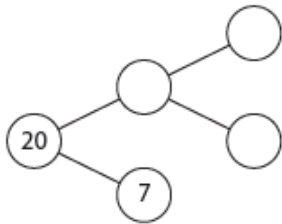
Harjas says, "I will use an addition sign for this calculation."

Kaemon says, "This will need a subtraction sign."

Q Who is right?

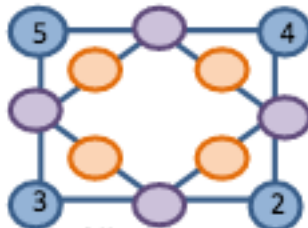
Explain why.

Complete:



The numbers in the blue circles add together to make the number in the purple circle between them.

The numbers in the purple circles add together to make the number in the orange circle between them.



Q Can you fill in the purple and orange circles?

I can recall doubles of all numbers to double 5

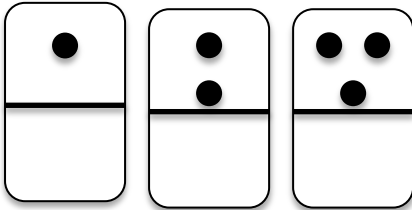
Use cubes to show me double this number.



Use cubes to show me double 3.

Q How many groups are there if you are doubling?

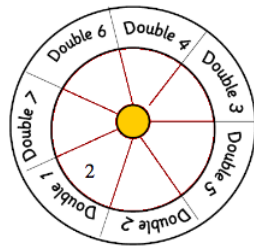
Double using these dominoes:



Double 1 is \_\_\_\_  
 Double 2 is \_\_\_\_  
 Double 3 is \_\_\_\_  
 Continue the pattern.

Q What do you notice about your answers?

Complete the target.



Double game.  
 Roll the dice and double your number.  
 Place a counter on your answer.

2	8	12	4
6	10	2	12
8	4	10	2
4	2	8	6
12	6	4	10
10	12	6	8

Q Why are all the answers on the board even numbers?

Double \_\_\_\_ is 14  
 Half of 6 is \_\_\_\_  
 Double 10 is \_\_\_\_  
 Half of \_\_\_\_ is 9

Saskia says:

“You can double any number but you can only halve some numbers.”

Q Can you prove this using counters or explain it to me?

Bobby says:



You can use your 2x table to help you double.

Do you agree?

Here is a tower made from cubes.

**Q** Which tower is showing double this tower?



Explain why using the word 'half'.

- A tower of 7 cubes
- A tower of 8 cubes
- A tower of 6 cubes

**Q** Have I doubled or halved?

3 → 6 \_\_\_\_\_

10 → 5 \_\_\_\_\_

1 → 2 \_\_\_\_\_

5 → 10 \_\_\_\_\_

**I can recall halves of all numbers to half of 10**

Cut this pizza in half.



Show half of the shape:



- Q What is half the amount of cupcakes?
- Q How many boxes do you need when halving?



Tim gets half of 12 coins.

- Q How many coins does he get?
- Q How many halves can I get from the two whole apples?



Q Which of these show halves?



I have found  $\frac{1}{2}$  of 6 using a bar model.

- Q Can you find  $\frac{1}{2}$  of 10?



Arvind has a shape that is split into 4 equal parts.  
He shades in 2 parts and says:

"I have shaded half of my shape."

- Q Do you agree?

Explain why.

Sam is halving the number 20.  
He gets 20 cubes and 3 plates.

- Q Has he done this correctly?
- Explain why.

**Q** True or false?

I use the 2 times table to find a half of an amount.

**Convince me!**

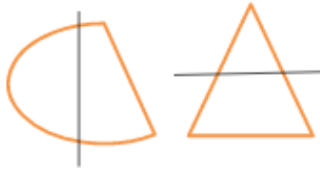
Matthew says:

"It is hard to find half of an odd number."

**Q** Do you agree?

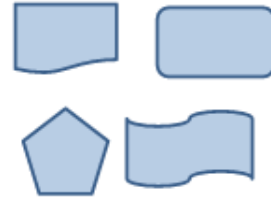
**Explain why.**

Sort the shapes that show one half and the shapes that do not show one half.



**Q** Can you split each of these shapes into two equal halves?

**Explain why for each shape.**



Jo bought a bag of 12 cherries.

Jo ate half the number of cherries in the bag.

**Q** How many cherries did Jo eat?

Sam bought a bag of cherries in the bag.

Sam ate half the number of cherries in the bag.

Sam had 7 cherries left.

**Q** How many cherries did he buy?