When adding three digit numbers, it is a good idea to add up the hundreds, tens and units separately:

342 + 517 =

300 + 500 = 800
40 + 10 = 50
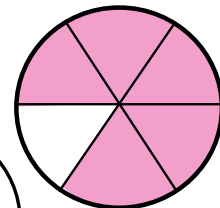2 + 7 = 9

We then add the three answers together to make 859.

Year 3 MATHS
Booster pack

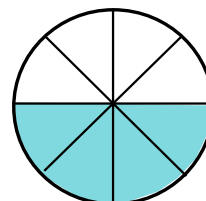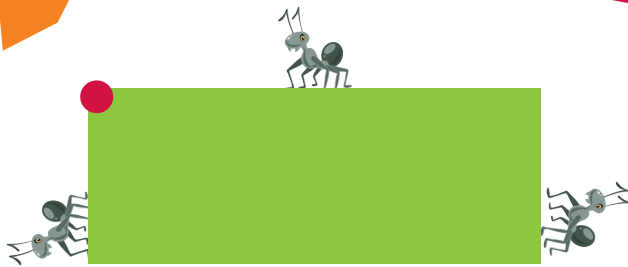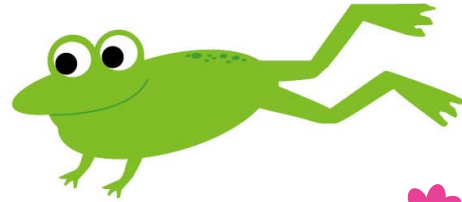8 x 8

12 x 8

£2.35

£2.15

Counting in steps

These number sequences are going up in steps of 4, 8, 50 and 100. Can you fill in the missing numbers?

Practise saying the numbers of each sequence out loud.

4   8   12   16   ___   ___

___   ___   36   ___   48

8   16   24   ___   ___   48

___   ___   ___   80   ___   ___

50   100   150   ___   ___   ___

350   ___   ___   ___   600   ___

100   200   300   400   ___   ___

___   800   ___   ___   ___   ___

Can you say the number sequences out loud without looking at the page? Once you get good at this, practise going backwards!

Partitioning practice

Can you partition each of these numbers into the correct columns?
A few of them have been filled in for you.

	Thousands	Hundreds	Tens	Units
392		300		2
196		100	90	
4092	4000			
28				
819			10	
428		400		
5930				
5281				
623				

These numbers have been partitioned differently. Look carefully at the number sentences and then fill in the gaps.

1. 718 = 500 + _____ + 10 + 8

2. 34 = 10 + 10 + _____ + 4

3. 189 = 50 + _____ + 80 + 9

4. 2846 = 1000 + _____ + 800 + 20 + 20 + 6

Ordering numbers speed challenge

Can you **complete each of these number cards**? If the number is written in words, write it in digits underneath. If the number is in digits, write it in words underneath.

Once you have done this, **cut out the cards and order them from smallest to largest**. How quickly can you do it? Try again – did you beat your first time?

Three hundred and five	138	Seven hundred and twenty-four
_____	_____	_____

842	388	321
_____	_____	_____
_____	_____	_____

Four hundred and eighty-two	One thousand	249
_____	_____	_____

Six hundred and seven _____	723 _____ _____	Twenty-nine _____
56 _____ _____	812 _____ _____	48 _____ _____
One hundred and fifteen _____	Eighty-three _____	Four hundred and fifty-eight _____
518 _____ _____	Nine hundred and forty-five _____	112 _____ _____
23 _____ _____	Six hundred and thirteen _____	489 _____ _____

Quick pairs to 100

Cut out the following squares. See if you can match the numbers into pairs totalling 100.

Now do it again, but time yourself doing it. Do it one more time and see if you can beat your previous time.

10	23	65	41
90	78	91	11
45	77	9	42
35	89	70	59
82	15	58	22
18	30	55	85

PARENT TIP!

Remind your child that the two tens numbers have to add up to 90 and the two units have to add up to 10.

Answers: Pairs are: 23 and 77, 45 and 55, 91 and 9, 22 and 78, 18 and 82, 35 and 65, 41 and 59, 10 and 90, 30 and 70, 42 and 58, 11 and 89, 15 and 85.

Speedy sums

Time yourself answering the first set of ten sums, then again with the next three sets. Are you getting quicker? Don't forget:

Look for number bonds to 10 and 20

Start with the bigger numbers first

Add the tens together, then the units

31 + 4 =	13 + 6 =
13 + 9 =	37 + 13 =
69 + 13 =	19 + 29 =
12 + 7 =	15 + 3 =
19 + 28 =	43 + 63 =
14 + 26 =	13 + 7 =
18 + 72 =	55 + 29 =
15 + 6 =	18 + 4 =
49 + 6 =	13 + 25 =
33 + 17 =	18 + 7 =
56 + 5 =	18 + 5 =
14 + 2 =	53 + 31 =
15 + 89 =	71 + 14 =
13 + 15 =	13 + 6 =
88 + 10 =	12 + 52 =
11 + 19 =	12 + 75 =
43 + 72 =	53 + 9 =
12 + 5 =	67 + 13 =
91 + 5 =	19 + 6 =
13 + 7 =	12 + 13 =

Speedy sums: answers

31 + 4 = 35	13 + 6 = 19
13 + 9 = 22	37 + 13 = 50
69 + 13 = 82	19 + 29 = 48
12 + 7 = 19	15 + 3 = 18
19 + 28 = 47	43 + 63 = 106
14 + 26 = 40	13 + 7 = 20
18 + 72 = 90	55 + 29 = 84
15 + 6 = 21	18 + 4 = 22
49 + 6 = 55	13 + 25 = 38
33 + 17 = 50	18 + 7 = 25
56 + 5 = 61	18 + 5 = 23
14 + 2 = 16	53 + 31 = 84
15 + 89 = 104	71 + 14 = 85
13 + 15 = 28	13 + 6 = 19
88 + 10 = 98	12 + 52 = 64
11 + 19 = 30	12 + 75 = 87
43 + 72 = 115	53 + 9 = 62
12 + 5 = 17	67 + 13 = 80
91 + 5 = 96	19 + 6 = 25
13 + 7 = 20	12 + 13 = 25

Speed grid challenge: number bonds to 20

Work your way down each column, writing in your number bonds to 20 (for example, next to 9 write 11). How fast can you complete the first column? Can you achieve a new personal best time with the next column?

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

PARENT TIP!

Children should have automatic recall of number bonds to 20 (the pairs of numbers that make 20) by KS2. If your child is not confident, practise them together. Using Lego blocks is a good way to help them visualise the numbers.

Adding three-digit numbers revision

When adding three-digit numbers, it is a good idea to add up the hundreds, tens and units separately:

342 + 517 =

3̲00 + 5̲00 = 800

4̲0 + 1̲0 = 50

2̲ + 7̲ = 9

We then add the three answers together to make 859.

Can you use this method to add up the numbers below?

1. 317 + 482 = ☐

2. 261 + 336 = ☐

3. 623 + 314 = ☐

4. 824 + 174 = ☐

5. 382 + 431 = ☐

6. 824 + 197 = ☐

PARENT TIP!

Your child might find the last two questions harder because the numbers are crossing ten and a hundred (for example: 9 + 3 = 14, 80 + 50 = 130). Make sure you practise plenty more like this.

Answers: 1. 799, 2. 597, 3. 937, 4. 998, 5. 813, 6. 1021

Subtraction number line problems

Encourage your child to use a number line when solving these problems; it could help them to start with the smaller number and then 'jump' (in tens and units) up to the bigger number.

For example:

34 – 17 =

```
        3         10          4
     ____      _____      ____
    /    \    /      \    /    \
   17    20            30      34
```
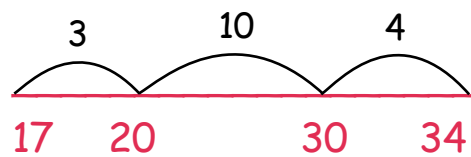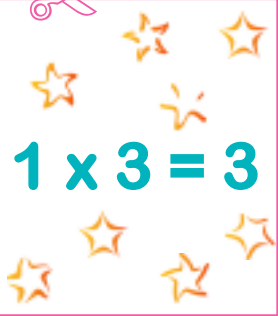
Remind them that they are finding the **DIFFERENCE** between the two numbers.

1. There are 53 children in the hall. A total of 29 children leave to go outside. How many are left in the hall?

2. I have £3.92 in my pocket. I buy a magazine costing £1.67. How much money do I have left?

3. There are 406 children in a school. Today 187 have packed lunches. The rest have school dinners. How many children have school dinners?

Answers: 1. 24, 2. £2.25, 3. 219

Make your own times tables flashcards

Use these blank cards to design your own set of times tables flashcards. Don't forget to decorate them with lots of colours!

1 x 3 = 3

4x table matching cards

Cut out the cards below. Can you match each word problem with the answer?

If I have 5 cars, each with 4 wheels, how many wheels are there altogether?	Mrs Smith gives each of her three children £4. How much money has she given out altogether?	What is 1 x 4?
There are four tables in a room, each with four chairs. How many chairs are there?	There are 2 coats on the hook, each with 4 buttons. How many buttons are there altogether?	What is 8 x 4?
There are 6 plates on a table. Each plate has 4 potatoes on it. How many potatoes are there altogether?	What is 4 x 11?	What is 4 x 10?
Four groups of 12 children are in the playground. How many children are playing?	What is 9 x 4?	What is 4 x 7?

16	44	4	24
28	40	20	8
32	36	48	12

8x table Pelmanism

How to play:

Turn the cards face down. The first player needs to turn any two cards over. If these two cards match (for example: 6 x 8 and 48), they get to keep the pair. If they don't, they have to turn the cards back. The next player does the same. The idea is that both players need to memorise where the cards are, so they can begin to turn over the right cards to find pairs without guessing. The winner is the person with the most pairs at the end of the game.

Number of players:

2 (or this could be played alone in a solitaire version)

Prepare for the game:

Cut out the number cards on the next two pages.

7 x 8	8 x 8
11 x 8	12 x 8
24	32
56	64
88	96

8x table Pelmanism cards

1 x 8	**2 x 8**
5 x 8	**6 x 8**
9 x 8	**10 x 8**
8	**16**
40	**48**
72	**80**
3 x 8	**4 x 8**

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3 and 4 times table division facts

If you know your times tables (multiplication facts), you automatically know your division facts too!

Mac the Magician wants to turn all these division facts back into multiplication facts... can you help him?

$12 \div 4 = 3$ $3 \times 4 = 12$

$18 \div 3 = $ _____   _____ $\times 3 = 18$

$12 \div 3 = $ _____   _____ $\times 3 = 12$

$30 \div 3 = $ _____   _____ $\times 3 = 30$

$33 \div 3 = $ _____   _____ $\times 3 = 33$

$9 \div 3 = $ _____   _____ $\times 3 = 9$

$15 \div 3 = $ _____   _____ $\times 3 = 15$

$40 \div 4 = $ _____   _____ $\times 4 = 40$

$16 \div 4 = $ _____   _____ $\times 4 = 16$

$24 \div 4 = $ _____   _____ $\times 4 = 24$

$28 \div 4 = $ _____   _____ $\times 4 = 28$

$12 \div 4 = $ _____   _____ $\times 4 = 12$

$20 \div 4 = $ _____   _____ $\times 4 = 20$

Answers: 3 x table: 6, 4, 10, 11, 3, 5 4 x table: 10, 4, 6, 7, 3, 5

Slide to the left!

Remember: to the right of every number is a decimal point (even if you can't always see it!)

When you multiply a number by 10, the digits slide to the left and then you need to put a zero in before the decimal point. For example:

	3	6	.
3	6	0	.

Can you multiply each of the following numbers by 10?

4	18
60	392
43	99
2	100
98	17
12	14
562	481
9	55
23	62
142	219

PARENT TIP!

Make sure your child understands place value before doing this worksheet! If you think they need help, spend some time going over what hundreds, tens and units are, and where they are positioned. Point to various three-digit numbers and ask them about how many hundreds, tens and units are in each number.

Answers: Left hand column: 40, 600, 430, 20, 980, 120, 5620, 90, 230, 1420
Right hand column: 180, 3920, 990, 1000, 170, 140, 4810, 550, 620, 2190

Multiplying a two-digit number by a one-digit number

When multiplying a two-digit number by a one-digit number, it is a good idea to partition the two-digit number:

32 x 5 =

30 x 5 = 150

2 x 5 = 10

150 + 10 = 160

32 x 5 = 160

You then add the two results together to give you your final answer.

Can you work out these calculations using this method?

1. 41 x 5 = ☐

2. 38 x 3 = ☐

3. 24 x 7 = ☐

4. 55 x 9 = ☐

5. 63 x 4 = ☐

6. 83 x 4 = ☐

PARENT TIP!

Make sure your child understands that to multiply 30 x 5, you first multiply 3 x 5 (= 15) then multiply the 15 by 10 to make 150.

Answers: 1. 205, 2. 114, 3. 168, 4. 495, 5. 252, 6. 332

Use multiplication to help you divide

It is a good idea to use multiplication to help you work out a division question, for example:

$72 \div 3 =$

36 is quite a lot lower than 72, so we could try a higher number like, 16:
$3 \times 16 =$

A good way to work this out is to multiply 3 by various numbers, until you get the answer 72. For example:
$3 \times 12 = 36$

Work this out by partitioning:
$3 \times 10 = 30$ and $3 \times 6 = 18$, so the answer is 48, still too low.
Let's try a higher number:
$3 \times 22 =$

Again work this out by partitioning: $3 \times 20 = 60$, $3 \times 2 = 6$, so the answer is 66. How many more 3s do we need to add to make 72? The answer is two more 3s, so the final answer is 24. Check this with partitioning again:
$3 \times 20 = 60$, $3 \times 4 = 12$, which makes 72.

$72 \div 3 = 24$

Use this method to work out the following:

1. $76 \div 4 =$
2. $120 \div 5 =$
3. $136 \div 8 =$
4. $57 \div 3 =$
5. $104 \div 4 =$

Answers: 1. 19, 2. 24, 3. 17, 4. 19, 5. 26

Finding fractions of amounts

To find a fraction of an amount, you need to divide the amount by the denominator (bottom number) of the fraction.

For example:

Matthew has 12 pears. He eats 1/3 of them.
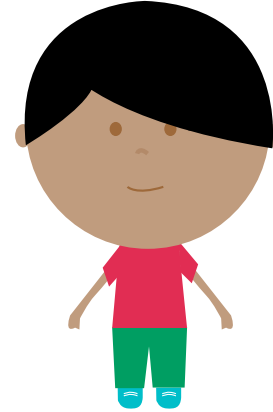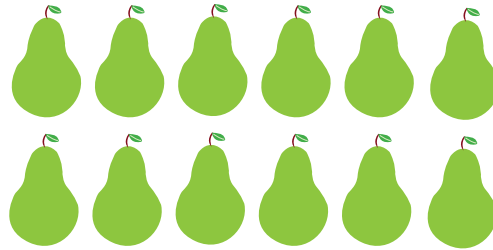
To find out what 1/3 of 12 is, you need to divide 12 by 3:
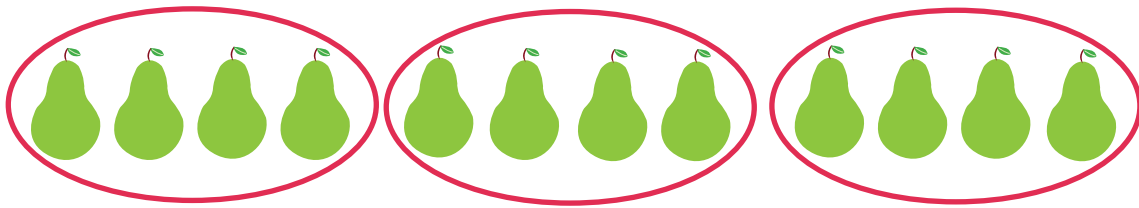
The answer is 4, so 1/3 of 12 is 4. Matthew ate 4 pears!

Work out the following, either by dividing in your head or by drawing pictures like the one above.

1. Mary has 16 marbles. She gives 1/4 to her friend. How many has she given away?

2. Mrs Jones has 20 buttons. She loses 1/5 of them. How many has she lost?

3. There are 12 monkeys in a tree. One third of them are orange. How many are orange?

4. I have £5 in my pocket. I spend 2/5 of it on a toy. How much money do I have left?

5. There are 21 cows in a field. One third of them are black and white. The rest are brown and white. How many are brown and white?

Answers: 1. 4, 2. 4, 3. 4, 4. £3, 5. 14

Equivalent fractions

When two fractions are the same size, but expressed using different numbers, we say they are **equivalent**, for example:

	$\dfrac{3}{6}$		$\dfrac{1}{2}$
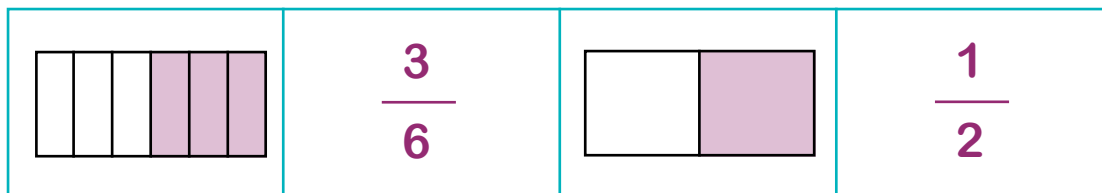
Each of these pairs of fractions is equivalent. Can you write what each fraction is next to the picture?

1

2

3

4
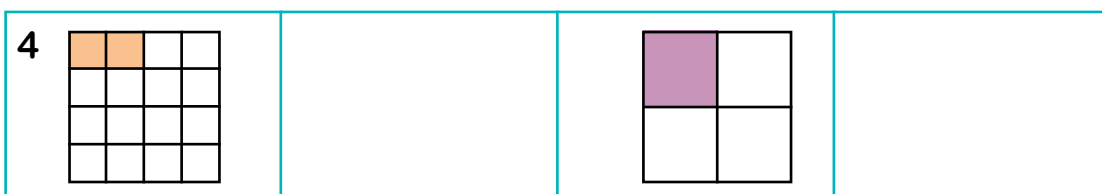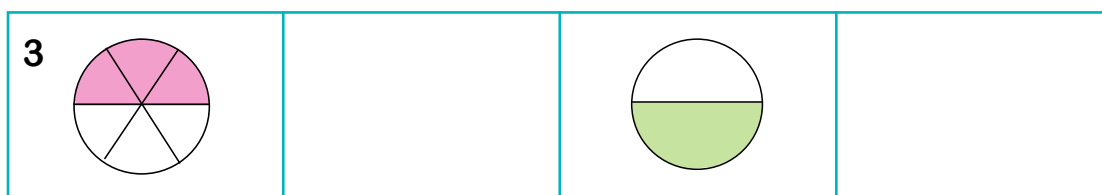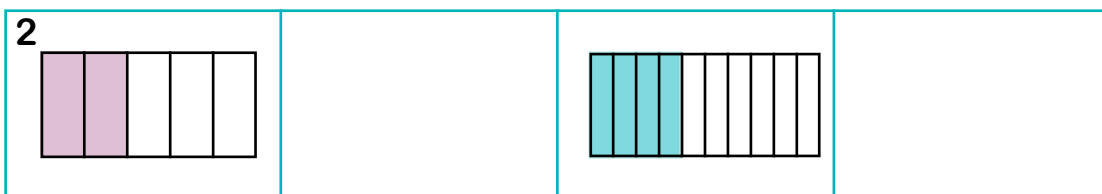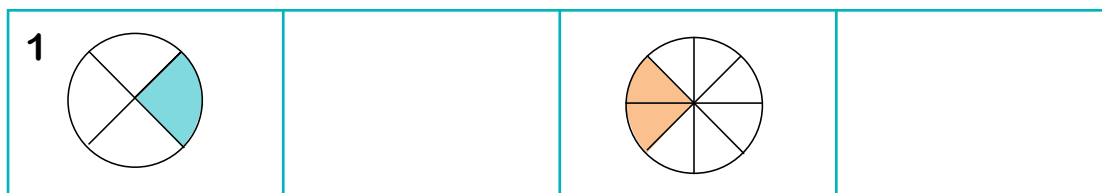
Answers: 1. 1/4 and 2/8, 2. 2/5 and 4/10, 3. 3/6 and 1/2, 4. 2/8 and 2/16

Units of measurement

Which units of measurement would you use to measure the following things? Draw a line to show the correct match.

1. **A bag of sugar that can fit in your hand**

2. **The distance between your home and your school**

3. **The length of the school hall**

4. **A jug of orange juice**

5. **A large sack of potatoes**

6. **The length of a grain of rice**

7. **The length of a pencil**

litres

grams

kilometres

centimetres

metres

millilitres

kilograms

millimetres

PARENT TIP!

If your child struggles with this, they may need to go back to basics. Take some time to talk about length first. Show them centimetres on a ruler and get them to measure things around the room. Get them to estimate the length of the room and then measure it with a tape measure.
  When they are confident with length, move onto weight (g and kg) and then capacity (ml and l).

Answers: 1. kg or g, 2. km or m, 3. m, 4. litres or ml, 5. kg, 6. cm or mm, 7. cm

Measures word problems

1. Alastair the alligator is 1.2m long. His little brother, Alex, is 85cm long. How many centimetres longer is Alastair?

2. This backpack weighs 1.3kg, then Alice puts books weighing 250g in it. How much does the backpack now weigh in grams?

3. Mark has 3.2 litres of paint in one paint pot and 5.9 litres of paint in another. How much paint does he have altogether in litres?

4. Mrs Jones has a full litre bottle of milk. She pours 300ml of it into a pan to make cheese sauce. How much milk does she have left in millilitres?

5. This gorilla has had 4 babies, each weighing 350g. How much do they weigh altogether in kilograms?

6. Frances the flamingo is 30cm taller than her friend Frank. Frank is 90 cm tall. How tall is Frances in metres?

Measuring perimeter

Imagine an insect walking around the edge of a shape, starting on this red dot and then finishing up back on the red dot:

The distance around the edge of a shape is the PERIMETER.
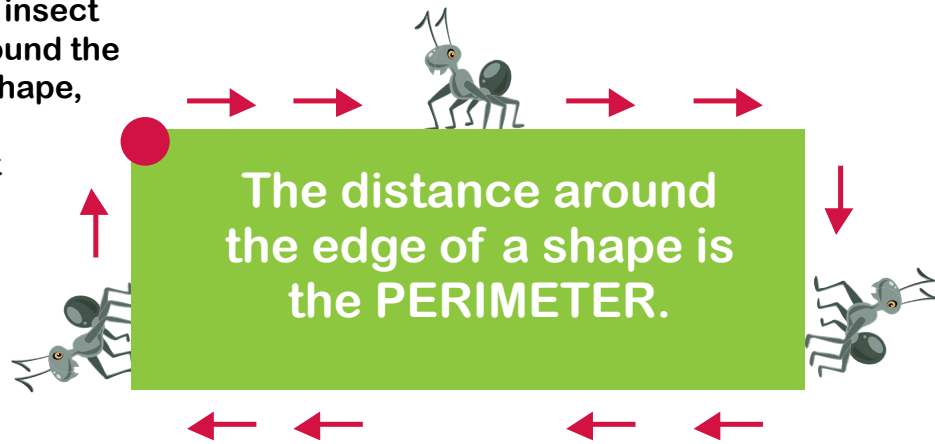
Add up the lengths of the sides of each of these shapes (not drawn to scale) to find the perimeter:

1.

6 cm

3 cm

_____

2.

8 cm

3 cm

_____

3.

5 cm

5 cm

_____

4.

9 cm

2 cm

_____

5.

7 cm

7 cm

_____

6.

10 cm

3 cm

_____
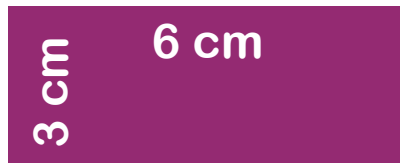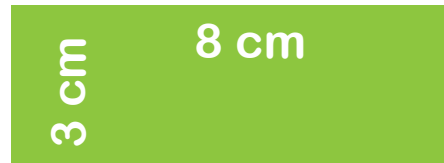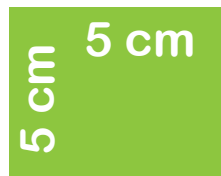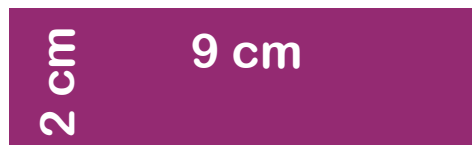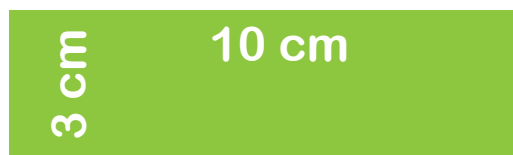
Answers: 1. 18cm, 2. 22cm, 3. 20cm, 4. 22cm, 5. 28cm, 6. 26cm

Horizontal, vertical, parallel and perpendicular lines

This line is horizontal:	This line is vertical:
These lines are parallel (they are an equal distance apart):	These lines are perpendicular (at right angles to each other):

Look at these shapes. Can you complete the table?

How many horizontal lines?			
How many vertical lines?			
How many pairs of parallel lines?			
Are any lines perpendicular to each other?			

Answers:
Blue rectangle: 2, 2, 2 pairs, yes. Purple triangle: 1, 1, none, yes. Orange polygon: 2, 1, 1 pair, yes.

Pocket money problems

Katie has been given £5 (this month's pocket money) so she's going to the toy shop to buy something for herself. Help her work out what she can afford!

£3.40

£2.15

£2.35

1. Can she buy the spinning top and the puzzle pieces?

    Show your working.

2. Can she buy the puzzle and the magnifying glass?

    Show your working.

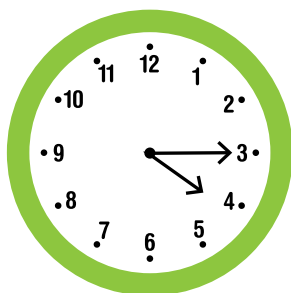3. Can she buy the magnifying glass and the spinning top?

    Show your working.

4. She decides to buy the spinning top and the puzzle. How much change will she get from £5?

Working out time intervals

1. Stacey starts her homework at this time and finishes it half an hour later. What time does she finish?

2. Maria starts her homework at 6.30pm. It takes her fifty minutes. What time does she finish?
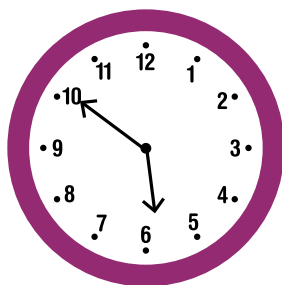
3. Ben finishes his homework at this time. He started it 25 minutes earlier. What time did he start?

4. Craig started his homework 35 minutes before 7.55pm. What time did he start?

Can you answer these questions? Presenting all the information you've found out in a table (below) will help.
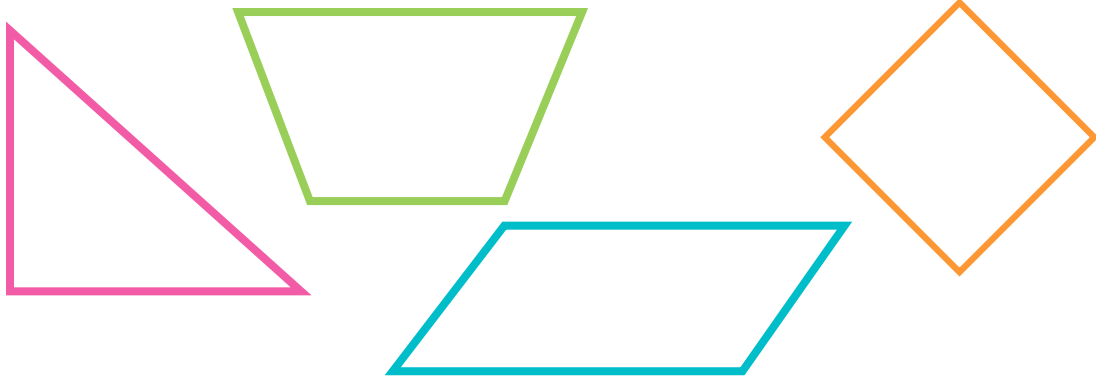
Who started their homework the earliest? Who finished the latest? Who took the longest to do their homework? Who took the least time?

	Time started homework	Length of time taken to do homework	Time finished homework
Stacey			
Maria			
Ben			
Craig			

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Shape sorting

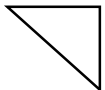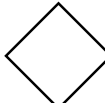These shapes can be sorted into the following Carroll diagram. Do you know where each one should go?

	Has at least one right angle	Has no right angles
Has four sides		
Has three sides		

Answer:

Minibeast charts

Class 3A are learning about minibeasts. Yesterday they collected any small creatures they could find in the playground. They put the numbers of creatures collected into a tally chart:

Worms	|||
Spiders	||||| ||
Slugs	||||
Snails	|||||
Centipedes		

Mark started to draw up a bar chart to show how many of each creature they collected:
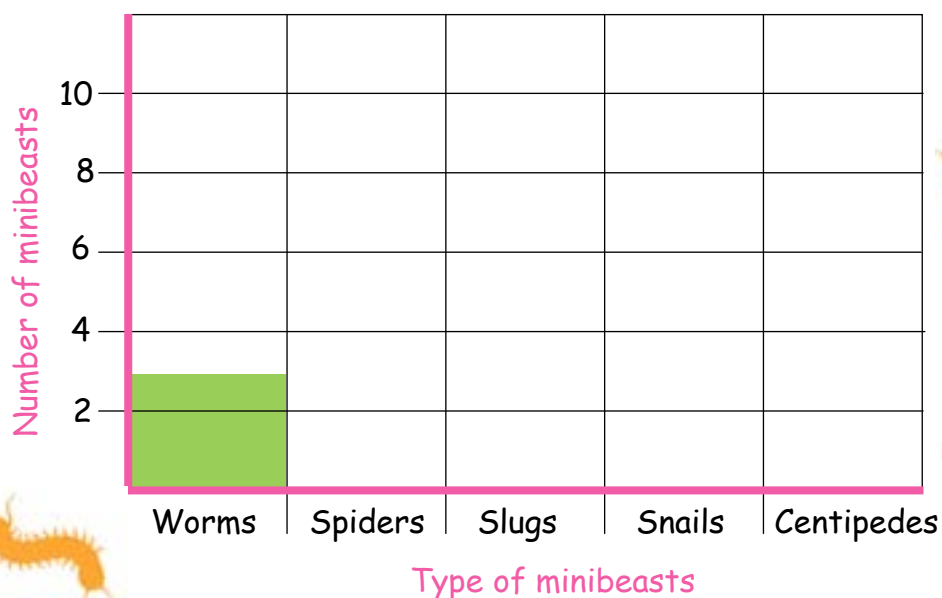
1. **Complete the bar chart to show how many of each minibeast was found.**

2. **How many minibeasts were found altogether?**

3. **How many more spiders were found than centipedes?**

4. **How many more snails were found than worms?**