

## Maths

Long Multiplication - Children have been set mathematics tasks on this topic to be completed for Lesson 4.

### Lesson 1

Long multiplication follows the same steps as short multiplication – it is just a longer process.

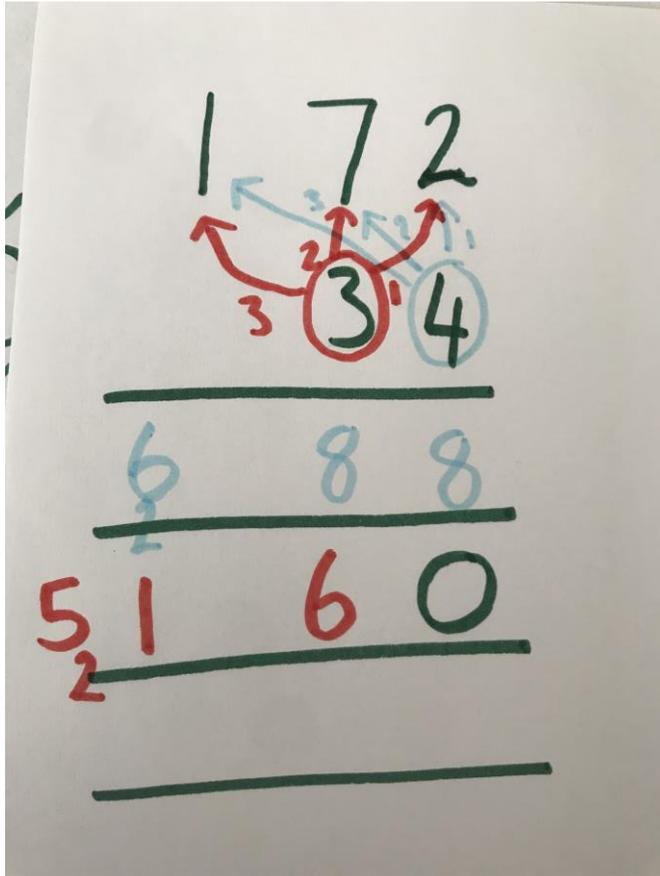
First you need to lay your sum out correctly.

$$\begin{array}{r} 172 \\ 34x \\ \hline \hline 0 \\ \hline \hline \end{array}$$

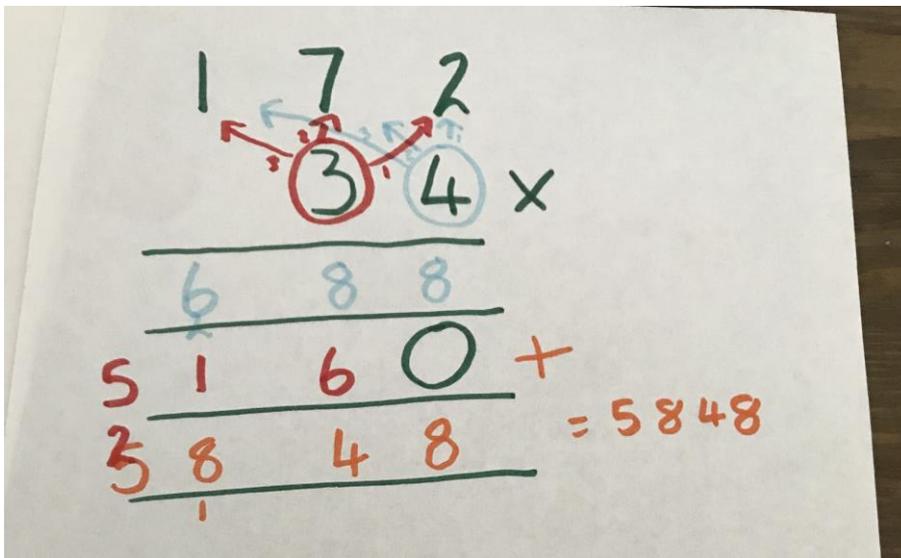
Next, multiply the bottom number (34)'s unit/ones by the top value – starting with the unit/ones value. Remember to carry.

$$\begin{array}{r} 172 \\ 34x \\ \hline 688 \\ \hline 0 \\ \hline \hline \end{array}$$

Now you multiply the bottom numbers 10's value by the top number – starting with the unit/ones.



Finally add the two answers together to get your final answer.



Now try these calculations:

$465 \times 28 =$

$723 \times 65 =$

$2839 \times 28 =$

$258 \times 16 =$

$8253 \times 48 =$

$25252 \times 22 =$

## Lesson 2

Once we have mastered this technique we can use what we know to solve missing number problems. In these questions numbers are missing and we have to try to work out what they are – this may need trial and improvement and trying your ideas out by completing the calculations.

The carrying won't be shown in the question you have to do that for yourself.

In this simple example  $6 \times \text{something} = 6$ . We know  $6 \times 1 = 6$  so the missing number is 1. Once completed test your answer by completing the whole sum to prove you are correct.

			3	<input type="text"/>
x			1	6
<hr/>				
		1	8	6
		3	1	0
<hr/>				
		4	9	6
<hr/>				

Now try these:

			2	3
x			4	<input type="text"/>
<hr/>				
			6	9
		9	2	0
<hr/>				
		9	8	9
<hr/>				

			6	2
x			<input type="text"/>	5
<hr/>				
		3	1	0
		1	8	6
<hr/>				
		2	1	7
<hr/>				

			<input type="text"/>	4
x			2	<input type="text"/>
			7	2
		4	8	0
		5	5	2

			<input type="text"/>	5
x			4	<input type="text"/>
		1	7	5
	1	4	0	0
	1	5	7	5

			<input type="text"/>	8
x			6	<input type="text"/>
			5	4
	1	0	8	0
	1	1	3	4

			6	
x			3	
		1	2	2
	1	8	3	0
	1	9	5	2

			3	
x			5	
		1	0	8
	1	8	0	0
	1	9	0	8

			1	
x				
			4	2
		2	8	0
		3	2	2

### Lesson 3

With this skill perfected we can now move onto word problems. For these we must remember RUCSAC.

What does RUCSAC stand for?

Once you have written down your attempt click here to see the answer.

[https://www.google.com/search?q=RUCSAC+maths&client=firefox-b-d&source=lnms&tbn=isch&sa=X&ved=2ahUKEwifvMn6xJpAhXGfMAKHQMtB\\_4Q\\_AUoAXoECAwQAw&biw=1366&bih=646](https://www.google.com/search?q=RUCSAC+maths&client=firefox-b-d&source=lnms&tbn=isch&sa=X&ved=2ahUKEwifvMn6xJpAhXGfMAKHQMtB_4Q_AUoAXoECAwQAw&biw=1366&bih=646)

Remember all of these questions are focused on long multiplication, so the Choose might be done for you.

1. A school organises a sponsored run for charity. They want to raise £2,600 to help towards building a new library.  
124 runners enter the race.  
Each runner gets sponsored £22  
Will this be enough for the school to hit their target?

2. Mr Kendal needs to replace all 122 tiles on his roof.  
He has £2,800 in his bank account.  
The roofing shop charge £23 per tile.  
Will he have enough to buy all the tiles he needs?
  
3. A cyclist plans to cycle down to Italy.  
He must cycle 2650 miles to Rome.  
He cycles 112 miles each day.  
Will 24 days of riding be enough to get him to Rome?
  
4. A school want to take 122 children to a film festival at Alexandra Cinema.  
The cost of each ticket for each child will be £34.  
Will £4000 be enough to pay for the whole trip?
  
5. The most a van driver can carry in his van is 3,000kgs.  
He loads 133 parcels onto his van.  
Each parcel weighs 23kg.  
Is his van going to be overweight?
  
6. The organisers of a school fete need 2700 cans of drink to sell on their stall.  
The drinks come in packs of 24.  
If they order 112 packs will they have the amount of cans they need?

#### Challenge

$$\square \square \square \times \square \square = \triangle$$

*'Using the digits 0–4 once each, create a calculation where:'*

$$6,000 < \triangle < 12,000$$

*'Can you create more than one solution?'*

#### Throughout the week

Children should look at learning their twelve times tables. They can do this through Mathematics and Hit the Button and they should look to spend one hour on this across the week.