

Long multiplication

Children, from Year 3, are expected to use a formal column method for multiplication. By Year 5/6, children should be confident in using long and short multiplication methods.

H	T	U	
2	4	6	
			3 ×
			8
			1

Then multiply the 3 by the 4 to give 12. Add the 1 carried over to give 13.

H	T	U	
2	4	6	
			3 ×
			38
1	1		

Then multiply the 3 by the 2 to give 6. Add the 1 carried over to give 7.

H	T	U	
2	4	6	
			3 ×
			738
1			

	3	9	1	
x		3	9	
	3	5	1	9
	□	8	□	
1	1	7	3	0
	□	□	□	
1	5	2	4	9

First we multiply each of the digits 391 by 9.
 $9 \times 1 = 9$
 $9 \times 9 = 81$ (put the 1 down; carry the 8)
 $9 \times 3 = 27$
 $27 + (\text{carried}) 8 = 35$

Now we multiply each of the digits 391 by 3. Because it is actually 30, not 3, we put a zero down first.
 $3 \times 1 = 3$
 $3 \times 9 = 27$ (put the 7 down and carry the 2)
 $3 \times 3 = 9$ (plus the 2 which makes 11)

Last of all, we add the results of our calculations to get the answer.
 $3519 + 11730 = 15249$

• 6 doesn't go into 4, so put 0

0	
6	474

• 6 into 47 goes 7 times

0	7	
6	474	

• $7 \times 6 = 42$. Take 42 away from 47 to get the remainder of 5.

0	7	
6	474	
4	2	
5		

• Bring down the next digit, the 4

0	7	
6	474	
4	2	
5	4	

• 6 into 54 goes 9 times with no remainder

0	7	9
6	474	
4	2	
5	4	

As there are no more digits to bring down, the division is finished.

Children, from Year 3, are expected to use a formal column method for division. By Year 5/6, children should be confident in using long and short division methods.

Long division

15	3640	2	
		- 30	
		6	

15 into 3 doesn't go, so look at the next digit.
 15 goes into 36 two times, so put a 2 above the 6.
 $15 \times 2 = 30$
 Take that 30 away from the 36 to get your remainder.
 $36 - 30 = 6$

15	3640	24	
		- 30	
		64	
		- 60	
		4	

Next, carry the 4 down to make 64.
 15 goes into 64 four times, so put a 4 above the 4.
 $15 \times 4 = 60$
 Take 60 from the 64 to get your remainder.
 $64 - 60 = 4$

15	3640	242	
		- 30	
		64	
		- 60	
		40	
		- 30	
		10	

Carry the 0 down to make 40.
 15 goes into 40 two times, so put a 2 above the 0.
 $15 \times 2 = 30$
 Take 30 from the 40 to get your remainder.
 $40 - 30 = 10$