

Lesson 1 for children

Here are three incorrect multiplications.

	T	O
	6	1
x		5
<hr/>		
	3	5

	T	O
	7	4
x		7
<hr/>		
4	9	8

	T	O
	2	6
x		4
<hr/>		
8	2	4

Correct the multiplications.

Always, sometimes, never

- When multiplying a two-digit number by a one-digit number, the product has 3 digits.
- When multiplying a two-digit number by 8 the product is odd.
- When multiplying a two-digit number by 7 you need to exchange.

Prove it.

Lesson 1 with answers

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	T	O
	6	1
x		5
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	7	4	
x		7	
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	4	9	8

	T	O	
	2	6	
x		4	
<hr/>			
	8	2	4

Correct the multiplications.

	T	O	
	6	1	
x		5	
<hr/>			
	3	0	5
	3		

	T	O	
	7	4	
x		7	
<hr/>			
	5	1	8
	2		

	T	O	
	2	6	
x		4	
<hr/>			
	1	0	4
	2		

Always, sometimes, never

- When multiplying a two-digit number by a one-digit number, the product has 3 digits.
- When multiplying a two-digit number by 8 the product is odd.
- When multiplying a two-digit number by 7 you need to exchange.

Prove it.

Sometimes: 12×2 has only two-digits; 23×5 has three digits.

Never: all multiples of 8 are even.

Sometimes: most two-digit numbers need exchanging, but not 10 or 11

Lesson 2 for children

Spot the mistake

Alex and Dexter have both completed the same multiplication.



Alex

	H	T	O
	2	3	4
x			6
<hr/>			
1	2	0	4

2 2



Dexter

	H	T	O
	2	3	4
x			6
<hr/>			
1	4	0	4

2 2

Who has the correct answer?

What mistake has been made by one of the children?

Teddy and his mum were having a reading competition.

In one month, Teddy read 814 pages.



His mum read 4 times as many pages as Teddy.

How many pages did they read altogether?

How many fewer pages did Teddy read?

Use the bar model to help.

Teddy

814

Mum

814

814

814

814

Lesson 2 with answers

Spot the mistake

Alex and Dexter have both completed the same multiplication.



Alex

	H	T	O
	2	3	4
x			6
<hr/>			
1	2	0	4
	2	2	



Dexter

	H	T	O
	2	3	4
x			6
<hr/>			
1	4	0	4
	2	2	

Who has the correct answer?

What mistake has been made by one of the children?

Dexter has the correct answer.

Alex has forgotten to add the two hundreds she exchanged from the tens column.

Teddy and his mum were having a reading competition.
In one month, Teddy read 814 pages.



His mum read 4 times as many pages as Teddy.

How many pages did they read altogether?

How many fewer pages did Teddy read?
Use the bar model to help.

Teddy

814

Mum

814	814	814	814
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$$814 \times 5 = 4,070$$

They read 4,070 pages altogether.

$$814 \times 3 = 2,442$$

Teddy read 2,442 fewer pages than his mum.

Lesson 3 for children

Rosie writes,
 $85 \div 3 = 28 \text{ r } 1$

She says 85 must be 1 away from a multiple of 3
Do you agree?

37 sweets are shared between 4 friends.
How many sweets are left over?

Four children attempt to solve this problem.

- Alex says it's 1
- Mo says it's 9
- Eva says it's 9 r 1
- Jack says it's 8 r 5

Can you explain who is correct and the mistakes other people have made?

Whitney is thinking of a 2-digit number that is less than 50

When it is divided by 2, there is no remainder.

When it is divided by 3, there is a remainder of 1

When it is divided by 5, there is a remainder of 3

What number is Whitney thinking of?

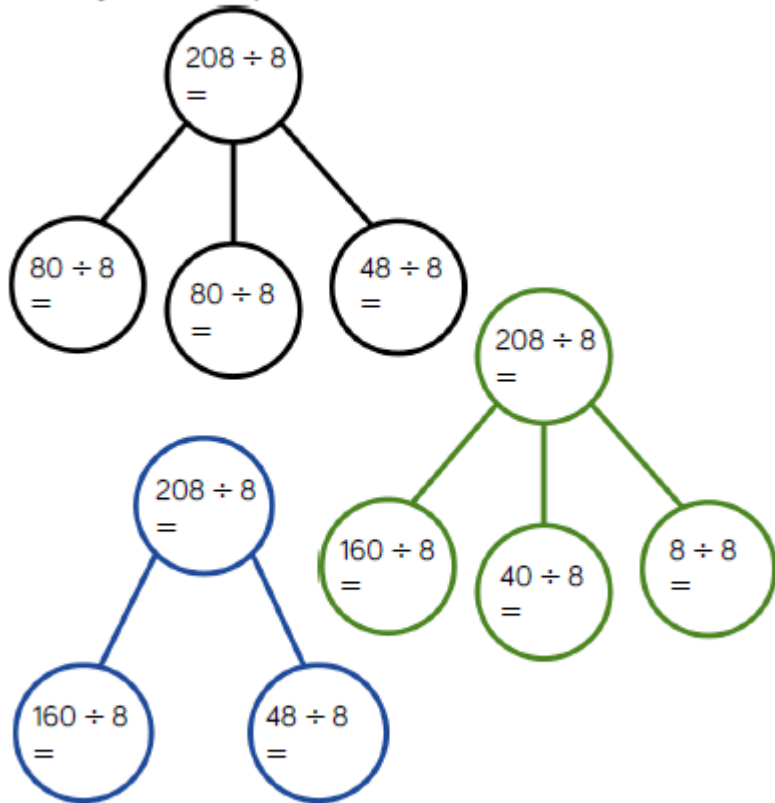
Lesson 3 with answers

<p>Rosie writes, $85 \div 3 = 28 \text{ r } 1$</p> <p>She says 85 must be 1 away from a multiple of 3 Do you agree?</p>	<p>I agree, remainder 1 means there is 1 left over. 85 is one more than 84 which is a multiple of 3</p>	<p>Whitney is thinking of a 2-digit number that is less than 50</p> <p>When it is divided by 2, there is no remainder.</p> <p>When it is divided by 3, there is a remainder of 1</p> <p>When it is divided by 5, there is a remainder of 3</p> <p>What number is Whitney thinking of?</p>	<p>Whitney is thinking of 28</p>
<p>37 sweets are shared between 4 friends. How many sweets are left over?</p> <p>Four children attempt to solve this problem.</p> <ul style="list-style-type: none">Alex says it's 1Mo says it's 9Eva says it's 9 r 1Jack says it's 8 r 5 <p>Can you explain who is correct and the mistakes other people have made?</p>	<p>Alex is correct as there will be one remaining sweet. Mo has found how many sweets each friend will receive. Eva has written the answer to the calculation. Jack has found a remainder that is larger than the divisor so is incorrect.</p>		

Lesson 4 for children

Dexter is calculating $208 \div 8$ using part-whole models.

Can you complete each model?



How many part-whole models can you make to calculate $132 \div 4$?

You have 12 counters and the place value grid. You must use all 12 counters to complete the following.

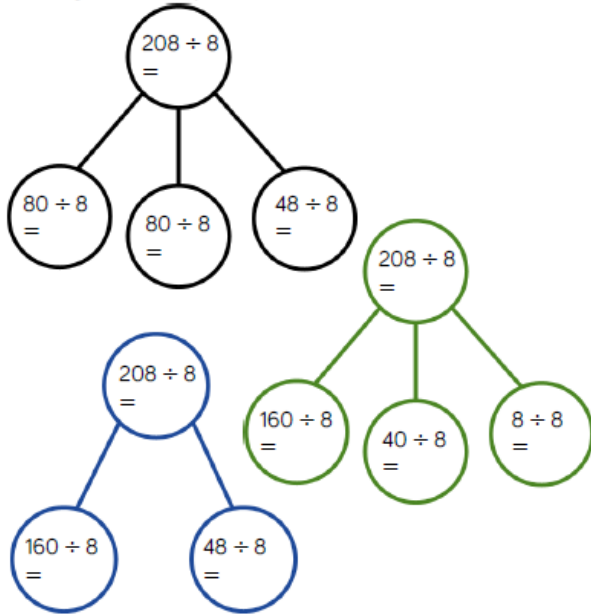
Hundreds	Tens	Ones

- Create a 3-digit number divisible by 2
- Create a 3-digit number divisible by 3
- Create a 3-digit number divisible by 4
- Create a 3-digit number divisible by 5
- Can you find a 3-digit number divisible by 6, 7, 8 or 9?

Lesson 4 with answers

Dexter is calculating $208 \div 8$ using part-whole models.

Can you complete each model?



How many part-whole models can you make to calculate $132 \div 4$?

$$208 \div 8 = 26$$

$$80 \div 8 = 10$$

$$48 \div 8 = 6$$

$$160 \div 8 = 20$$

$$40 \div 8 = 5$$

$$8 \div 8 = 1$$

Children can then make a range of part-whole models to calculate $132 \div 4$

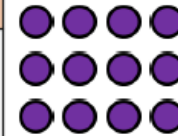
e.g.

$$100 \div 4 = 25$$

$$32 \div 4 = 8$$

You have 12 counters and the place value grid. You must use all 12 counters to complete the following.

Hundreds	Tens	Ones



- Create a 3-digit number divisible by 2
- Create a 3-digit number divisible by 3
- Create a 3-digit number divisible by 4
- Create a 3-digit number divisible by 5
- Can you find a 3-digit number divisible by 6, 7, 8 or 9?

2: Any even number

3: Any 3-digit number (as the digits add up to 12, a multiple of 3)

4: A number where the last two digits are a multiple of 4

5: Any number with 0 or 5 in the ones column.

Possible answers

6: Any even number

7: 714, 8: 840

9: impossible