

Lesson 10 -

I can multiply 3 digits  
by 1 digit - reasoning  
and problem solving

*Starter- recap*

$$657 \times 3 =$$

	<b>6</b>	<b>5</b>	<b>7</b>
<b>x</b>			<b>3</b>
<hr/>			
<hr/>			

Starter- *answers*  
657 X 3 = 1971

	6	5	7
X			3
<hr/>			
1	9	7	1
<hr/>			
1	1	2	

# Problem Solving:

Which calculation has an answer with a digit sum of 18?

A

	7	4	0
x			5
<hr/>			
<hr/>			

B

	6	0	9
x			6
<hr/>			
<hr/>			

Step 1- Work out both multiplication problems.

Step 2- Look at the answers and work out the sum of the digits which make the answer.

Step 3- Identify which digits make a total of 18.

# Problem Solving: Answer

Which calculation has an answer with a digit sum of 18?

A

	7	4	0
x			5
<hr/>			
3	7	0	0
<hr/>			
2			

B

	6	0	9
x			6
<hr/>			
3	6	5	4
<hr/>			
5			

The correct answer is B as  $3 + 6 + 5 + 4 = 18$ .

# Problem Solving-

Add the missing digits to the calculation below.

**6**   **5**   **2**   **1**   **7**

	<b>4</b>	<input type="text"/>	<b>2</b>
<b>x</b>			<b>3</b>
<input type="text"/>	<b>4</b>	<b>1</b>	<b>6</b>
			<input type="text"/>

# Problem Solving-

Add the missing digits to the calculation below.

6      5      2      1      7

	4	<input type="text"/>	2
x			3
<input type="text"/>	4	1	6
		<input type="text"/>	

Step 1 - Identify which number multiplies by 3 and has a 1 in the ones column whilst carrying over a number into the hundreds column. Make sure the number you identify is one of the digits that can be used.

Step 2- Continue working out the problem as you normally would. What would the missing number be at the end which has been carried into the thousands column?

# Problem Solving- *answer*

Add the missing digits to the calculation below.

6      5      2      1      7

	4	<b>7</b>	2
x			3
<hr/>			
<b>1</b>	4	1	6
<hr/>			
<b>1</b>	<b>2</b>		

$$2 \times 3 = 6$$

$$70 \times 3 = 210$$

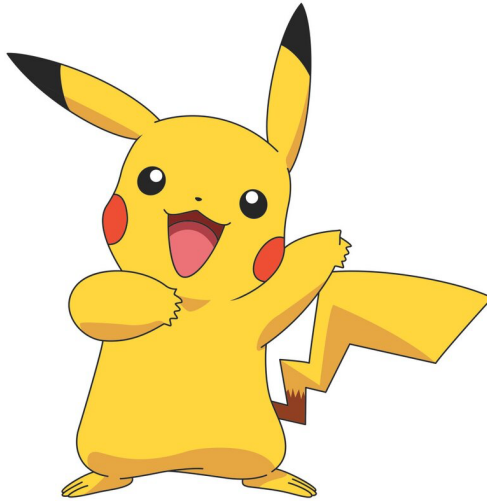
$$400 \times 3 = 1200 \text{ (+ 2 carried over) = } 1400$$

*Add the one thousand that has also been carried over.*



# Reasoning-

Pikachu says



My number 5,870 is  
6 times larger than  
980.

Is Pikachu correct? Prove it.

Step 1 - Read the question. What is it asking you to do? Multiply  $6 \times 980$  and identify if 5870 is 6 times bigger.

Step 2- Work out  $6 \times 980$ . Is 5870 6 times larger than 980?

Step 3- Say whether Pikachu is correct or incorrect and give **PROOF** for your answer.

Reasoning- *answer*

Pikachu says



My number 5,870 is  
6 times larger than  
980.

Is Pikachu correct? Prove it.

*Pikachu is incorrect because  $980 \times 6 = 5880$ .*

Try and complete the activities on activity sheet 10. See if you can complete the ultimate challenge at the end too!