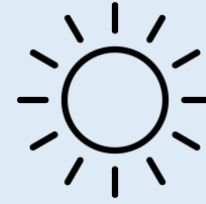


# Welcome back to the Summer Term



## Year Five Maths

This PowerPoint will help you with your maths learning this week. This week we are focusing on the **Four Operations**. Everyday you will have an two activities on **Diagnostic Questions** (an activity and an arithmetic) as well as an activity on **Maths Shed**. There are also some of our slides from learning in school to help remind you about each of the calculation methods in this document as well as a Going Deeper activity. You will also have **Times Table Rockstars** to practice on.

Take care Mathematicians!

Miss Bryce 😊

# Websites

School website:

<http://www.hydeparkjuniorschool.co.uk/website>

Diagnostic Questions:

<https://diagnosticquestions.com/>

Maths Shed

<https://play.edshed.com/>

Times Table Rockstars:

<https://trockstars.com/>

**20.04.2020    XX.IV.MMXX**

## **Today's Learning:**

### **Diagnostic Questions:**

Column Addition

+ Daily Arithmetic

### **Ed Shed:**

4 Digit Number  
(Addition)



### **Going Deeper:**

See page 7 for 'Going Deeper' activity

# Column Addition

## Step 1

Layout the calculation

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \end{array}$$

## Step 2

The sum of 4 and 6 is 10, so there are no ones and 1 ten

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \quad 0 \\ \hline \quad 1 \end{array}$$

## Step 3

The sum of 5 tens and 9 tens is 14 tens, plus my extra 10 is 15 tens, which is 150. There are 5 tens and 1 hundred.

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \quad 50 \\ \hline \quad 11 \end{array}$$

## Step 4

The sum of 4 hundreds and 5 hundreds, plus my extra 100 is 10 hundreds, which is 1000. There are no hundreds and 1 thousand.

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \quad 050 \\ \hline \quad 111 \end{array}$$

## Step 5

The sum of 3 thousands plus my extra thousand is 4000.

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \quad 4050 \\ \hline \quad 111 \end{array}$$

## Step 6

The sum of 20 thousands and zero is 20,000.

$$\begin{array}{r} 23454 \\ + \quad 596 \\ \hline \quad 24050 \\ \hline \quad 111 \end{array}$$

# Practice

You can use these questions as additional practice of your addition skills. These can be completed in your Home Learning Books.

$4822 + 9291 =$	$5821 + 3254 =$	$8830 + 5659 =$
$2439 + 8794 =$	$9778 + 8632 =$	$43,392 + 52,040 =$

# Practice – Answers

You can use these questions as additional practice of your addition skills. These can be completed in your Home Learning Books.

$4822 + 9291 =$

	4	8	2	2	
+	9	2	9	1	
<hr/>					
1	4	1	1	3	
<hr/>					
	X	X			

$5821 + 3254 =$

	1	7	2	1	3
+		8	1	8	5
<hr/>					
2	5	3	9	8	
<hr/>					
X					

$8830 + 5659 =$

	8	8	3	0	
+	5	6	5	9	
<hr/>					
1	4	4	8	9	
<hr/>					
X					

$2439 + 8794 =$

	2	4	3	9	
+	8	7	9	4	
<hr/>					
1	1	2	3	3	
<hr/>					
X	X	X			

$9778 + 8632 =$

	9	7	7	8	
+	8	6	3	2	
<hr/>					
1	8	4	1	0	
<hr/>					
X	X	X			

$43,392 + 52,040 =$

	4	3	3	9	2
+	5	2	0	4	0
<hr/>					
9	5	4	3	2	
<hr/>					
X					



## Going Deeper

Harry, Georgia and Ashley have been playing 'Quarry Craft' on their computers. Below are their total scores and a list of the top 10 scores.

Total Scores	
Harry	65,232
Georgia	73,002
Ashley	56,273

Harry, Georgia and Ashley's total scores are a combination of three of the top 10 scores.

**What could their three scores have been? How many possibilities can you find?**

1 <sup>st</sup>	41,207
2 <sup>nd</sup>	33,749
3 <sup>rd</sup>	27,641
4 <sup>th</sup>	25,921
5 <sup>th</sup>	24,790
6 <sup>th</sup>	20,348
7 <sup>th</sup>	18,905
8 <sup>th</sup>	18,686
9 <sup>th</sup>	12,797
10 <sup>th</sup>	11,447





**21.04.2020    XXI.IV.MMXX**

## **Today's Learning:**

### **Diagnostic Questions:**

Column Subtraction

+ Daily Arithmetic

### **Ed Shed:**

4 Digit Number  
(Addition)



### **Going Deeper:**

See page 14 for 'Going Deeper' activity

# Column Subtraction

## Step 1

Layout the calculation

$$\begin{array}{r} 52344 \\ - 1187 \\ \hline \end{array}$$

## Step 2

The 1's column: Because 7 is greater than 4, exchange a ten for ten 1's. So there are now 3 tens and fourteen 1's.

$$\begin{array}{r} \phantom{0}^3 \phantom{0}^1 \\ 523\cancel{4}4 \\ - 1187 \\ \hline \end{array}$$

## Step 3

Now, 14 ones subtract 7 ones makes 7 ones – record this

$$\begin{array}{r} \phantom{0}^3 \phantom{0}^1 \\ 523\cancel{4}4 \\ - 1187 \\ \hline \phantom{00}7 \end{array}$$

## Step 4

The 10's column: Because 8 tens is greater than 3 tens, exchange a 100 for 10 tens. So there are now 2

$$\begin{array}{r} \phantom{0}^2 \phantom{0}^3 \phantom{0}^1 \\ 52\cancel{3}\cancel{4}4 \\ - 1187 \\ \hline \phantom{00}7 \end{array}$$

## Step 5

Now, 13 tens subtract 8 tens makes 5 tens – record this

$$\begin{array}{r} \phantom{0}^1 \\ \phantom{0}^2 \phantom{0}^3 \phantom{0}^1 \\ 52\cancel{3}\cancel{4}4 \\ - 1187 \\ \hline \phantom{00}57 \end{array}$$

## Step 6

The 100's column: 2 hundreds subtract 1 hundred makes 100 – record this

$$\begin{array}{r} \phantom{0}^1 \\ \phantom{0}^2 \phantom{0}^3 \phantom{0}^1 \\ 52\cancel{3}\cancel{4}4 \\ - 1187 \\ \hline \phantom{00}157 \end{array}$$

# Column Subtraction

## Step 7

The 1000's column:  
2 thousands subtract  
1 thousand makes one  
thousand – record this

$$\begin{array}{r} \phantom{0}1 \\ \phantom{0}2 \phantom{0}3 \phantom{0}1 \\ 5 \phantom{0}2 \phantom{0}3 \phantom{0}4 \phantom{0}4 \\ - \phantom{0}1 \phantom{0}1 \phantom{0}8 \phantom{0}7 \\ \hline \phantom{0}1 \phantom{0}1 \phantom{0}5 \phantom{0}7 \end{array}$$

## Step 8

The 10,000's column:  
There are only five  
10,000's with nothing to  
subtract – record this

$$\begin{array}{r} \phantom{0}1 \\ \phantom{0}2 \phantom{0}3 \phantom{0}1 \\ 5 \phantom{0}2 \phantom{0}3 \phantom{0}4 \phantom{0}4 \\ - \phantom{0}1 \phantom{0}1 \phantom{0}8 \phantom{0}7 \\ \hline \phantom{0}5 \phantom{0}1 \phantom{0}1 \phantom{0}5 \phantom{0}7 \end{array}$$

# Practice

You can use these questions as additional practice of your subtraction skills.  
These can be completed in your Home Learning Books.

$$7425 - 5773 =$$

$$63,231 - 16,758 =$$

$$7178 - 2706 =$$

$$6276 - 3728 =$$

$$5568 - 2319 =$$

$$8568 - 3622 =$$

# Practice - Answers

You can use these questions as additional practice of your subtraction skills.  
These can be completed in your Home Learning Books.

$$7425 - 5773 =$$

$$\begin{array}{r} \overset{6}{7} \overset{13}{4} \overset{1}{2} \overset{2}{5} \\ - 5 \ 7 \ 7 \ 3 \\ \hline 1 \ 6 \ 5 \ 2 \end{array}$$

$$63,231 - 16,758 =$$

$$\begin{array}{r} \overset{5}{6} \overset{12}{3} \overset{11}{2} \overset{12}{3} \overset{1}{1} \\ - 1 \ 6 \ 7 \ 5 \ 8 \\ \hline 4 \ 6 \ 4 \ 7 \ 3 \end{array}$$

$$7178 - 2706 =$$

$$\begin{array}{r} \overset{6}{7} \overset{1}{1} \ 7 \ 8 \\ - 2 \ 7 \ 0 \ 6 \\ \hline 4 \ 4 \ 7 \ 2 \end{array}$$

$$6276 - 3728 =$$

$$\begin{array}{r} \overset{5}{6} \overset{1}{2} \overset{6}{7} \overset{6}{6} \\ - 3 \ 7 \ 2 \ 8 \\ \hline 2 \ 5 \ 4 \ 8 \end{array}$$

$$5568 - 2319 =$$

$$\begin{array}{r} 5 \ 5 \ \overset{5}{6} \overset{1}{8} \\ - 2 \ 3 \ 1 \ 9 \\ \hline 3 \ 2 \ 4 \ 9 \end{array}$$

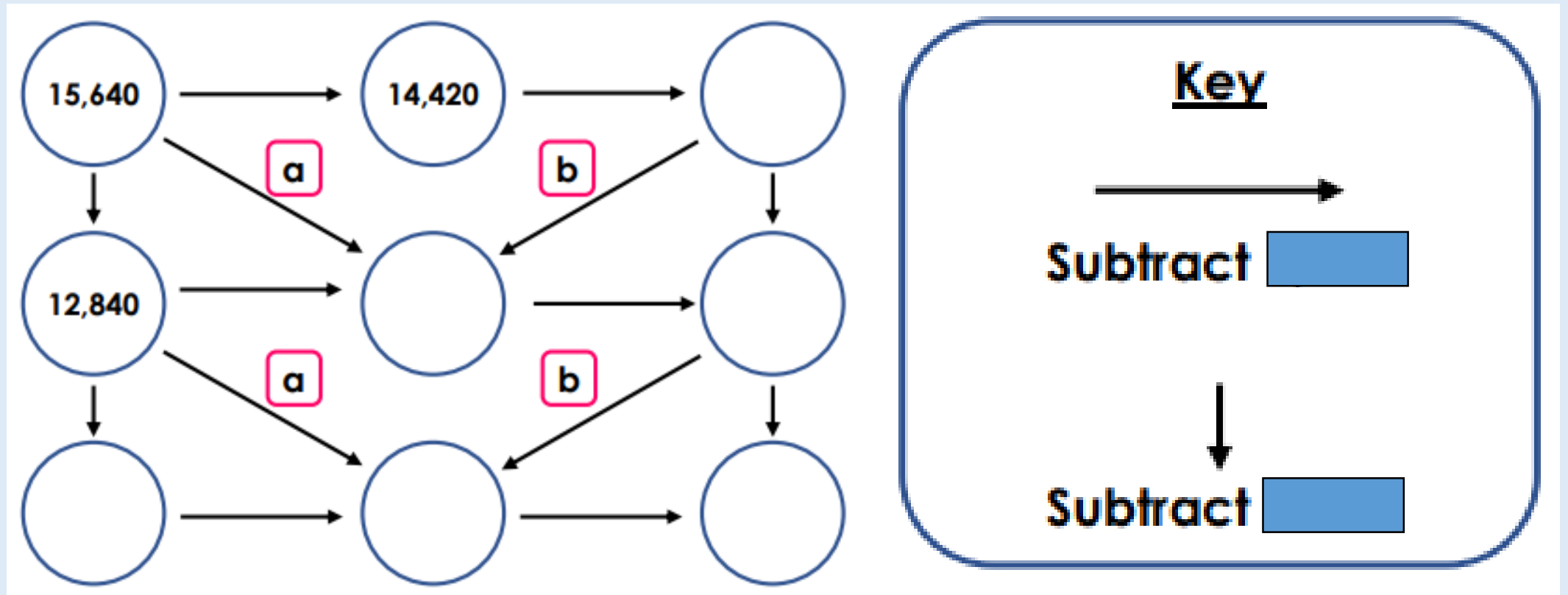
$$8568 - 3622 =$$

$$\begin{array}{r} \overset{7}{8} \overset{1}{5} \ 6 \ 8 \\ - 3 \ 6 \ 2 \ 2 \\ \hline 4 \ 9 \ 4 \ 6 \end{array}$$



# Going Deeper

Complete the puzzle by filling in the key.



What numbers do **a** and **b** represent?



**22.04.2020    XXII.IV.MMXX**

## **Today's Learning:**

### **Diagnostic Questions:**

Short Multiplication

+ Daily Arithmetic

### **Ed Shed:**

4 Digit Number  
(Subtraction)



### **Going Deeper:**

See page 20 for 'Going Deeper' activity



# Short Multiplication

## Step 1

Layout the calculation

	2	1	7	
x			9	
<hr/>				

## Step 2

Multiply the ones digit by the multiplier –  $7 \times 9 = 63$ . I have 3 ones and 6 tens.

	2	1	7	
x			9	
<hr/>				
			3	
<hr/>				
		6		

## Step 3

Multiply the tens digit by the multiplier –  $10 \times 9 = 90$ , plus my 6 tens = 150. I have 5 tens and 1 hundred.

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

## Step 4

Multiply the hundreds digit by the multiplier  $200 \times 9 = 1800$ , plus my 1 hundred = 1900. I have 1 thousand and 9 hundreds.

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

# Practice

You can use these questions as additional practice of your multiplication skills.  
These can be completed in your Home Learning Books.

$26 \times 7 =$

$7234 \times 8 =$

$623 \times 8 =$

$8239 \times 7 =$

$43 \times 6 =$

$234 \times 7 =$

# Practice- Answers

You can use these questions as additional practice of your multiplication skills.  
These can be completed in your Home Learning Books.

$26 \times 7 =$

	2	6	
x		7	
<hr/>			
1	8	2	
<hr/>			
	1	8	

$7234 \times 8 =$

	7	2	3	4
x				8
<hr/>				
5	7	8	6	8
<hr/>				
	5	7	8	

$623 \times 8 =$

	6	2	3
x			8
<hr/>			
4	9	8	4
<hr/>			
	4	9	

$8239 \times 7 =$

	8	2	3	9
x				7
<hr/>				
5	7	6	7	3
<hr/>				
	5	7	6	

$43 \times 6 =$

	4	3
x		6
<hr/>		
2	5	8
<hr/>		
	2	5

$234 \times 7 =$

	2	3	4
x			7
<hr/>			
1	6	3	8
<hr/>			
	1	6	



## Going Deeper

A bank manager has forgotten the code to enter the underground vault at his bank. He remembers that the code was the result of multiplying a 4 digit number by 3.

The 4 digit number he multiplied was made from the digits 0-9, where each digit was only used once.

The code was a 4 digit number, and one of the digits was repeated twice within the code.

**Explore what the 4 digit code might be.  
How many possibilities can you find?**



**23.04.2020    XXIII.IV.MMXX**

## **Today's Learning:**

### **Diagnostic Questions:**

Long Multiplication  
+ Daily Arithmetic

### **Ed Shed:**

4 Digit Number  
(Subtraction)



### **Going Deeper:**

See page 28 for 'Going Deeper' activity

# Long Multiplication

## Step 1

Layout the calculation

	3	4	2	5	
x			4	7	
					(3425 x 7)
				0	(3425 x 40)

## Step 2

Multiply the ones digit by the ones multiplier.  $5 \times 7 = 35$ . I have 5 ones and 3 tens.

	3	4	2	5	
x			4	7	
			3	5	(3425 x 7)
				0	(3425 x 40)

## Step 3

Multiply the tens digit by the ones multiplier.  $20 \times 7 = 140$ , plus my 3 tens = 170. I have 1 hundred and 7 tens.

	3	4	2	5	
x			4	7	
		1	7	5	(3425 x 7)
				0	(3425 x 40)

## Step 4

Multiply the hundreds digit by the ones multiplier.  $400 \times 7 = 2800$ , plus my 1 hundred = 2900. I have 2 thousands and 9 hundreds.

	3	4	2	5			
x			4	7			
		2	9	1	7	5	(3425 x 7)
						0	(3425 x 40)

# Long Multiplication

## Step 5

Multiply the thousands digit by the ones multiplier.  $3000 \times 7 = 21,000$ , plus the 2 thousands = 23,000.

	3	4	2	5	
x			4	7	
	2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
					0 (3425 x 40)

## Step 6

Multiply the ones digit by the tens multiplier.  $5 \times 40 = 200$ . I have 0 ones, 0 tens and 2 hundreds.

	3	4	2	5	
x			4	7	
	2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
			2	0	0 (3425 x 40)

## Step 7

Multiply the tens digit by the tens multiplier.  $20 \times 40 = 800$ , plus the 2 hundreds = 1000. I have 0 hundreds and 1 thousand.

	3	4	2	5	
x			4	7	
	2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
		1	0 <sub>2</sub>	0	0 (3425 x 40)

## Step 8

Multiply the hundreds digit by the tens multiplier.  $400 \times 40 = 16,000$ , plus the 1 thousand = 17,000. I have 7 thousands and 1 ten thousand.

	3	4	2	5	
x			4	7	
	2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
	1	7 <sub>1</sub>	0 <sub>2</sub>	0	0 (3425 x 40)



# Long Multiplication

## Step 9

Multiply the thousands digit by the tens multiplier.  $3000 \times 40 = 120,000$ , plus the  $10,000 = 130,000$ . I have 3 ten thousands and 1 hundred thousand.

		3	4	2	5	
	x			4	7	
		2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
1		3 <sub>1</sub>	7 <sub>1</sub>	0 <sub>2</sub>	0	0 (3425 x 40)

## Step 10

Now, add both of the partial answers together to get your final answer.

		3	4	2	5	
	x			4	7	
		2	3 <sub>2</sub>	9 <sub>1</sub>	7 <sub>3</sub>	5 (3425 x 7)
1		3 <sub>1</sub>	7 <sub>1</sub>	0 <sub>2</sub>	0	0 (3425 x 40)
1		6	0	9	7	5
		1				

# Practice

**You can use these questions as additional practice of your multiplication skills.  
These can be completed in your Home Learning Books.**

$$756 \times 32 =$$

$$7923 \times 17 =$$

$$9248 \times 26 =$$

# Practice - Answers

You can use these questions as additional practice of your multiplication skills.

These can be completed in your Home Learning Books.

$$756 \times 32 =$$

Handwritten multiplication of 756 by 32 on grid paper. The calculation is shown in two parts: first, 756 multiplied by 2, resulting in 1512; then, 756 multiplied by 30, resulting in 22680. The final sum, 24192, is obtained by adding the two intermediate products.

$$\begin{array}{r} 756 \\ \times 32 \\ \hline 1512 \quad (756 \times 2) \\ 22680 \quad (756 \times 30) \\ \hline 24192 \end{array}$$

$$7923 \times 17 =$$

Handwritten multiplication of 7923 by 17 on grid paper. The calculation is shown in two parts: first, 7923 multiplied by 7, resulting in 55461; then, 7923 multiplied by 10, resulting in 79230. The final sum, 134491, is obtained by adding the two intermediate products.

$$\begin{array}{r} 7923 \\ \times 17 \\ \hline 55461 \quad (7923 \times 7) \\ 79230 \quad (7923 \times 10) \\ \hline 134491 \end{array}$$

$$9248 \times 26 =$$

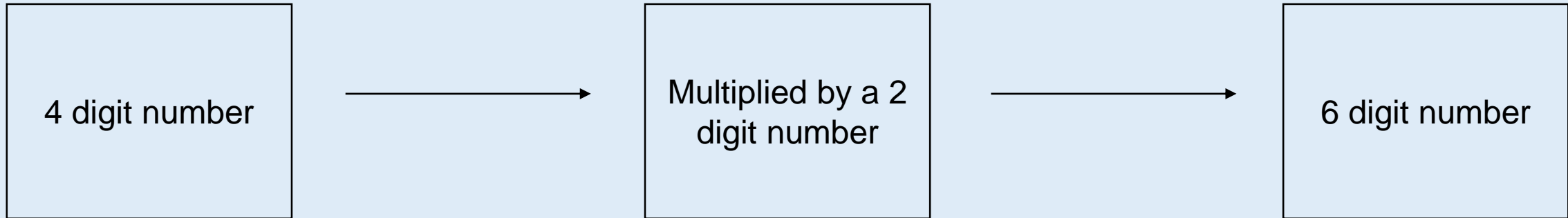
Handwritten multiplication of 9248 by 26 on grid paper. The calculation is shown in two parts: first, 9248 multiplied by 6, resulting in 55488; then, 9248 multiplied by 20, resulting in 184960. The final sum, 240448, is obtained by adding the two intermediate products.

$$\begin{array}{r} 9248 \\ \times 26 \\ \hline 55488 \quad (9248 \times 6) \\ 184960 \quad (9248 \times 20) \\ \hline 240448 \end{array}$$



# Going Deeper

Look at the function machine below.



Sandy says

“I know that  $1000 \times 10$  equals a five digit number, but I also know that multiplying a 4 digit number by a 2 digit number can create an answer with six digits”.

**Explore the lowest possible answers that can be achieved where the function machine is correct. How do you know that you have found the lowest possible number?**



**24.04.2020    XXIV.IV.MMXX**

## **Today's Learning:**

<p><b>Diagnostic Questions:</b></p> <p>Short Division</p> <p>+ Daily Arithmetic</p>	<p><b>Ed Shed:</b></p> <p>4 Digit Number (Addition and Subtraction)</p>
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**Going Deeper:**

See page 35 for 'Going Deeper' activity

# Short Division

## Step 1

Layout the calculation.  
Place the dividend  
(number you're  
dividing) inside the grid  
and the divisor (number  
you're dividing it by) on  
the outside.

	3	7	8	4	6

## Step 2

How many groups of 3  
thousands are there in  
7 thousands? There  
are 2 groups with 1  
group remaining.

		2			
	3	7	18	4	6

## Step 3

How many groups  
of 3 hundreds are  
there in 1800?  
There are 6 groups.

		2	6		
	3	7	18	4	6

## Step 4

How many groups  
of 3 tens are there  
in 4 tens? There is  
1 group with 1  
group remaining.

		2	6	1	
	3	7	18	4	16

# Short Division

## Step 5

How many groups of 3 ones are there in 16 ones? There are 5 groups with 1 group remaining.

		2	6	1	5	r1
3	7	<sup>1</sup> 8	4	<sup>1</sup> 6		

**When you reach the last digit, any remainders are written after with an 'r'.**



# Practice

You can use these questions as additional practice of your division skills. These can be completed in your Home Learning Books.

$$1827 \div 8 =$$

$$3744 \div 4 =$$

$$6571 \div 7 =$$

$$3176 \div 6 =$$

$$4443 \div 9 =$$

$$2576 \div 3 =$$

# Practice - Answers

You can use these questions as additional practice of your division skills. These can be completed in your Home Learning Books.

$$1827 \div 8 =$$

$$\begin{array}{r} 0228 \text{ r}3 \\ 8 \overline{) 1827} \end{array}$$

$$3744 \div 4 =$$

$$\begin{array}{r} 0936 \\ 4 \overline{) 3744} \end{array}$$

$$6571 \div 7 =$$

$$\begin{array}{r} 0938 \text{ r}5 \\ 7 \overline{) 6571} \end{array}$$

$$3176 \div 6 =$$

$$\begin{array}{r} 0529 \text{ r}2 \\ 6 \overline{) 3176} \end{array}$$

$$4443 \div 9 =$$

$$\begin{array}{r} 0493 \text{ r}6 \\ 9 \overline{) 4443} \end{array}$$

$$2576 \div 3 =$$

$$\begin{array}{r} 0858 \text{ r}2 \\ 3 \overline{) 2576} \end{array}$$



# Going Deeper

Mika and Alisa work at the zoo and are responsible for making sure there is enough space for each animal.

- There cannot be more than 9 animals in an enclosure.
- There are 3345 animals in the zoo.
- Except one, all the animals have an equal number of animals in.

**Investigate the different possible number of enclosures that are needed to look after the animals properly.**

