

Multiplication and Division		Knowledge Organiser
<b>Key Vocabulary</b>	<b>Factors</b>	<b>Prime Numbers</b>
multiply	A factor is a number that divides into another number exactly, without leaving a remainder.	1 2 3 4 5 6 7 8 9 10
groups of	<p>The factors of 20 are 1, 2, 4, 5, 10 and 20.</p> <p>The factor pairs are: 1 and 20 2 and 10 4 and 5</p> <p>A common factor is a factor of 2 or more numbers.</p>	11 12 13 14 15 16 17 18 19 20
lots of		21 22 23 24 25 26 27 28 29 30
times		31 32 33 34 35 36 37 38 39 40
divide		41 42 43 44 45 46 47 48 49 50
share		51 52 53 54 55 56 57 58 59 60
remainder		61 62 63 64 65 66 67 68 69 70
factor	<b>Squared<sup>2</sup> and Cubed<sup>3</sup> Numbers</b>	<b>Related Calculations</b>
multiple	<p><math>2^2 = 4</math>      <math>2^3 = 8</math> <math>2 \times 2 = 4</math>    <math>2 \times 2 \times 2 = 8</math></p> <p><math>5^2 = 25</math>      <math>5^3 = 125</math> <math>5 \times 5 = 25</math>    <math>5 \times 5 \times 5 = 125</math></p>	<p><math>8 \times 9 = 72</math>      <math>9 \times 8 = 72</math> <math>80 \times 9 = 720</math>    <math>90 \times 8 = 720</math></p>
product		<p><math>72 \div 9 = 8</math>      <math>72 \div 8 = 9</math> <math>720 \div 9 = 80</math>    <math>720 \div 8 = 90</math></p>
Year 5		

## Multiplication and Division

## Knowledge Organiser

### Short Multiplication

$$2543 \times 7 = 17801$$

	2	5	4	3
×				7
<b>1</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>1</b>
1	3	3	2	

Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.

### Long Multiplication

$$2543 \times 67 = 170381$$

		2	5	4	3
	×			6	7
	1	7	8	0	1
1	5	2	5	8	0
1	3	2	1		
<b>1</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>1</b>
1	1				

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

### Division

$$136 \div 4 = 34$$

		<b>3</b>	<b>4</b>	
4		1	3	6
-		1	2	0
			1	6
		-	1	6
				0

→ 30 × 4

→ 4 × 4

Year 5

### Short Division

		<b>3</b>	<b>8</b>	
4		1	5	2

15 ÷ 4 = 3 remainder 3  
Remember to regroup any remainders and move them into the next column.

		<b>4</b>	<b>5</b>	<b>5</b>	<b>r</b>	<b>3</b>
5		2	2	7	8	

28 ÷ 5 = 5 remainder 3  
If your calculation has a remainder, remember to record it in the answer using the letter **r**.