

Decimals		Knowledge Organiser																																																																																																																											
Key Vocabulary	Place Value	Fractions to Decimals																																																																																																																											
decimal place	<table><tr><td>Tens</td><td>Ones</td><td>tenths</td><td>hundredths</td><td>thousandths</td></tr><tr><td></td><td> 1 1 1 </td><td> 0.1 0.1 0.1 0.1 </td><td> 0.01 0.01 </td><td> 0.001 0.001 0.001 0.001 0.001 0.001 </td></tr><tr><td>decimal fraction</td></tr><tr><td>recurring decimal</td></tr><tr><td>equivalent fraction</td></tr><tr><td>tenth</td></tr><tr><td>sharing</td><td> 3 + 4/10 + 2/100 + 6/1000 3.426 3 + 0.4 + 0.02 + 0.006 </td><td colspan="2"> 7/20 = 35/100 or 0.35 7/25 = 28/100 or 0.28 7/50 = 14/100 or 0.14 8/200 = 4/100 or 0.04 When the denominator is not a factor or multiple of 100 7/8 = 7 ÷ 8 <table><tr><td></td><td>0</td><td>8</td><td>7</td><td>5</td></tr><tr><td>8</td><td>7</td><td>0</td><td>0</td><td>0</td></tr></table> </td></tr><tr><td>partitioning</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>0.1</td><td>0.2</td><td>0.3</td><td>0.4</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.8</td><td>0.9</td></tr><tr><td>0.01</td><td>0.02</td><td>0.03</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.07</td><td>0.08</td><td>0.09</td></tr><tr><td>0.001</td><td>0.002</td><td>0.003</td><td>0.004</td><td>0.005</td><td>0.006</td><td>0.007</td><td>0.008</td><td>0.009</td></tr></table></td><td colspan="2"></td></tr><tr><td>exchanging</td><td colspan="3">Dividing Decimals by Integers</td></tr><tr><td>rounding to 3d.p.</td><td> 8.12 ÷ 4 <table><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td>2</td><td>0</td><td>3</td></tr><tr><td>4</td><td>8</td><td>1</td><td>2</td></tr></table> </td><td colspan="2"> 6.93 ÷ 3 = 2.31 <table><tr><td>Ones</td><td>tenths</td><td>hundredths</td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr></table> </td></tr><tr><td>hundredth</td><td colspan="3"></td></tr><tr><td>thousandth</td><td colspan="3"></td></tr><tr><td>equal to</td><td colspan="3"></td></tr><tr><td>remainder</td><td colspan="3"></td></tr><tr><td>grouping</td><td colspan="3"></td></tr><tr><td>Year 6</td><td colspan="3"></td></tr></table>	Tens	Ones	tenths	hundredths	thousandths		1 1 1	0.1 0.1 0.1 0.1	0.01 0.01	0.001 0.001 0.001 0.001 0.001 0.001	decimal fraction	recurring decimal	equivalent fraction	tenth	sharing	3 + 4/10 + 2/100 + 6/1000 3.426 3 + 0.4 + 0.02 + 0.006	7/20 = 35/100 or 0.35 7/25 = 28/100 or 0.28 7/50 = 14/100 or 0.14 8/200 = 4/100 or 0.04 When the denominator is not a factor or multiple of 100 7/8 = 7 ÷ 8 <table><tr><td></td><td>0</td><td>8</td><td>7</td><td>5</td></tr><tr><td>8</td><td>7</td><td>0</td><td>0</td><td>0</td></tr></table>			0	8	7	5	8	7	0	0	0	partitioning	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>0.1</td><td>0.2</td><td>0.3</td><td>0.4</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.8</td><td>0.9</td></tr><tr><td>0.01</td><td>0.02</td><td>0.03</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.07</td><td>0.08</td><td>0.09</td></tr><tr><td>0.001</td><td>0.002</td><td>0.003</td><td>0.004</td><td>0.005</td><td>0.006</td><td>0.007</td><td>0.008</td><td>0.009</td></tr></table>	1	2	3	4	5	6	7	8	9	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009			exchanging	Dividing Decimals by Integers			rounding to 3d.p.	8.12 ÷ 4 <table><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td>2</td><td>0</td><td>3</td></tr><tr><td>4</td><td>8</td><td>1</td><td>2</td></tr></table>						2	0	3	4	8	1	2	6.93 ÷ 3 = 2.31 <table><tr><td>Ones</td><td>tenths</td><td>hundredths</td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr><tr><td> 1 1 </td><td> 0.1 0.1 0.1 </td><td> 0.01 </td></tr></table>		Ones	tenths	hundredths	1 1	0.1 0.1 0.1	0.01	1 1	0.1 0.1 0.1	0.01	1 1	0.1 0.1 0.1	0.01	hundredth				thousandth				equal to				remainder				grouping				Year 6			
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Decimals

Knowledge Organiser

Multiplying and Dividing by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			2	0	8	
		← × 10	2	0	8	
			2	0	8	
				← ÷ 10		
			2	0	8	

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
		4	3	5		
	← × 100	4	3	5		
4	3	5	0			
		4	3	5		
			← ÷ 100			
		4	3	5		

Thousands	Hundreds	Tens	Ones	tenths	hundredths	thousandths
			1	3	5	1
	← × 1000		1	3	5	1
1	3	5	1			
			1	3	5	1
				← ÷ 1000		
			1	3	5	1

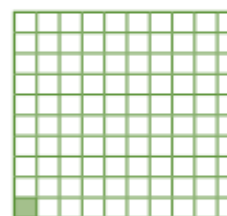
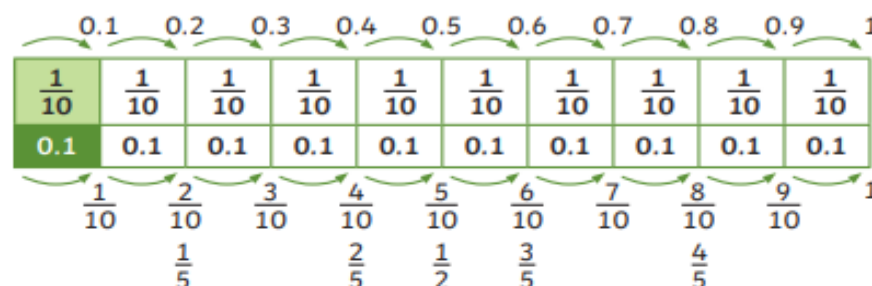
Multiplying Decimals by Integers

	3	4	5
×			3
1	0	3	5
	1	1	

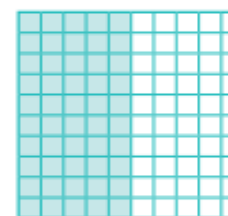
$$3.21 \times 3 = 9.63$$

Ones	tenths	hundredths
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01
1 1 1	0.1 0.1	0.01

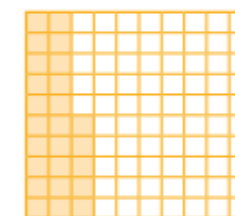
Decimal Numbers as Fractions



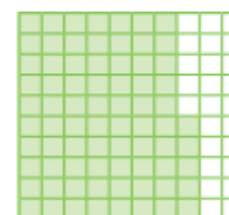
$$\frac{1}{100} = 0.01$$



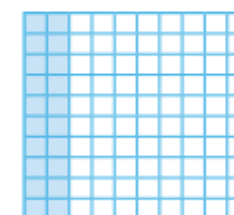
$$\frac{50}{100} = \frac{1}{2} = 0.5$$



$$\frac{25}{100} = \frac{1}{4} = 0.25$$



$$\frac{75}{100} = \frac{3}{4} = 0.75$$



$$\frac{20}{100} = \frac{1}{5} = 0.2$$

$$\frac{1}{3} = 0.33$$

$$\frac{1}{8} = 0.125$$

$$\frac{1}{1000} = 0.001$$

Year 6