

Year 5 Decimals Knowledge Organiser.

Decimals		Knowledge Organiser													
Key Vocabulary	Tenths, Hundredths and Thousandths		Order and Compare Numbers with Three Decimal Places												
tenths	$\frac{0}{10}$ $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{9}{10}$ $\frac{10}{10}$		<table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <th style="width: 25%;">Ones</th> <th style="width: 25%;">Tenths</th> <th style="width: 25%;">Hundredths</th> <th style="width: 25%;">Thousandths</th> </tr> <tr> <td></td> <td>$\frac{1}{10}$ $\frac{1}{10}$</td> <td>$\frac{1}{100}$</td> <td>$\frac{1}{1000}$ $\frac{1}{1000}$</td> </tr> <tr> <td>0</td> <td>.</td> <td>2</td> <td>1 3</td> </tr> </table>	Ones	Tenths	Hundredths	Thousandths		$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$ $\frac{1}{1000}$	0	.	2	1 3
Ones	Tenths	Hundredths		Thousandths											
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0	.	2	1 3												
hundredths	 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1														
decimal tenths	$\frac{0}{100}$ $\frac{1}{100}$ $\frac{2}{100}$ $\frac{3}{100}$ $\frac{4}{100}$ $\frac{5}{100}$ $\frac{6}{100}$ $\frac{7}{100}$ $\frac{8}{100}$ $\frac{9}{100}$ $\frac{1}{10}$														
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1	.	0	2 2												
decimal equivalents	$\frac{0}{1000}$ $\frac{1}{1000}$ $\frac{2}{1000}$ $\frac{3}{1000}$ $\frac{4}{1000}$ $\frac{5}{1000}$ $\frac{6}{1000}$ $\frac{7}{1000}$ $\frac{8}{1000}$ $\frac{9}{1000}$ $\frac{1}{100}$														
part-whole model	0 0.001 0.002 0.003 0.004 0.005 0.006 0.007 0.008 0.009 0.01		<table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <th style="width: 25%;">Ones</th> <th style="width: 25%;">Tenths</th> <th style="width: 25%;">Hundredths</th> <th style="width: 25%;">Thousandths</th> </tr> <tr> <td>1 1</td> <td>$\frac{1}{10}$</td> <td></td> <td>$\frac{1}{1000}$ $\frac{1}{1000}$</td> </tr> <tr> <td>2</td> <td>.</td> <td>1 0</td> <td>3</td> </tr> </table>	Ones	Tenths	Hundredths	Thousandths	1 1	$\frac{1}{10}$		$\frac{1}{1000}$ $\frac{1}{1000}$	2	.	1 0	3
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1	$\frac{1}{10}$		$\frac{1}{1000}$ $\frac{1}{1000}$												
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Decimals

Knowledge Organiser

Multiplying and Dividing by 10, 100 and 1000

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
+ 10		3	8	
3	8			
		× 10		

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
+ 100		0	3	8
3	8			
		× 100		

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
+ 1000		0	0	3
3	8			
		× 1000		

Adding and Subtracting Decimals

$$0.8 + 0.001 = 0.801$$

$$1.031 - 0.23 = 0.801$$

$$0.4005 + 0.4005 = 0.801$$



Rounding Decimals



If the tenths digit is 1, 2, 3 or 4, we round down to the nearest whole number.

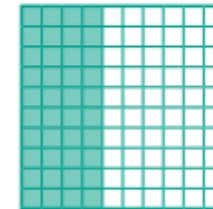
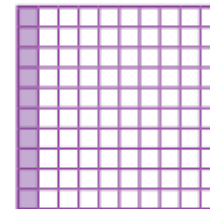
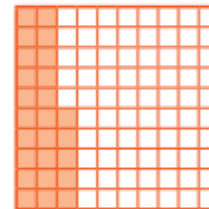
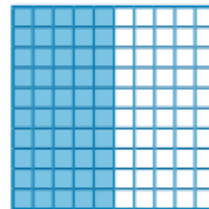
If the tenths digit is 5, 6, 7, 8 or 9, we round up to the nearest whole number.



If the hundredths digit is 1, 2, 3 or 4, we round down to the nearest tenth.

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Percentage and Decimal Equivalents

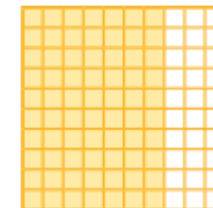
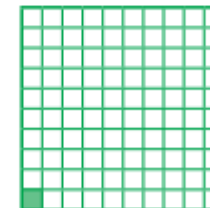
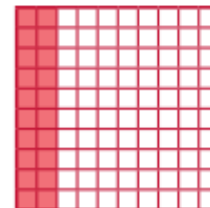


$$50\% = \frac{50}{100} = \frac{1}{2} = 0.5 \quad 25\% = \frac{25}{100} = \frac{1}{4} = 0.25 \quad 10\% = \frac{10}{100} = \frac{1}{10} = 0.1 \quad 40\% = \frac{40}{100} = \frac{2}{5} = 0.4$$

Crossing the Whole

$$0.82 + 0.63 = 1.45$$

$$2.531 - 0.6 = 1.931$$



$$20\% = \frac{20}{100} = \frac{1}{5} = 0.2 \quad 1\% = \frac{1}{100} = 0.01 \quad 70\% = \frac{70}{100} = \frac{7}{10} = 0.7$$