

Decimals

Knowledge Organiser

Key Vocabulary

Tenths, Hundredths and Thousandths

tenths



hundredths



decimal tenths



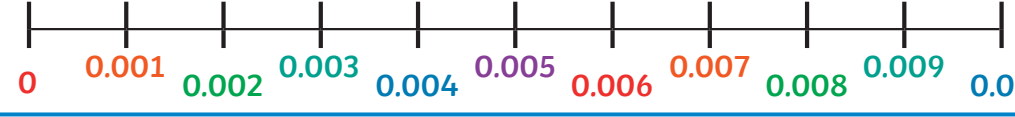
decimal hundredths



decimal equivalents



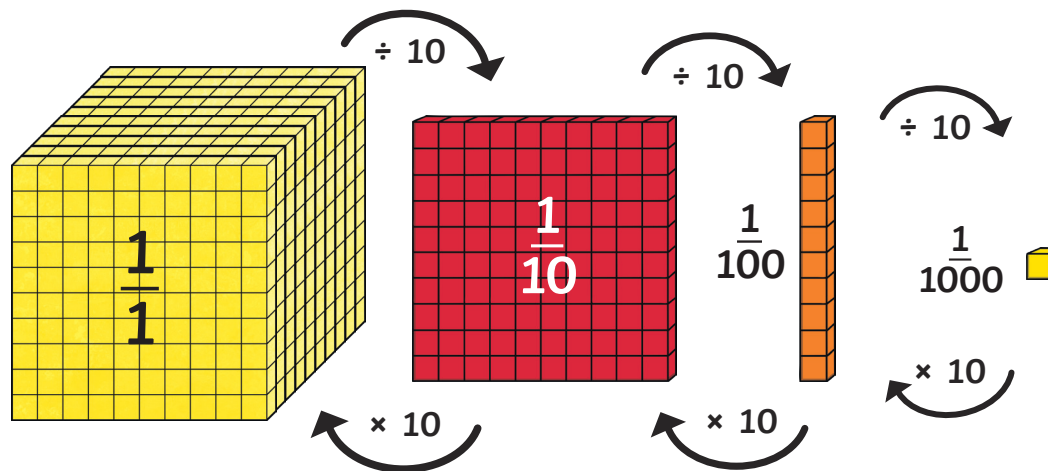
part-whole model



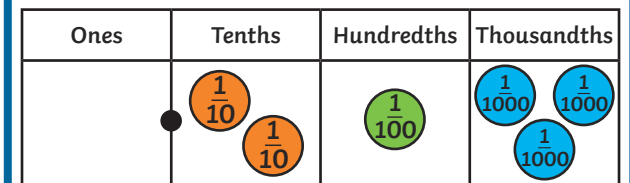
rounding

decimal point

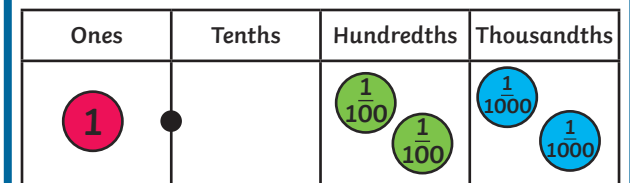
place value



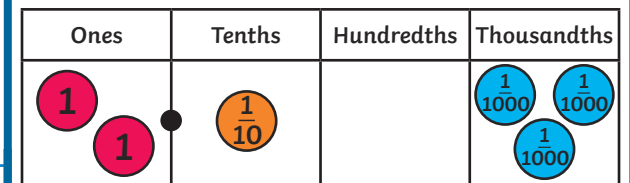
Order and Compare Numbers with Three Decimal Places



0 . 2 1 3



1 . 0 2 2



2 . 1 0 3

Decimal Numbers as Fractions

$$0.71 = \frac{71}{100} = \frac{7}{10} + \frac{1}{100}$$

$$0.37 = \frac{37}{100} = \frac{3}{10} + \frac{7}{100}$$

Decimals

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Multiplying and Dividing by 10, 100 and 1000

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	3	8		
3	8			

$\div 10$ (arrow from 8 to 3) and $\times 10$ (arrow from 3 to 8)

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	0	3	8	
3	8			

$\div 100$ (arrow from 8 to 0) and $\times 100$ (arrow from 0 to 8)

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	0	0	3	8
3	8			

$\div 1000$ (arrow from 8 to 0) and $\times 1000$ (arrow from 0 to 8)

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.

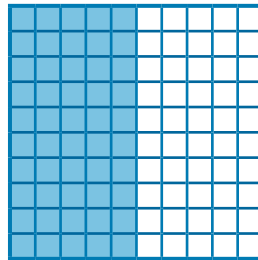
If the tenths digit is 5, 6, 7, 8 or 9, we round up to the nearest whole number.



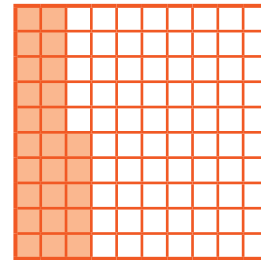
If the hundredths digit is 1, 2, 3 or 4, we round down to the nearest tenth.

If the hundredths digit is 5, 6, 7, 8 or 9, we round up to the nearest tenth.

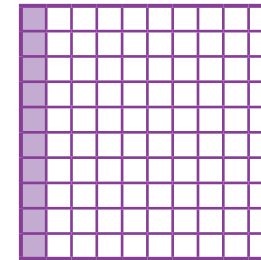
Percentage and Decimal Equivalents



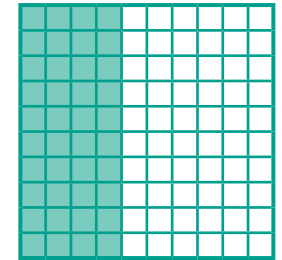
$$50\% = \frac{50}{100} = \frac{1}{2} = 0.5$$



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



$$10\% = \frac{10}{100} = \frac{1}{10} = 0.1$$

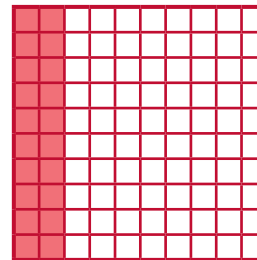


$$40\% = \frac{40}{100} = \frac{2}{5} = 0.4$$

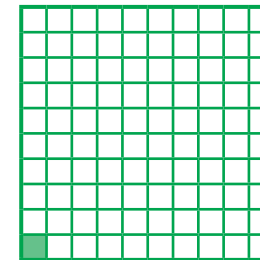
Crossing the Whole

$$0.82 + 0.63 = 1.45$$

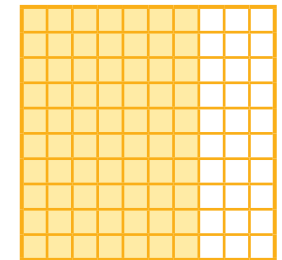
$$2.531 - 0.6 = 1.931$$



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



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



$$70\% = \frac{70}{100} = \frac{7}{10} = 0.7$$