

Key Vocabulary	
Fraction	Any part of a group, number or whole.
Mixed Number	Number written as a whole number and a fraction
Top-heavy fraction	Numerator of fraction is larger than denominator
Percentage	Number out of 100
Decimal	Figures placed to the right of a decimal point, denoting a number not expressed as an integer.
Proportion	A part to whole comparison
Terminating	A number which comes to an end and does not go on forever.
Recurring	A decimal which has repeating digits or a pattern of digits
Simplify	To reduce the numerator and denominator of a fraction to the smallest numbers possible
Cancel	To divide the numerator and denominator by a common factor.

Key facts / Diagrams		
<b>Fraction</b>	<b>Decimal</b>	<b>Percent</b>
$\frac{1}{2}$	0.5	50%
$\frac{1}{3}$	0.3333...	33.3333...%
$\frac{2}{3}$	0.6666...	66.6666...%
$\frac{1}{4}$	0.25	25%
$\frac{3}{4}$	0.75	75%
$\frac{1}{5}$	0.2	20%
$\frac{1}{10}$	0.1	10%
<p><b>Turning a mixed number into a top heavy fraction</b></p> <p><math>3 \frac{1}{10} = \frac{31}{10}</math></p> <p>Multiply these numbers together = 30                      Add on the number on top = 31 (this becomes the top number)                      The number at the bottom stays the same.</p>		

Common misconceptions
<ul style="list-style-type: none"> <li>Some pupils may make incorrect links between fractions and decimals such as thinking that <math>\frac{1}{5} = 0.15</math></li> <li>Some pupils may think that <math>5\% = 0.5</math>, <math>4\% = 0.4</math>, etc.</li> <li>Some pupils may think it is not possible to have a percentage greater than 100%.</li> </ul>

Worked examples
<p><b>Example</b></p> <p>Convert <u>0.4</u> to a fraction.</p> $10x = 4.444444444444...$ $1x = 0.444444444444...$ <hr/> <p>Subtracting <math>9x = 4</math></p> $x = \frac{4}{9}$
<p>Convert <u>0.45</u> to a fraction.</p> $100x = 45.454545454545...$ $1x = 0.454545454545...$ <hr/> <p>Subtracting <math>99x = 45</math></p> $x = \frac{45}{99} = \frac{5}{11}$