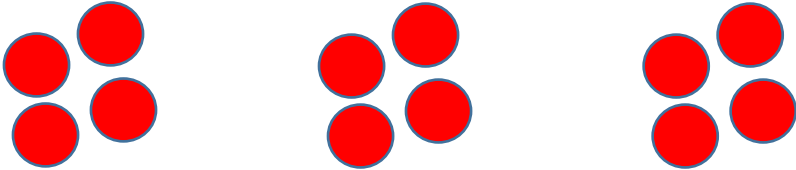
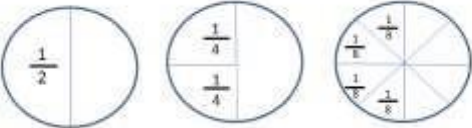


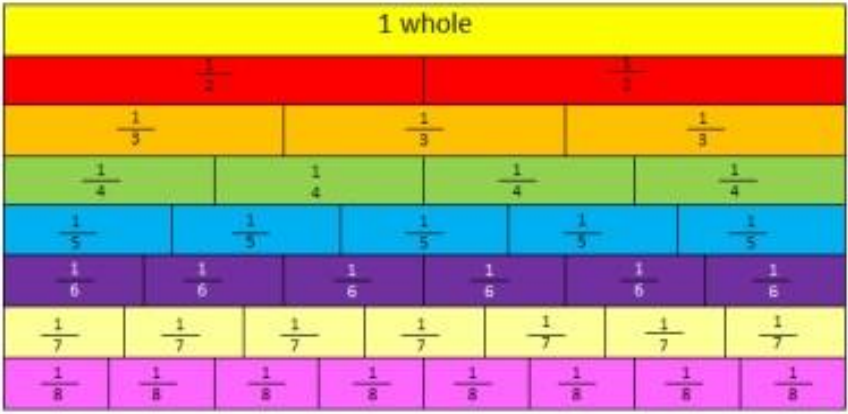
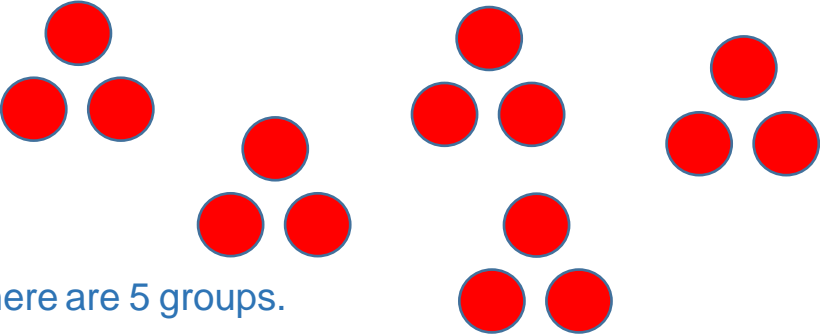
## Fractions, decimal fractions and percentages

Terms	Definition	Illustrations
<b>Fraction</b>	<p>A fraction has the form <math>\frac{a}{b}</math> where <math>a</math> and <math>b</math> are positive integers.</p> <p>The integer <math>b</math> is the <b>denominator</b> and is the number of equal parts into which a whole is divided. The integer <math>a</math> is the <b>numerator</b> and is the number of those equal parts that are included.</p>	
<b>Common denominator</b>	When two or more fractions have the same denominator they have a common denominator.	
<b>Decimal fraction</b>	<p>A fraction where the denominator is any power of ten, such as 10, 100, 1000.</p> <p>It is written using a decimal point.</p>	<p>0.3 (which is 3 tenths)</p> <p>0.05 (which is 5 hundredths)</p> <p>0.012 (which is 12 thousandths)</p>
<b>Decimal point</b>	<p>A point or dot used to separate the whole number part from the fractional part of a number.</p> <p>Numbers to the left of the decimal point are whole numbers.</p>	<p style="text-align: center;">Thousands    Hundreds    Tens    Ones    Tenths    Hundredths    Thousandths</p> <p style="text-align: center; font-size: 2em; font-weight: bold;">8307.312</p>


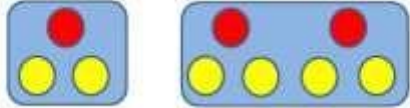
## Fractions, decimal fractions and percentages

<p><b>Equal sharing / fair sharing</b></p>	<p>The early stages in learning about division and fractions involve sharing out a number of objects fairly (into equal shares).</p> <p>Learners will also explore situations where this is not possible, where some objects will be left over.</p>	<p>12 counters are shared fairly between 3 people.</p>  <p>Each person will receive 4 counters.</p>
<p><b>Equivalence of fractions, decimal fractions and percentages</b></p>	<p>Fractions, decimal fractions and percentages can be used interchangeably. Equivalence of commonly used fractions, decimal fractions and percentages are very useful to know.</p>	<p><math>\frac{1}{2} = 0.5 = 50\%</math></p> <p><math>\frac{3}{4} = 0.75 = 75\%</math></p>
<p><b>Equivalent fractions</b></p>	<p>Fractions which have equal value are known as equivalent fractions. Diagrams are helpful in finding families of equivalent fractions.</p>	 <p><math>\frac{1}{2} = \frac{2}{4} = \frac{4}{8}</math></p>

## Fractions, decimal fractions and percentages

<p><b>Fraction wall</b></p>	<p>This is a diagram where each row in the wall represents one whole.</p> <p>Each row is split into different equal parts (fractions of the whole).</p> <p>It can help visualise <b>equivalent fractions</b> such as two sixths is equivalent to one third.</p>	
<p><b>Grouping</b></p>	<p>The early stages in learning about division and fractions involve splitting a number of objects into groups of particular size.</p> <p>Learners will also explore situations where this is not possible, where some objects will be left over.</p>	<p>15 counters are divided into groups of 3.</p>  <p>There are 5 groups.</p>
<p><b>Improper fraction</b></p>	<p>A fraction where the numerator is greater than the denominator.</p>	$\frac{8}{5}$
<p><b>Mixed number</b></p>	<p>A number which has a whole number and a fraction combined.</p>	$2 \frac{3}{4}$

## Fractions, decimal fractions and percentages

<p><b>Percentage</b></p>	<p>Percent means parts per 100. The symbol used is %.</p>	<p>25% of this diagram is shaded green.</p> 
<p><b>Proper fraction</b></p>	<p>A fraction where the numerator is less than the denominator.</p>	
<p><b>Proportion</b></p>	<p>Quantities are in proportion to one another if a multiplication or division of one quantity is accompanied by a multiplication or division in the other.</p>	<p>If 3 oranges cost £1.05 then 1 orange would cost 35p. If a recipe for 12 scones uses 225g of flour then 450g would be needed for 24 scones.</p>
<p><b>Ratio</b></p>	<p>A ratio shows the relative sizes of two or more quantities and describes how these quantities are related. A ratio can be expressed in words or by using a colon.</p>	<p>The diagrams below show red and yellow dots in the ratio 1:2. For every one red dot there are 2 yellow dots. The ratio of yellow dots to red dots is 2:1.</p> 
<p><b>Unit fraction</b></p>	<p>Any fraction with a numerator of 1.</p>	