

## Curriculum 2014 Progression chart **Fractions**

### *Problem solving in **bold***

<b>Y1</b>	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li>recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul>
<b>Y2</b>	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>write simple fractions e.g. <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> </ul>
<b>Y3</b>	<p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> <li>recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>add and subtract fractions with the same denominator within one whole (e.g. <math>\frac{5}{7} + \frac{1}{7} = \frac{6}{7}</math>)</li> <li>compare and order unit fractions, and fractions with the same denominators</li> <li><b>solve problems that involve all of the above.</b></li> </ul>
<b>Y4</b>	<p><b>Fractions (including decimals)</b></p> <p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>recognise and show, using diagrams, families of common equivalent fractions</li> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.</li> <li><b>solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</b></li> <li>add and subtract fractions with the same denominator</li> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>recognise and write decimal equivalents to <math>\frac{1}{4}</math>; <math>\frac{1}{2}</math>; <math>\frac{3}{4}</math></li> <li>find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths</li> <li>round decimals with one decimal place to the nearest whole number</li> <li>compare numbers with the same number of decimal places up to two decimal places</li> <li><b>solve simple measure and money problems involving fractions and decimals to two decimal places.</b></li> </ul>
<b>Y5</b>	<p><b>Fractions (including decimals and percentages)</b></p> <p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>compare and order fractions whose denominators are all multiples of the same number</li> <li>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements &gt; 1 as a mixed number (e.g. <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>)</li> <li>add and subtract fractions with the same denominator and multiples of the same number</li> <li>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>read and write decimal numbers as fractions (e.g. <math>0.71 = \frac{71}{100}</math>)</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>read, write, order and compare numbers with up to three decimal places</li> <li><b>solve problems involving number up to three decimal places</b></li> <li>recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction</li> <li><b>solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those with a denominator of a multiple of 10 or 25.</b></li> </ul>
<b>Y6</b>	<p><b>Fractions (including decimals and percentages)</b></p> <p><i>Pupils should be taught to:</i></p> <ul style="list-style-type: none"> <li>use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>compare and order fractions, including fractions &gt; 1</li> <li>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>)</li> <li>divide proper fractions by whole numbers (e.g. <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>)</li> <li>associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. <math>\frac{3}{8}</math>)</li> <li>identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</li> <li>multiply one-digit numbers with up to two decimal places by whole numbers</li> <li>use written division methods in cases where the answer has up to two decimal places</li> <li><b>solve problems which require answers to be rounded to specified degrees of accuracy</b></li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</li> </ul>