

<b>Number Sense 5.12</b>		Length of unit: <b>2 weeks</b>	Week beg:	Year:5	Teacher:
<p><b>Success criteria</b></p> <p>Pupils can represent and explain the relationship between decimals, fractions and percentages and how decimals and fractions fit into the number system. They use this understanding to solve problems.</p>	<p><b>Prior Learning:</b></p> <p>Check that children can already</p> <ul style="list-style-type: none"> <li>• count in multiples of 6, 7, 9, 25 and 1000</li> <li>• find 1000 more or less than a given number</li> <li>• count backwards through zero to include negative numbers</li> <li>• recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li>• order and compare numbers beyond 1000</li> <li>• identify, represent and estimate numbers using different representations</li> <li>• round any number to the nearest 10, 100 or 1000</li> <li>• solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>• read Roman numerals to 100 (I to C) and know that, over time, the numeral system changed to include the concept of zero and place value</li> <li>• recognise and show, using diagrams, families of common equivalent fractions</li> <li>• count up and down in hundredths; recognize that hundredths arise when dividing an object by one hundred and dividing tenths by ten</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 ones, 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>• convert between different units of measure [for example, kilometre to metre, hour to minute]</li> <li>• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</li> <li>• read, write and convert time between analogue and digital 12 and 24-hour clocks</li> </ul>	<p><b>Resources</b></p> <p>Maths vocabulary book</p> <p>Using and Applying in every maths lesson</p> <p>Assessment through guided maths</p> <p>Think Maths!</p> <p>Pitch and Expectations Y5 and Y6</p> <p>Mind the Gap (L3 to L4)</p> <p>Overcoming Barriers to Learning – L3 to 4 and L4 to 5 (available on M drive)</p> <p>Securing Level 4 and Securing Level 5 documents (available on M drive))</p> <p>Errors and Misconceptions in Maths at KS2</p>			
<p><b>Guidance</b></p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils connect equivalent fractions <math>&gt;1</math> that simplify to integers with division and other fractions <math>&gt;1</math> to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions.</p> <p>See also guidance in sequence 5.1.</p>					

## Learning objectives

Pupils should be taught to:

Multiplication and division

- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Fractions (including decimals and percentages)

- compare and order fractions whose denominators are all multiples of the same number
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements  $>1$  as a mixed number [for example,  $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$ ]
- read and write decimal numbers as fractions [for example,  $0.71 = \frac{71}{100}$ ]
- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- 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 100, and as a decimal.

Measurement

- convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimeter and millimetre; kilogram and gram; litre and millilitre)

## Pupil outcomes:

I can explain how I could use the same 1l measuring jug, marked in 100ml intervals, to measure  $\frac{2}{3}$  litre, 0.75 litre and 890ml and explain why  $\frac{2}{3}$  is difficult to represent as a decimal.