

St John's CE Primary School

Progression in Skills with Associated Reasoning

KS1-KS2

Adapted from NCETM Guidance

Fractions including Decimals and Percentages
(includes Ready to Progress Criteria)



Completed March 2023

Vocabulary Progression

The following section of this document lists mathematical vocabulary and phrases that children are required to understand and use as they move through the school for this strand of Mathematics. It is based on the published 2014 national curriculum, NCETM guidance and White Rose Maths. It lists the new vocabulary in the year in which it should be explicitly used and taught. Vocabulary from previous year group should be referred to in addition to that for each year group. It is designed to assist with the teaching of vocabulary across EYFS, KS1 and KS2 and is aligned with the White Rose schemes of learning. This document identifies in which year group vocabulary should be explicitly taught and introduced. However, language should be revisited in subsequent year groups to ensure children are consolidating their understanding. This document is fully editable so language can be moved into earlier or later year groups where necessary in line with latest research findings and subject association (NCETM) updates. Some vocabulary might be introduced earlier (shapes for instance) if necessary or as part of an activity, however this document ensures coverage is progressive. It is expected that key vocabulary is displayed on 'Maths Learning Walls' at appropriate times during the academic year and in line with the current topic area being taught within the class and is promoted through mathematical talk in lessons.

Vocabulary Progression							
Place Value							
EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Nursery	Reception						
		(One) half (one/two/three) Quarters Share Sharing Groups Grouping Part Whole Equal parts Same size Bar (Fraction Bar)	third (one) (two) third(s) sharing grouping two quarters equivalent one and a quarter' one and 2 quarters one and a half one and 3 quarters half as much twice as much numerator denominator fraction bar	Fifths Sixths Sevenths Eighths Ninths Tenths Numerator denominator Fraction bar Order Unit-fraction Non-unit fraction	Hundredth(s) Decimal Equivalents Decimal places Proportion Mixed number(s)	Mixed number(s) Thousandths Percent Percentages Proportion	Simplify Degrees of accuracy

Skills & Reasoning Progression

The following section of this document lists mathematical skills that children should become fluent and proficient in their knowledge, understanding and application. It also includes examples of reasoning questions that could be used by teachers to encourage pupils to apply their knowledge and to reason their understanding in order to build a deeper, more complex understanding of different mathematical concepts beyond 'rote' learning or superficial understanding. It is based on the published 2014 national curriculum, NCETM guidance and White Rose Maths. It lists the new concepts that need to be taught in each year group and is aligned and arranged in order to support teachers to understand the previous step in a particular concept and also the next step (where the children have come from and should be secure with, and how this will then be applied in future year groups). This is not done to enable teachers to 'move children on' to the next year group step, hence the exemplification of reasoning questions to support teaching staff to deliver a 'depth, not breadth' approach. However, preceding steps can be used to aid the delivery of intervention support if children are not secure with the previous step of learning – this is also supported by the demarcation of 'Ready to Progress Criteria'. These are criteria that pupils must be secure with from their previous year group in order to allow them to master new content in their current year group. Links to NRich activities are also provided to enable teaching staff to link in Mathematical investigation where possible.

Development Matters does not state objectives for EYFS in Fractions, Decimals or Percentages therefore they are not shown on this document.

Fractions – Recognise and Write					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators <i>* RPC - 3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.</i>	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence) <i>* Begin by securing: 5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.</i>	

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	<i>Pupils should count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)</i>	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.		RPC - 5F-3 Recall decimal fraction equivalents for $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ and $\frac{1}{10}$ for multiples of these proper fractions.	
		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	RPC - 4F-2 Convert mixed numbers to improper fractions and vice versa.	recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)	
		RPC - 3F-3 Reason about the location of any fraction within 1 in the linear number system.	RPC - 4F-1 Reason about the location of mixed numbers in the linear number system.		

Reasoning Examples – Fractions – Recognise and Write

	<p>Spot the mistake 7, $7\frac{1}{2}$, 8, 9, 10 $8\frac{1}{2}$, 8, 7, $6\frac{1}{2}$, ... and correct it</p> <p>What comes next? $5\frac{1}{2}$, $6\frac{1}{2}$, $7\frac{1}{2}$,,</p>	<p>Spot the mistake six tenths, seven tenths, eight tenths, nine tenths, eleven tenths ... and correct it.</p> <p>What comes next? $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$,, $\frac{12}{10}$, $\frac{11}{10}$,,,</p>	<p>Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it.</p> <p>What comes next? $\frac{83}{100}$, $\frac{82}{100}$, $\frac{81}{100}$,,,, $\frac{31}{100}$, $\frac{41}{100}$, $\frac{51}{100}$,,,</p>	<p>Spot the mistake 0.088, 0.089, 1.0</p> <p>What comes next? 1.173, 1.183, 1.193</p>	<p>Spot the mistake Identify and explain mistakes when counting in more complex fractional steps</p>
<p>What do you notice? Choose a number of counters. Place them onto 2 plates so that</p>	<p>What do you notice? $\frac{1}{4}$ of 4 = 1 $\frac{1}{4}$ of 8 = 2 $\frac{1}{4}$ of 12 = 3 Continue the pattern</p>	<p>What do you notice? $\frac{1}{10}$ of 10 = 1 $\frac{2}{10}$ of 10 = 2 $\frac{3}{10}$ of 10 = 3 Continue the pattern.</p>	<p>What do you notice? $\frac{1}{10}$ of 100 = 10 $\frac{1}{100}$ of 100 = 1 $\frac{2}{10}$ of 100 = 20 $\frac{2}{100}$ of 100 = 2</p>	<p>What do you notice? One tenth of £41 One hundredth of £41 One thousandth of £41</p>	<p>What do you notice? One thousandth of my money is 31p. How much do I have?</p>

there is the same number on each half. When can you do this and when can't you? What do you notice?	What do you notice?	What do you notice? What about $\frac{1}{10}$ of 20? Use this to work out $\frac{2}{10}$ of 20, etc.	How can you use this to work out $\frac{6}{10}$ of 200? $\frac{6}{100}$ of 200?		
True or false? Sharing 8 apples between 4 children means each child has 1 apple.	True or false? Half of 20cm = 5cm $\frac{3}{4}$ of 12cm = 9cm	True or false? $\frac{2}{10}$ of 20cm = 2cm $\frac{4}{10}$ of 40cm = 4cm $\frac{3}{5}$ of 20cm = 12cm	True or false? $\frac{1}{20}$ of a metre = 20cm $\frac{4}{100}$ of 2 metres = 40cm		

Fractions - Compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		compare and order unit fractions, and fractions with the same denominators		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions >1 * RPC - 6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.
	write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the	recognise and show, using diagrams, equivalent fractions	recognise and show, using diagrams,	identify, name and write equivalent fractions of a given fraction, represented	use common factors to simplify fractions; use common multiples

	equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	with small denominators	families of common equivalent fractions	visually, including tenths and hundredths * RPC - 5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	to express fractions in the same denomination * RPC - 6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions. * RPC - 6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value.
--	--	-------------------------	---	--	---

Reasoning Examples – Fractions - Compare

		<p>Give an example of a fraction that is less than a half. Now another example that no one else will think of. Explain how you know the fraction is less than a half. (draw an image)</p> <p>Ben put these fractions in order starting with the smallest. Are they in the correct order? One fifth, one seventh, one sixth</p>	<p>Give an example of a fraction that is more than a half but less than a whole. Now another example that no one else will think of.</p> <p>Explain how you know the fraction is more than a half but less than a whole. (draw an image)</p>	<p>Give an example of a fraction that is more than three quarters. Now another example that no one else will think of. Explain how you know the fraction is more than three quarters.</p> <p>Imran put these fractions in order starting with the smallest. Are they in the correct order? Two fifths, three tenths, four twentieths How do you know?</p>	<p>Give an example of a fraction that is greater than 1.1 and less than 1.5. Now another example that no one will think of. Explain how you know.</p> <p>Sam put these fractions in order starting with the smallest. Are they in the correct order? Thirty-three fifths Twenty-three thirds Forty-five sevenths How do you know?</p>
--	--	---	---	--	--

	<p>Odd one out. Which is the odd one out in this trio: $\frac{1}{2}$ $\frac{2}{4}$ $\frac{1}{4}$ Why?</p> <p>What do you notice? Find $\frac{1}{2}$ of 8. Find $\frac{2}{4}$ of 8 What do you notice?</p>	<p>Odd one out. Which is the odd one out in each of these trios $\frac{1}{2}$ $\frac{3}{6}$ $\frac{5}{8}$ $\frac{3}{9}$ $\frac{2}{6}$ $\frac{4}{9}$ Why?</p> <p>What do you notice? Find $\frac{2}{5}$ of 10 Find $\frac{4}{10}$ of 10. What do you notice? Can you write any other similar statements?</p>	<p>Odd one out. Which is the odd one out in each of these trio $\frac{3}{4}$ $\frac{9}{12}$ $\frac{4}{6}$ $\frac{9}{12}$ $\frac{10}{15}$ $\frac{2}{3}$ Why?</p> <p>What do you notice? Find $\frac{4}{6}$ of 24 Find $\frac{2}{3}$ of 24 What do you notice? Can you write any other similar statements?</p>	<p>Odd one out. Which is the odd one out in each of these collections of 4 fractions $\frac{6}{10}$ $\frac{3}{5}$ $\frac{18}{20}$ $\frac{9}{15}$ $\frac{30}{100}$ $\frac{3}{10}$ $\frac{6}{20}$ $\frac{3}{9}$ Why?</p> <p>What do you notice? Find $\frac{30}{100}$ of 200 Find $\frac{3}{10}$ of 200 What do you notice? Can you write any other similar statements?</p>	<p>Odd one out. Which is the odd one out in each of these collections of 4 fraction $\frac{3}{4}$ $\frac{9}{12}$ $\frac{26}{36}$ $\frac{18}{24}$ $\frac{4}{20}$ $\frac{1}{5}$ $\frac{6}{25}$ $\frac{6}{30}$ Why?</p> <p>What do you notice? $\frac{8}{5}$ of 25 = 40 $\frac{5}{4}$ of 16 = 20 $\frac{7}{6}$ of 36 = 42 Can you write similar statements?</p>
	<p>Ordering Put these fractions in the correct order, starting with the smallest. $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$</p>	<p>Ordering Put these fractions in the correct order, starting with the smallest. $\frac{4}{8}$ $\frac{3}{4}$ $\frac{1}{4}$</p>	<p>Ordering Put these numbers in the correct order, starting with the smallest. $\frac{1}{4}$ 0.75 $\frac{5}{10}$ Explain your thinking</p>	<p>Ordering Put these numbers in the correct order, starting with the largest. $\frac{7}{10}$, 0.73, $\frac{7}{100}$, 0.073 71%</p>	<p>Ordering Which is larger, $\frac{1}{3}$ or $\frac{2}{5}$? Explain how you know.</p>

Fractions – Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	add and subtract fractions with the same denominator	add and subtract fractions with the same denominator and multiples of the same number	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

		* RPC - 3F-4 Add and subtract fractions with the same denominator, within 1.			
		RPC - 3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	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 (Also in problem solving)	5F-1 Find non-unit fractions of quantities.	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)
			RPC - 4F-2 Convert mixed numbers to improper fractions and vice versa.	Recap RPC - 4F-2 Convert mixed numbers to improper fractions and vice versa.	
			RPC - 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)
Reasoning Examples – Fractions – Calculations					
		What do you notice? $\frac{1}{10} + \frac{9}{10} = 1$ $\frac{2}{10} + \frac{8}{10} = 1$ $\frac{3}{10} + \frac{7}{10} = 1$ Continue the pattern	What do you notice? $\frac{5}{5} - \frac{1}{5} = \frac{4}{5}$ $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$ Continue the pattern	What do you notice? $\frac{3}{4}$ and $\frac{1}{4} = \frac{4}{4} = 1$ $\frac{4}{4}$ and $\frac{1}{4} = \frac{5}{4} = 1 \frac{1}{4}$ $\frac{5}{4}$ and $\frac{1}{4} = \frac{6}{4} = 1 \frac{1}{2}$ Continue the pattern up to the total of 2.	Another and another Write down two fractions which have a difference of 1 2/... and another, ... and another, ...

		<p>Can you make up a similar pattern for eighths?</p> <p>The answer is $\frac{5}{10}$, what is the question? (involving fractions / operations)</p>	<p>Can you make up a similar pattern for addition?</p> <p>The answer is $\frac{3}{5}$, what is the question?</p> <p>What do you notice? $\frac{11}{100} + \frac{89}{100} = 1$ $\frac{12}{100} + \frac{88}{100} = 1$ $\frac{13}{100} + \frac{87}{100} = 1$ Continue the pattern for the next five number sentences</p>	<p>Can you make up a similar pattern for subtraction?</p> <p>The answer is $1\frac{2}{5}$, what is the question</p>	<p>Another and another Write down 2 fractions with a total of $3\frac{4}{5}$. ... and another, ... and another, ...</p>
				<p>Continue the pattern $\frac{1}{4} \times 3 =$ $\frac{1}{4} \times 4 =$ $\frac{1}{4} \times 5 =$ Continue the pattern for five more number sentences. How many steps will it take to get to 3?</p> <p>$\frac{5}{3}$ of 24 = 40 Write a similar sentence where the answer is 56.</p> <p>The answer is $2\frac{1}{4}$, what is the question</p> <p>Give your top tips for multiplying fractions.</p>	<p>Continue the pattern $\frac{1}{3} \div 2 = \frac{1}{6}$ $\frac{1}{6} \div 2 = \frac{1}{12}$ $\frac{1}{12} \div 2 = \frac{1}{24}$</p> <p>What do you notice? $\frac{1}{2} \times \frac{1}{4} =$</p> <p>The answer is $\frac{1}{8}$, what is the question (involving fractions / operations)</p> <p>Give your top tips for dividing fractions.</p>

Fractions – Problem Solving					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

		solve problems that involve all of the above	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		
--	--	--	---	--	--

Decimals – Read, Recognise and Write					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$)	identify the value of each digit in numbers given to three decimal places
			recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	

Reasoning Examples – Combined Operations																									
				<p>Continue the pattern What do you notice?</p> <p>$0.085 + 0.015 = 0.1$ $0.075 + 0.025 = 0.1$ $0.065 + 0.035 = 0.1$</p> <p>Continue the pattern for the next five number sentences.</p>																					
			<p>Complete the pattern by filling in the blank cells in this table:</p> <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>$\frac{1}{10}$</td> <td>$\frac{2}{10}$</td> <td>$\frac{3}{10}$</td> <td></td> </tr> </table>	$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$		<p>Complete the pattern</p> <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>$\frac{71}{100}$</td> <td>$\frac{??}{100}$</td> <td>$\frac{??}{100}$</td> <td>$\frac{??}{100}$</td> </tr> <tr> <td></td> <td></td> <td></td> <td>????</td> </tr> </table>	$\frac{71}{100}$	$\frac{??}{100}$	$\frac{??}{100}$	$\frac{??}{100}$????	<p>Complete the pattern</p> <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>$\frac{1}{8}$</td> <td>$\frac{2}{8}$</td> <td>$\frac{3}{8}$</td> <td>$\frac{4}{8}$</td> </tr> <tr> <td></td> <td>????</td> <td></td> <td>????</td> </tr> </table>	$\frac{1}{8}$	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$????		????
$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$																							
$\frac{71}{100}$	$\frac{??}{100}$	$\frac{??}{100}$	$\frac{??}{100}$																						
			????																						
$\frac{1}{8}$	$\frac{2}{8}$	$\frac{3}{8}$	$\frac{4}{8}$																						
	????		????																						

			<table border="1"> <tr> <td>$\frac{10}{100}$</td> <td>$\frac{20}{100}$</td> <td></td> <td>$\frac{40}{100}$</td> </tr> <tr> <td>0.1</td> <td></td> <td>0.3</td> <td></td> </tr> </table> <p>Another and another Write a decimal numbers (to one decimal place) which lies between a half and three quarters? ... and another, ... and another, ...</p>	$\frac{10}{100}$	$\frac{20}{100}$		$\frac{40}{100}$	0.1		0.3		<table border="1"> <tr> <td>0.7</td> <td>0.8</td> <td>??</td> <td></td> </tr> <tr> <td>1</td> <td>1</td> <td>?</td> <td></td> </tr> </table> <p>Complete the table.</p> <p>Another and another Write a fraction with a denominator of one hundred which has a value of more than 0.75? ... and another, ... and another, ...</p>	0.7	0.8	??		1	1	?		<table border="1"> <tr> <td>0.3</td> <td></td> <td>??</td> <td></td> </tr> <tr> <td>75</td> <td></td> <td>?</td> <td></td> </tr> </table> <p>Complete the table.</p> <p>Another and another Write a unit fraction which has a value of less than 0.5? ... and another, ... and another, ...</p>	0.3		??		75		?	
$\frac{10}{100}$	$\frac{20}{100}$		$\frac{40}{100}$																										
0.1		0.3																											
0.7	0.8	??																											
1	1	?																											
0.3		??																											
75		?																											
	<p>Ordering Put these fractions in the correct order, starting with the smallest. $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$</p>	<p>Ordering Put these fractions in the correct order, starting with the smallest. $\frac{4}{8}$ $\frac{3}{4}$ $\frac{1}{4}$</p>	<p>Ordering Put these numbers in the correct order, starting with the smallest. $\frac{1}{4}$ 0.75 $\frac{5}{10}$ Explain your thinking</p>	<p>Ordering Put these numbers in the correct order, starting with the largest. 7/10, 0.73, 7/100, 0.073 71%</p>	<p>Ordering Put the following amounts in order, starting with the largest. 23%, 5/8, 3/5, 0.8</p>																								

Decimals – Compare (inc Rounding)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			compare numbers with the same number of decimal places up to two decimal places	read, write, order and compare numbers with up to three decimal places	identify the value of each digit in numbers given to three decimal places
			Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	Solve problems which require answers to be rounded to specified degrees of accuracy

Reasoning Examples – Combined Operations

			<p>Missing symbol Put the correct symbol < or > in each box</p>	<p>Missing symbol Put the correct symbol < or > in each box</p>	<p>True or false? In all of the numbers below, the digit 6 is</p>
--	--	--	--	--	--

			<p>3.03 <input type="checkbox"/> 3.33</p> <p>0.37 <input type="checkbox"/> 0.32</p> <p>What needs to be added to 3.23 to give 3.53?</p> <p>What needs to be added to 3.16 to give 3.2?</p>	<p>4.627 <input type="checkbox"/> 4.06</p> <p>12.317 <input type="checkbox"/> 12.31</p> <p>What needs to be added to 3.63 to give 3.13?</p> <p>What needs to be added to 4.652 to give 4.1?</p>	<p>worth <u>more than</u> 6 hundredths.</p> <p>3.6 3.063 3.006 6.23 7.761 3.076</p> <p>Is this true or false? Change some numbers so that it is true.</p> <p>What needs to be added to 6.543 to give 7?</p> <p>What needs to be added to 3.582 to give 5?</p> <p>Circle the two decimals which are closest in value to each other. 0.9 0.09 0.99 0.1 0.01</p>
			<p>Do, then explain</p> <p>Circle each decimal which when rounded to the nearest whole number is 5.</p> <p>5.3 5.7 5.2 5.8</p> <p>Explain your reasoning</p> <p>Top tips Explain how to round numbers to one decimal place?</p>	<p>Do, then explain</p> <p>Circle each decimal which when rounded to one decimal place is 6.2.</p> <p>6.32 6.23 6.27 6.17</p> <p>Explain your reasoning</p> <p>Top tips Explain how to round decimal numbers to one decimal place? <i>Also see rounding in place value</i></p>	<p>Do, then explain</p> <p>Write the answer of each calculation rounded to the nearest whole number</p> <p>75.7×59 $7734 \div 60$ 772.4×9.7 $20.34 \times (7.9 - 5.4)$</p> <p>What's the same, what's different? ... when you round numbers to one decimal place and two decimal places?</p>

			<i>Also see rounding in place value</i>		<i>Also see rounding in place value</i>
	Ordering Put these fractions in the correct order, starting with the smallest. $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$	Ordering Put these fractions in the correct order, starting with the smallest. $\frac{4}{8}$ $\frac{3}{4}$ $\frac{1}{4}$	Ordering Put these numbers in the correct order, starting with the smallest. $\frac{1}{4}$ 0.75 $\frac{5}{10}$ Explain your thinking	Ordering Put these numbers in the correct order, starting with the largest. $\frac{7}{10}$, 0.73, $\frac{7}{100}$, 0.073 71%	Put the following amounts in order, starting with the largest. 23%, $\frac{5}{8}$, $\frac{3}{5}$, 0.8

Decimals – Calculations and Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			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		Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
			solve simple measure and money problems involving fractions and decimals to two decimal places.	Solve problems involving numbers up to three decimal places	multiply one-digit numbers with up to two decimal places by whole numbers
					multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
					use written division methods in cases where the answer has up to two decimal places

Reasoning Examples – Combined Operations					
			<p>Undoing I divide a number by 100 and the answer is 0.3. What number did I start with?</p> <p>Another and another Write down a number with one decimal place which when multiplied by 10 gives an answer between 120 and 130. ... and another, ... and another, ...</p>	<p>Undoing I divide a number by 100 and the answer is 0.33 What number did I start with?</p> <p>Another and another Write down a number with two decimal places which when multiplied by 100 gives an answer between 33 and 38. ... and another, ... and another, ...</p>	<p>Undoing I multiply a number with three decimal places by a multiple of 10. The answer is approximately 3.21 What was my number and what did I multiply buy?</p> <p>When I divide a number by 1000 the resulting number has the digit 6 in the units and tenths and the other digits are 3 and 2 in the tens and hundreds columns. What could my number have been?</p> <p>Another and another Write down a number with one whole number and two decimal places which when multiplied by 100 gives an answer between 133 and 138. ... and another, ... and another, ...</p>

Percentages – Recognise and calculate					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				recognise the per cent symbol (%) and	recall and use equivalences between

				understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction	simple fractions, decimals and percentages, including in different contexts.
Reasoning Examples – Percentages – Recognise and calculate					
				<p>Ordering</p> <p>Which is more: 20% of 200 or 25% of 180?</p> <p>Explain your reasoning.</p>	<p>Ordering</p> <p>Put the following amounts in order, starting with the smallest.</p> <p>23% $\frac{5}{8}$, $\frac{3}{5}$, 0.8.</p> <p>Explain your reasoning</p>