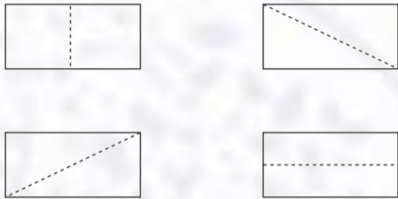
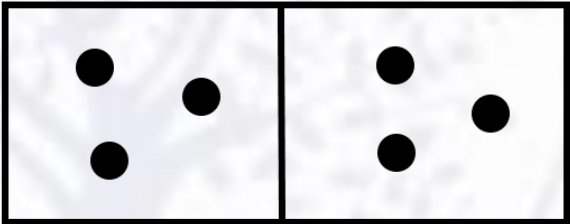
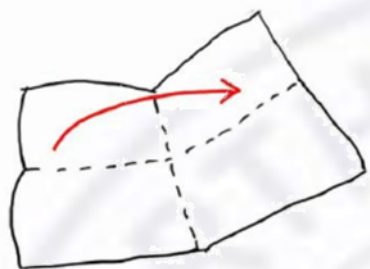


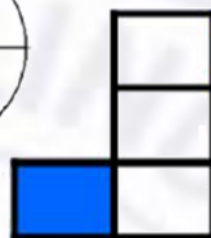
Fractions Progression

Year 1			
National Curriculum Objective	Concrete	Pictorial	Abstract
recognise, find and name a half as one of two equal parts of an object or shape		Colour half of each rectangle. 	Show one half in three different ways. 
recognise, find and name a half as one of two equal parts of a quantity	half  half 	Half of 6 is 3 	Half of 10 =  Half of 8 =  Half of 14 = 

recognise, find and name a quarter as one of four equal parts of an object or shape



1 quarter



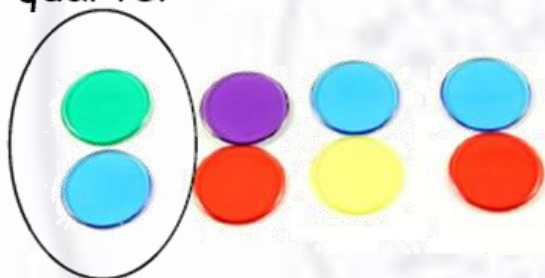
1 quarter

Tick the shapes that show one quarter.



recognise, find and name a quarter as one of four equal parts of a quantity

quarter



A quarter of 8 = 2

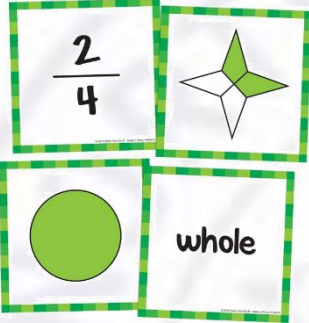
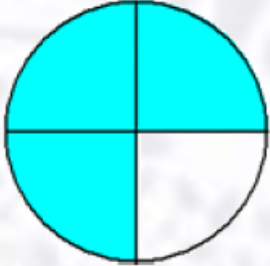
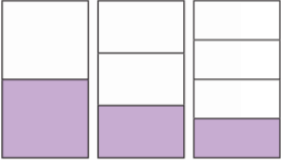
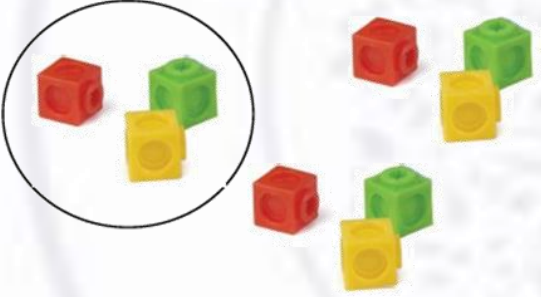
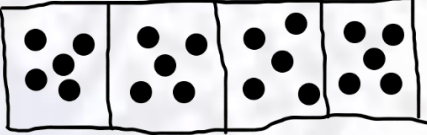
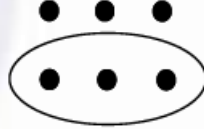
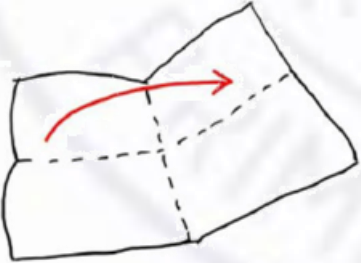
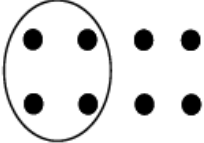
A quarter of 20 =

A quarter of 12 =

A quarter of 8 =

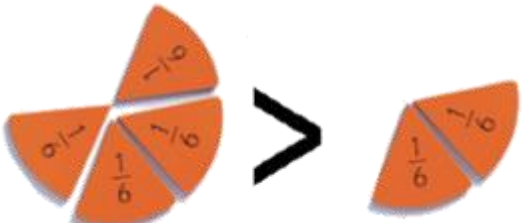
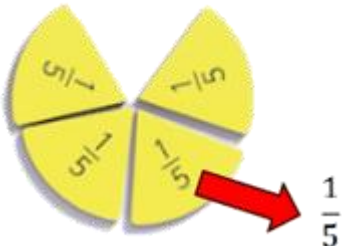
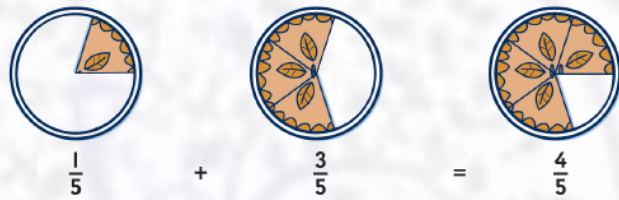
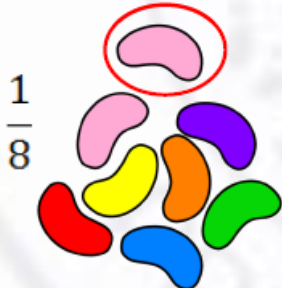
Children should be here by the end of year 1

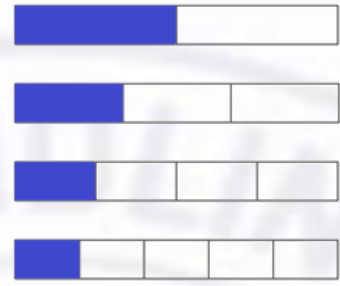
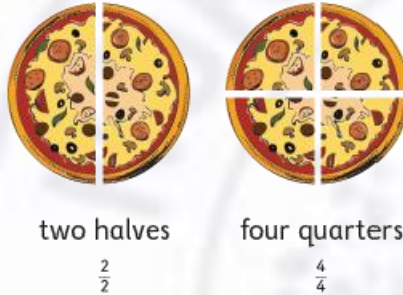
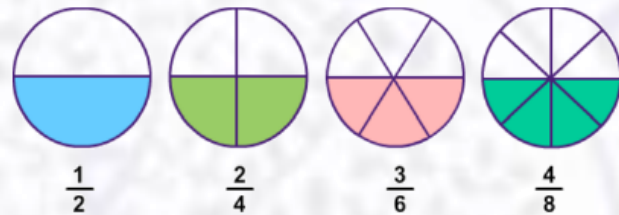
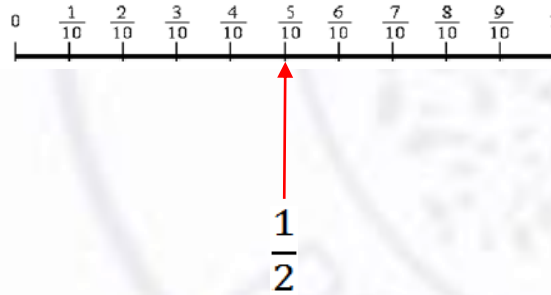
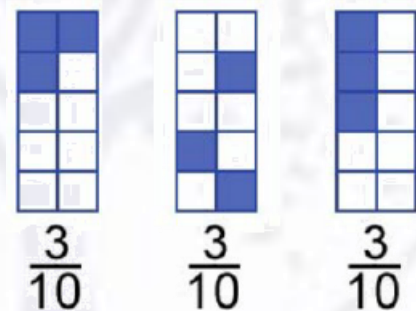
Year 2

National Curriculum Objective	Concrete	Pictorial	Abstract
recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length or shape			What fraction of each shape is shaded? What is the same about the fractions? What is different about them? 
recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a set of objects or quantity		1 quarter of 20 is 5  posh pizza	$\frac{1}{2}$ of 6 = 
write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of two quarters and one half.		 I have $\frac{1}{2}$ a pie You have $\frac{2}{4}$ of a pie	$\frac{2}{4}$ of 8 = 

Children should be here by the end of Y2

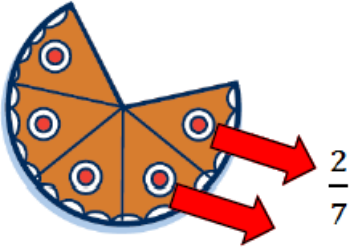
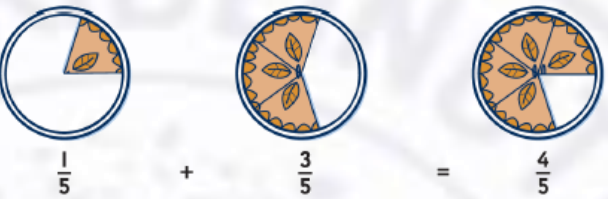
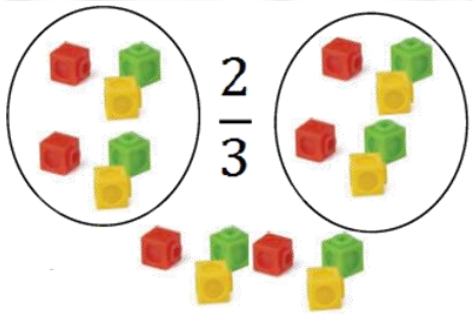
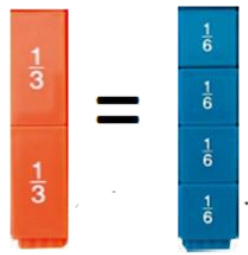
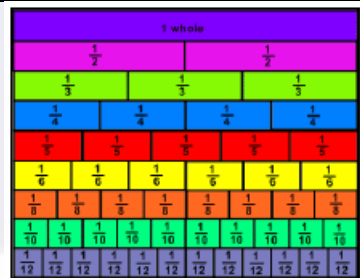
Year 3

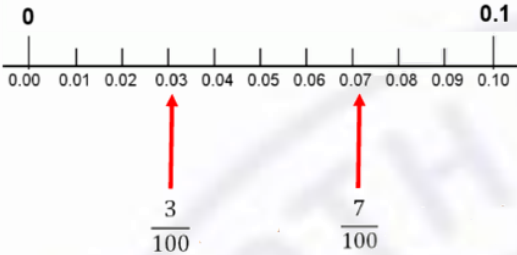
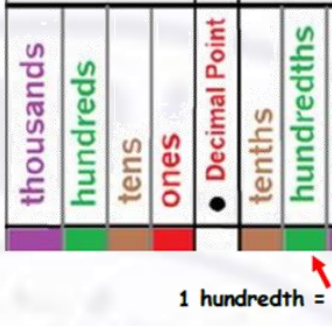
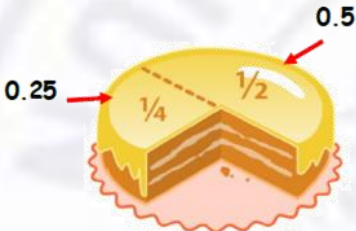
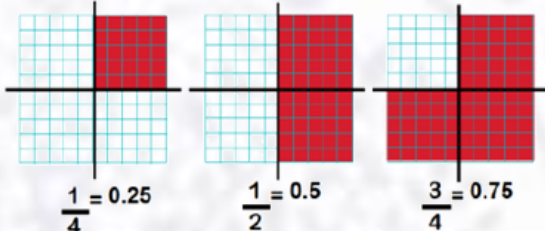
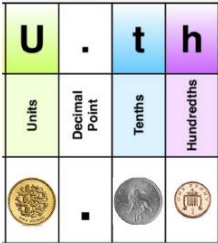
National Curriculum Objective	Concrete	Pictorial	Abstract
compare and order unit fractions, and fractions with the same denominator			$\frac{2}{8} \quad \frac{3}{8} \quad \frac{5}{8} \quad \frac{7}{8}$
add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]			$\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$
recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators			$\frac{1}{5} \text{ of 15 sweets} = 3$ because $15 \div 5 = 3$ $\frac{2}{5} \text{ of 15 sweets} = 6$ because $15 \div 5 = 3$ and $3 \times 2 = 6$

recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			Write the fractions in order, starting with the greatest. <table><tr><td>$\frac{1}{9}$</td><td>$\frac{1}{3}$</td><td>$\frac{1}{7}$</td><td>$\frac{1}{2}$</td><td>$\frac{1}{11}$</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> greatest smallest	$\frac{1}{9}$	$\frac{1}{3}$	$\frac{1}{7}$	$\frac{1}{2}$	$\frac{1}{11}$					
$\frac{1}{9}$	$\frac{1}{3}$	$\frac{1}{7}$	$\frac{1}{2}$	$\frac{1}{11}$									
recognise and show, using diagrams, equivalent fractions with small denominators			Sam says that two quarters is the same as one half. Is he correct? How do you know?										
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			$\frac{1}{10}$ of 6 = 0.6 because $6 \div 10 = 0.6$ $\frac{1}{10}$ of 7 = 0.7 because $7 \div 10 = 0.7$										

Children should be here by the end of Y3

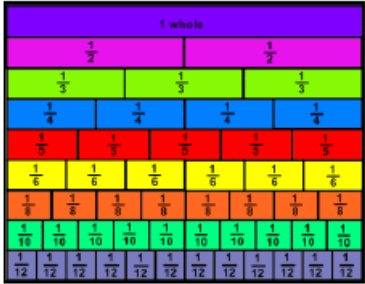
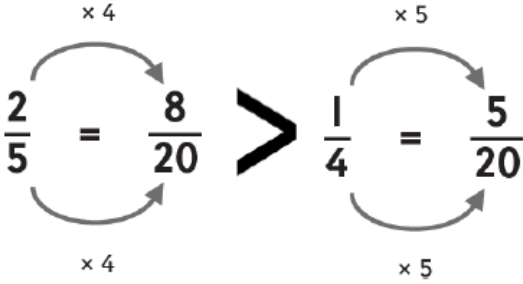
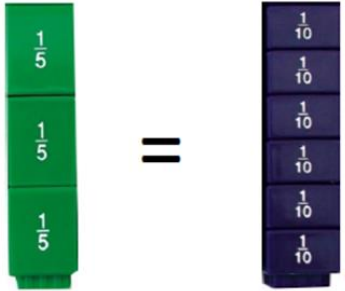
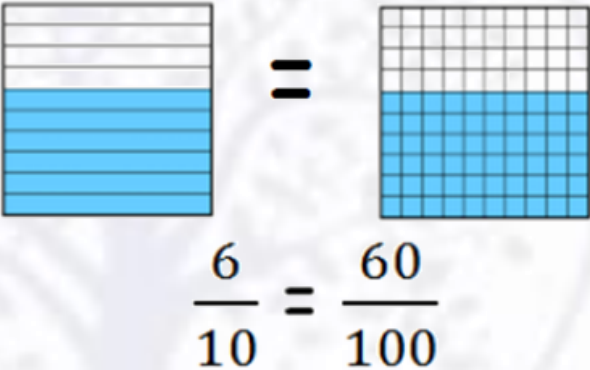
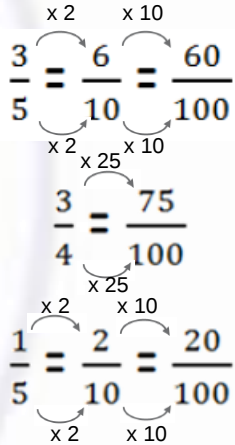
Year 4

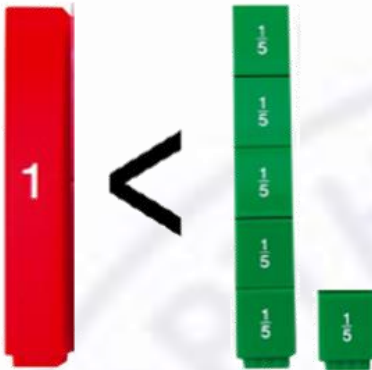
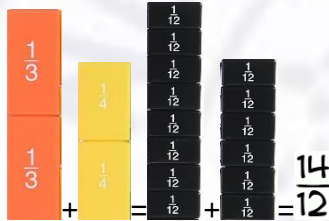
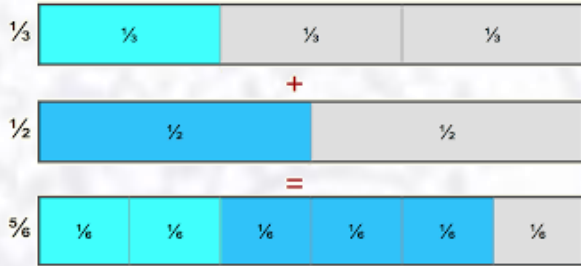
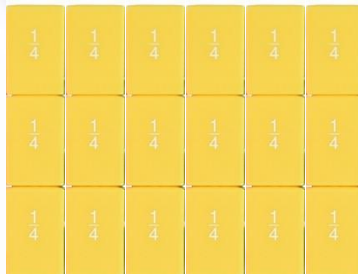
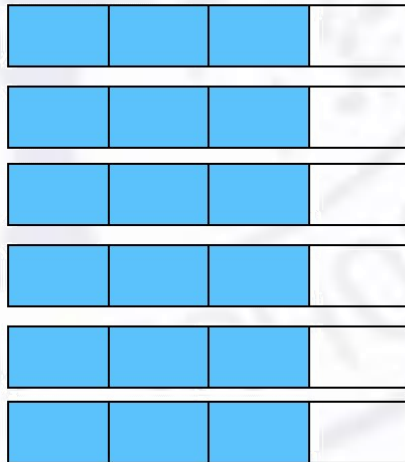
National Curriculum Objective	Concrete	Pictorial	Abstract
add and subtract fractions with the same denominator			Sam eats $\frac{2}{7}$ of a whole pizza. How much does he have left? Lucy and Ben both eat $\frac{3}{8}$ of a cake. How much have they eaten altogether?
solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number			$\frac{2}{3}$ of £18 $£18 \div 3 = £6$ $£6 \times 2 = £12$
recognise and show, using diagrams, families of common equivalent fractions			$\frac{2}{3} = \frac{4}{6}$ $\frac{3}{5} = \frac{6}{10}$ $\frac{2}{12} = \frac{1}{6}$

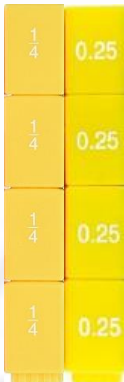
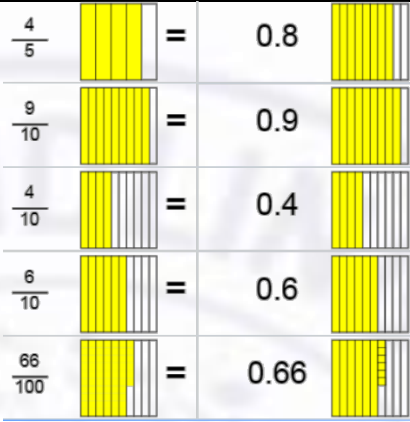
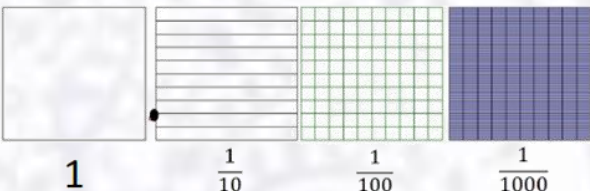
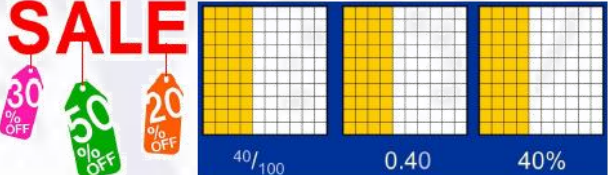
count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.			$\frac{1}{100} \text{ of } 60 = 0.6$ because $60 \div 100 = 0.6$ $\frac{1}{10} \text{ of } 70 = 0.7$ so $\frac{1}{100} \text{ of } 70 = 0.07$												
recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$			$\frac{1}{2} = 0.5$ $\frac{1}{4} = 0.25$ $\frac{3}{4} = 0.75$												
recognise and write decimal equivalents of any number of tenths or hundredths			$\frac{1}{10} = 0.1$ $\frac{3}{10} = 0.3$ $\frac{5}{10} = \frac{1}{2} = 0.5$ $\frac{8}{100} = 0.08$												
solve simple measure and money problems involving fractions and decimals to two decimal places.		 <table border="1"> <tr> <td>U</td> <td>.</td> <td>t</td> <td>h</td> </tr> <tr> <td>Units</td> <td>Decimal Point</td> <td>Tenths</td> <td>Hundredths</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	U	.	t	h	Units	Decimal Point	Tenths	Hundredths					$100\text{cm} = 1\text{m}$ $50\text{cm} = \frac{1}{2} = 0.5\text{m}$ $25\text{cm} = \frac{1}{4} = 0.25\text{m}$ $10\text{cm} = \frac{1}{10} = 0.1\text{m}$ $30\text{cm} = \frac{3}{10} = 0.3\text{m}$
U	.	t	h												
Units	Decimal Point	Tenths	Hundredths												

Children should be here by the end of Y4

Year 5

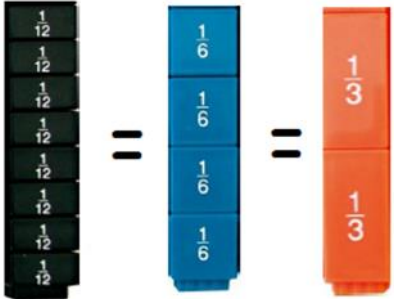
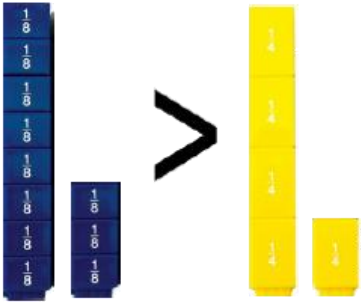
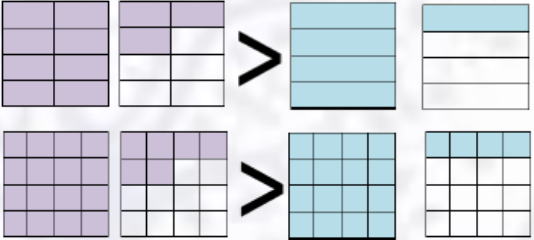
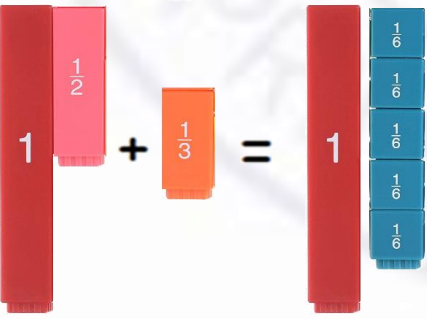
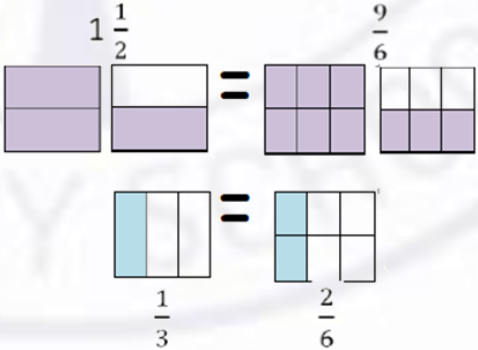
National Curriculum Objective	Concrete	Pictorial	Abstract
compare and order fractions whose denominators are all multiples of the same number			
identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths			

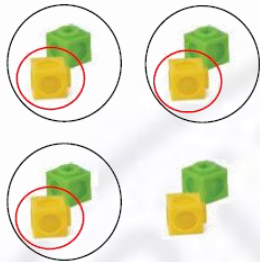
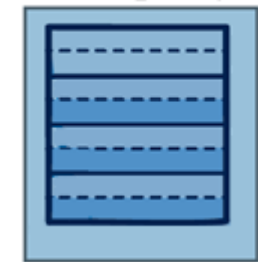
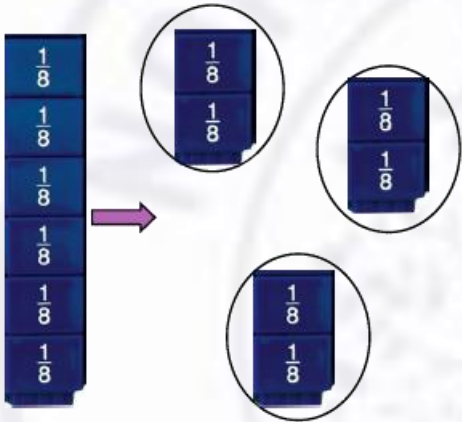
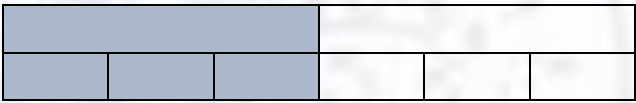
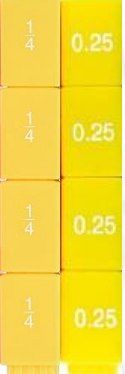
recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]		<table border="1"><tr><td colspan="3">$\frac{3}{5}$</td><td colspan="4">$\frac{4}{5}$</td></tr><tr><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td><td>$\frac{1}{5}$</td></tr><tr><td colspan="5">1</td><td colspan="2">$\frac{2}{5}$</td></tr></table> $\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}$	$\frac{3}{5}$			$\frac{4}{5}$				$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	1					$\frac{2}{5}$		$\frac{7}{2} = 3\frac{1}{2}$ A whole is 2 parts so with 7 parts I have 3 wholes with 1 part left over. $2\frac{1}{3} = \frac{7}{3}$ Each whole is 3 parts and I have 2 wholes which is 6 parts plus 1 more part.
$\frac{3}{5}$			$\frac{4}{5}$																					
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$																		
1					$\frac{2}{5}$																			
add and subtract fractions with the same denominator and denominators that are multiples of the same number			$\begin{array}{r} \frac{2}{5} - \frac{1}{4} \\ \times 4 \quad \times 5 \\ \hline \frac{8}{20} - \frac{5}{20} \\ \hline \frac{3}{20} \end{array}$																					
multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	$6 \times \frac{3}{4} =$ 	$6 \times \frac{3}{4} =$ 	Multiply a proper fraction by a whole number: $\frac{3}{4} \times \frac{6}{1} = \frac{18}{4}$ Change to a mixed number: $\frac{18}{4} = 4\frac{2}{4}$																					

read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]			Convert to decimal fractions $\frac{2}{5} \xrightarrow{\times 20} \frac{40}{100} = 0.4$
recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents			67.153 How many thousandths does this number have? How many more thousandths do you need to add to make 67.16?
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		SALE 	Use decimal fractions $\frac{4}{10} = 40\% = 0.4$ $\frac{32}{100} = 32\% = 0.32$ $\frac{75}{100} = 75\% = 0.75$ $\frac{2}{25} = \frac{8}{100} = 8\% = 0.08$

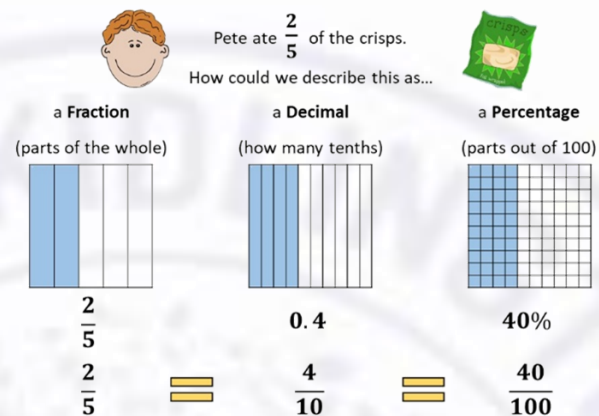
Children should be here by the end of Y5

Year 6

National Curriculum Objective	Concrete	Pictorial	Abstract
use common factors to simplify fractions; use common multiples to express fractions in the same denomination			Find highest common factor $\frac{18}{36} = \frac{1}{2}$ ÷9
compare and order fractions, including fractions >1			Ordering from smallest to largest: $\frac{5}{12}, \frac{5}{6}, \frac{2}{3}$ Convert to equivalent fractions, $\frac{5}{12}, \frac{10}{12}, \frac{8}{12}$ order original fractions from smallest to largest $\frac{5}{12}, \frac{2}{3}, \frac{5}{6}$
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions			$1\frac{1}{2} + \frac{1}{3} = 1\frac{5}{6}$ because $1\frac{1}{2} = \frac{3}{2}$ $\frac{3}{2} = \frac{9}{6} \text{ and } \frac{1}{3} = \frac{2}{6}$ so $\frac{9}{6} + \frac{2}{6} = \frac{11}{6} = 1\frac{5}{6}$

multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]	$\frac{1}{2}$ of $\frac{3}{4}$ 	$\frac{1}{2}$ of $\frac{3}{4}$ 	$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$ 1 multiply the numerators 2 multiply the denominators 3 simplify $\frac{2}{5} \times \frac{5}{6} = \frac{10}{30} = \frac{1}{3}$
divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]		$\frac{1}{2} \div 3 = \frac{1}{6}$ 	$\frac{1}{2} \div 3 = \frac{1}{6}$ Keep it, change it, flip it! $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$
associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]		 $\frac{3}{8}$	$\frac{3}{8}$ 3 'out of' 8 is the same as 3 'divided by' 8 $3 \div 8 = 0.375$ So $\frac{3}{8} = 0.375$

recall and use equivalences between simple fractions, decimals and percentages including in different contexts.



John scored $\frac{40}{80}$ in his spelling test and Hannah scored 40%. Who scored more?

$$\text{John} = \frac{40}{80} = 50\%$$

$$\text{Hannah} = 40\%$$

One paving slab is 0.3m long and another is $\frac{1}{4}$ of a metre. Which is longer?

$$\frac{1}{4} = 0.25\text{m}$$

0.3m is longer than 0.25m

Children should be here by the end of Y6