Year 3 Fractions

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
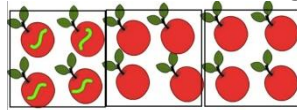

0   5/10   1

Be able to find ½, ¼ 1/5 and 1/10 of any whole 2-digit number where there is no remainder
1/10 of 50 = 5   ¼ of 20 = 4

---

recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

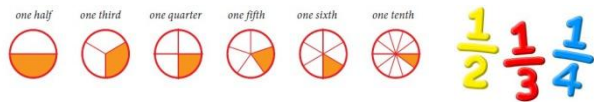Circle 1/10 of the group

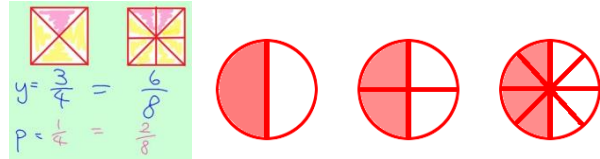What fraction of the group has worms?

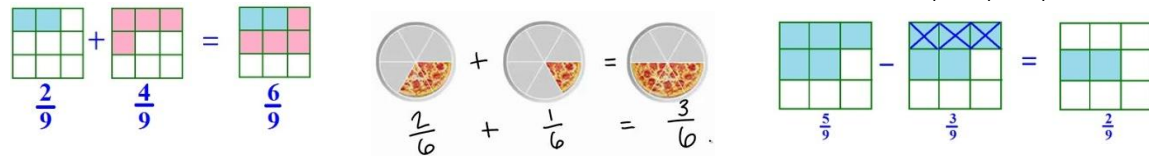Unit means one. Here are some examples of unit fractions:

Non-unit is any number apart from one. Here are some examples of non-unit fractions.
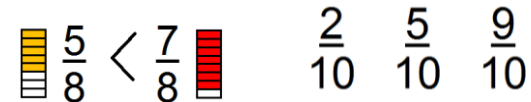

---

recognise and show, using diagrams, equivalent fractions with small denominators

$y = \frac{3}{4} = \frac{6}{8}$

$p = \frac{1}{4} = \frac{2}{8}$

add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)

$\frac{2}{9}$ $\frac{4}{9}$ $\frac{6}{9}$

$\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$.

$\frac{5}{9}$ $\frac{3}{9}$ $\frac{2}{9}$

---

compare and order unit fractions, and fractions with the same denominators

$\frac{5}{8} < \frac{7}{8}$ $\frac{2}{10}$ $\frac{5}{10}$ $\frac{9}{10}$

recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

---

solve problems that involve all of the above.

Key technique: use visual models to support abstract learning. Choose range of models from 'pizza circles' to bars.
Include quantities of numbers such as counters, e.g. ¼ of the counters are red

---

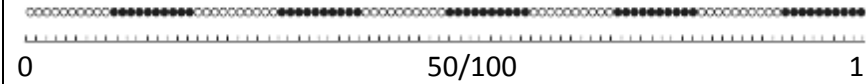St. John's CEP School, Sevenoaks

Year 4 Fractions

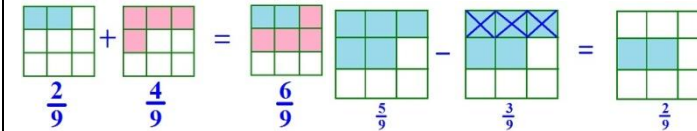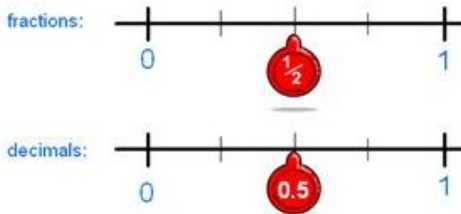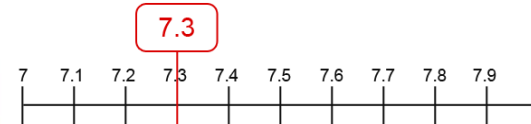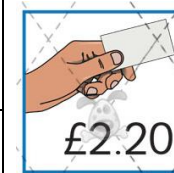|	
recognise and show, using diagrams, families of common equivalent fractions $$\frac{1}{3} = \frac{\square}{6} = \frac{4}{15} = \frac{\square}{\square} = \frac{6}{60} = \frac{\square}{\square}$$ $$\frac{1 \times 2}{3 \times 2} = \frac{2 \times 2}{6 \times 2} = \frac{4}{12}$$	count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten 0 50/100 1
compare numbers with the same number of decimal places up to two decimal places 0.45, 0.9, 1.5, 1.55, 2.02, etc	add and subtract fractions with the same denominator $$\frac{2}{9} + \frac{4}{9} = \frac{6}{9} \qquad \frac{5}{9} - \frac{3}{9} = \frac{2}{9}$$
recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ fractions: 0 ½ 1 decimals: 0 0.5 1	round decimals with one decimal place to the nearest whole number Rounding Numbers 5 or more, let it soar. 4 or less, let it rest. 7.3 7 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 8
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 H T U 1 2 5	solve simple measure and money problems involving fractions and decimals to two decimal places. An adult ticket costs £2.20. A child's ticket is half price. How much does it cost for a child? £2.20
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	

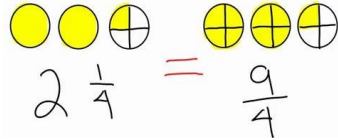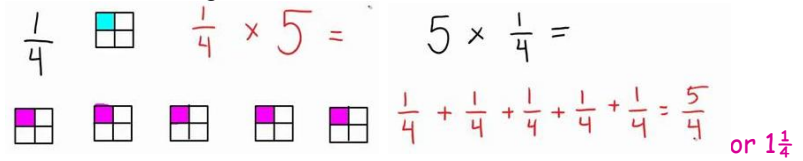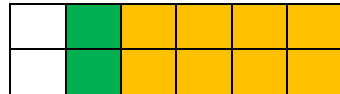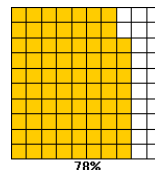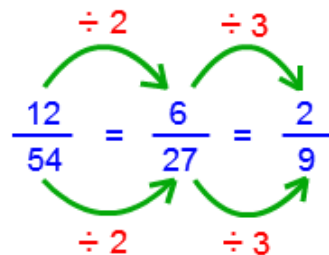| Year 5 Fractions	
compare and order fractions whose denominators are all multiples of the same number **2/3, 1/3, 2/6, 8/12, 6/9, etc**	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths $\frac{1}{3} = \frac{\square}{6} = \frac{4}{\square} = \frac{\square}{15} = \frac{6}{\square} = \frac{\square}{60}$
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. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) $2\frac{1}{4} = \frac{9}{4}$	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams $\frac{1}{4}$ $\frac{1}{4} \times 5 =$ $5 \times \frac{1}{4} =$ $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{5}{4}$ or $1\frac{1}{4}$
add and subtract fractions with the same denominator and multiples of the same number $\frac{3}{12} + \frac{8}{12}$ $\boxed{\frac{4}{5} + \frac{6}{15} = x}$	read, write, order and compare numbers with up to three decimal places **0.15, 0.51, 0.5, 0.923, 1.529, etc** solve problems involving number up to three decimal places
read and write decimal numbers as fractions recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 0.5 0.72 0.638 ↓↑ ↓↑ ↓↑ $\frac{5}{10}$ $\frac{72}{100}$ $\frac{638}{1000}$	round decimals with two decimal places to the nearest whole number and to one decimal place Rounding Numbers 5 or more, let it soar. 4 or less, let it rest. | 7.86	8.434
8.9	9.58	
recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as fraction with denominator hundred, and as a decimal fraction 78%=78/100=0.78 78%	solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.

Year 6 Fractions

use common factors to simplify fractions; use common multiples to express fractions in the denomination	compare and order fractions, including fractions > 1 Put these fractions in order from smallest to largest A) $\dfrac{1}{4}$　　B) $\dfrac{27}{36}$　　C) $\dfrac{5}{9}$　　D) $\dfrac{5}{6}$

$\div 2$　　$\div 3$　　same

$$\dfrac{12}{54} = \dfrac{6}{27} = \dfrac{2}{9}$$

$\div 2$　　$\div 3$

add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g.1/3 x ½ = 1/6)

$$\dfrac{2}{15} + \dfrac{3}{5} = ?$$

$$\dfrac{2}{15} + \dfrac{3 \times 3}{5 \times 3}$$

$$\dfrac{2}{15} + \dfrac{9}{15} = \dfrac{2 + 9}{15} = \dfrac{11}{15}$$

Same

divide proper fractions by whole numbers (e.g. $^{1}/_{3} \div 2 = {}^{1}/_{6}$)	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
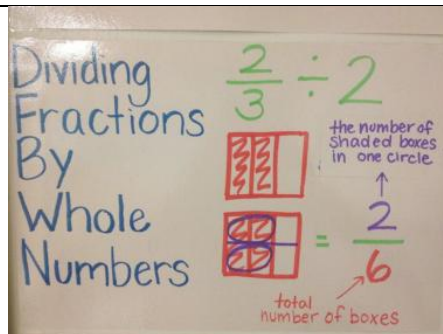
Dividing Fractions By Whole Numbers

$\dfrac{2}{3} \div 2$　the number of shaded boxes in one circle

$= \dfrac{2}{6}$　total number of boxes

$\dfrac{1}{8} = .125 =$ 12.5%	$\dfrac{1}{3} = .33334 =$ 33.334%
$\dfrac{2}{3} = .66667 =$ 66.667%	$\dfrac{5}{8} = .625 =$ 62.5%

solve problems which require answers to be rounded to specified degrees of accuracy	associate a fraction with division and calculate decimal fraction equivalents (e.g. $^{3}/_{8} = 3 \div 8 = 0.375$)