



Year 5 – Maths – Fractions

Key vocabulary

numerator

denominator

unit fraction

non-unit fraction

whole

equivalent

mixed number

improper fraction

simplest form

multiple

common denominator

common numerator

Links to other learning

Year 4 – Recognise and show, using diagrams, families of common equivalent fractions; Count up and down in hundredths; Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten; 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; Add and subtract fractions with the same denominator; Recognise and write decimal equivalents of any number of tenths or hundredths; Recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$; 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; Round decimals with one decimal place to the nearest whole number; Compare numbers with the same number of decimal places up to two decimal places.

Year 6 – Use common factors to simplify fractions; Use common multiples to express fractions in the same denomination; Compare and order fractions; Add and subtract fractions with different denominators and mixed numbers; Multiply simple pairs of proper fractions, writing the answer in its simplest form; Divide proper fractions by whole numbers; Associate a fraction with division and calculate decimal fraction equivalents; For a simple fraction, identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places; Multiply one-digit numbers with up to two decimal places by whole numbers; Use written division methods in cases where the answer has up to two decimal places; Solve problems which require answers to be rounded to specified degrees of accuracy; Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

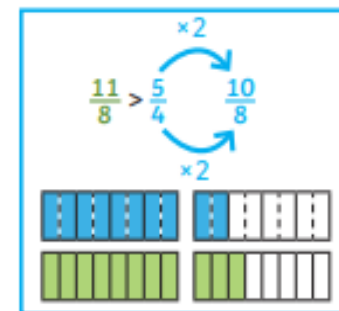
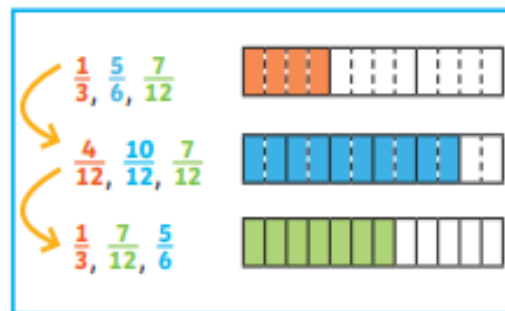
Key questions

Can you convert a mixed number fraction to an improper fraction?

Show me how you'd add two fractions together with different denominators.

If $\frac{2}{8}$ is the answer, what is the question?

We can compare and order fractions by using common denominators.



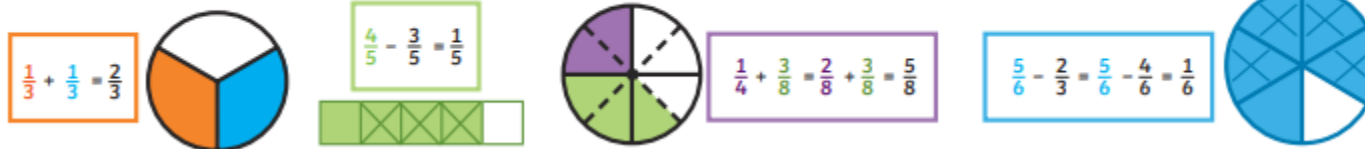
Mixed and improper fractions



Mixed Numbers	Improper Fractions
Mixed numbers contain a whole number and a fraction.	An improper fraction has a numerator which is greater than or equal to the denominator. $\frac{5}{3}$
Convert an Improper Fraction to a Mixed Number	Convert a Mixed Number to an Improper Fraction
$\frac{9}{4}$ $9 \div 4 = 2r1$ $2\frac{1}{4}$ Divide the numerator by the denominator. This shows you the whole number and the fraction.	Multiply the whole by the denominator to make an improper fraction. $2\frac{5}{6} = \frac{12}{6} + \frac{5}{6} = \frac{17}{6}$ Add the fractions together.

Addition, subtraction and multiplication

To add or subtract fractions with denominators that are multiples of the same number, we must change one fraction to have the same denominator.



Add Fractions Where the Total is Greater Than 1

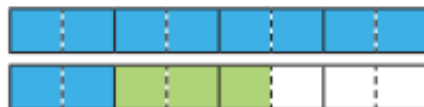
$$\frac{1}{2} + \frac{3}{4} + \frac{5}{8} = \frac{4}{8} + \frac{6}{8} + \frac{5}{8} = \frac{15}{8} = 1\frac{7}{8}$$



Add Mixed Numbers

$$1\frac{1}{4} + \frac{3}{8} = 1\frac{2}{8} + \frac{3}{8} = 1 + \frac{5}{8} = 1\frac{5}{8}$$

$$1\frac{1}{4} + \frac{3}{8} = \frac{5}{4} + \frac{3}{8} = \frac{10}{8} + \frac{3}{8} = \frac{13}{8} = 1\frac{5}{8}$$



Subtract from a Mixed Number

$$1\frac{2}{3} - \frac{2}{9} = 1\frac{4}{9} - \frac{2}{9} = 1\frac{2}{9}$$

starting number	find the equivalent fraction	subtract

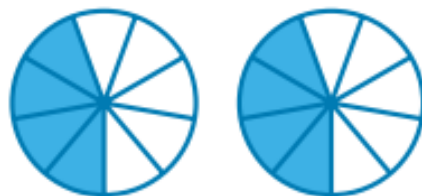
Multiply Unit Fractions by an Integer

$$\frac{1}{3} \times 5 = \frac{5}{3}$$



Multiply Non-Unit Fractions by an Integer

$$2 \times \frac{4}{9} = \frac{8}{9}$$



Subtract Two Mixed Numbers

$$2\frac{3}{4} - 1\frac{5}{8} = 1\frac{1}{8}$$



$$2 - 1 = 1$$

$$\frac{3}{4} - \frac{5}{8} = \frac{1}{8}$$