



## Fractions

### Key Knowledge:

#### Key Vocabulary:

Numerator

Denominator

Unit fraction

Non-unit fraction

Whole

Equivalent

Mixed number

Improper fractions

Simplest form

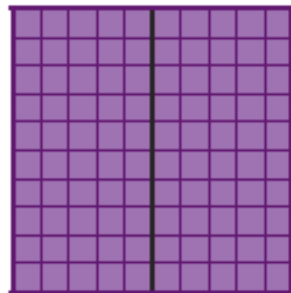
Multiple

Common denominator

Common numerator

#### Equivalent Fractions

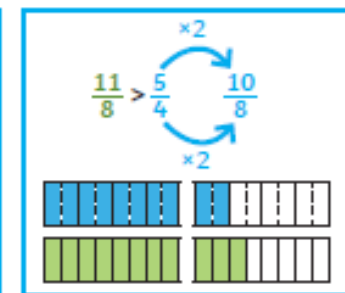
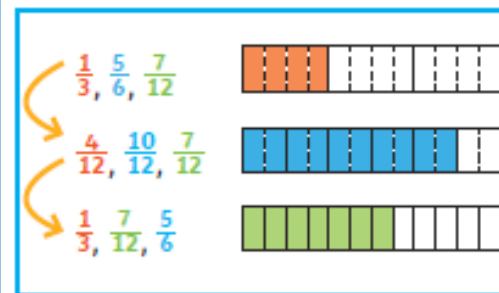
To find equivalent fractions, we multiply or divide the numerator and denominator by the same number.



$$\frac{1}{2} = \frac{5}{10} = \frac{50}{100}$$

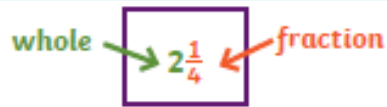
#### Compare and Order Fractions

We can compare and order fractions by using common denominators.



#### Mixed Numbers

Mixed numbers contain a whole number and a fraction.



#### Improper Fractions

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

$$\frac{9}{4} \quad 9 \div 4 = 2r1 \quad 2\frac{1}{4}$$

Divide the numerator by the denominator.

This shows you the whole number and the fraction.

#### Convert a Mixed Number to an Improper Fraction

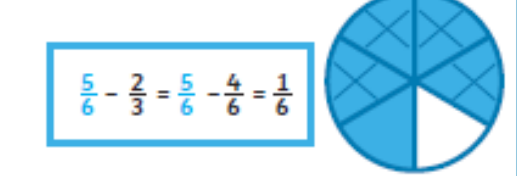
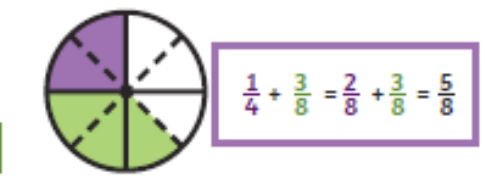
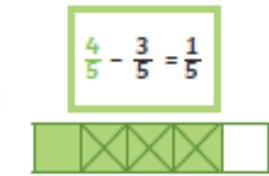
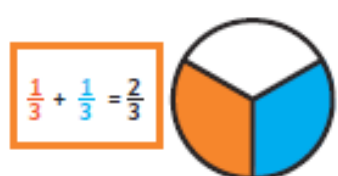
Multiply the whole by the denominator to make an improper fraction.

$$2\frac{5}{6} = \frac{12}{6} + \frac{5}{6} = \frac{17}{6}$$

Add the fractions together.

#### Adding and Subtracting Fractions

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





# Maths Knowledge Organiser - Year 5

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Improper fractions

Simplest form

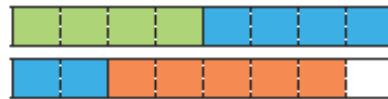
Multiple

Common denominator

Common numerator

#### Add Fractions Where the Total is Greater Than 1

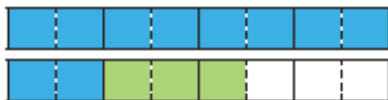
$$\frac{1}{2} + \frac{3}{4} + \frac{5}{8} = \frac{4}{8} + \frac{6}{8} + \frac{5}{8} = \frac{15}{8} = 1\frac{7}{8}$$



#### Add Mixed Numbers

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

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



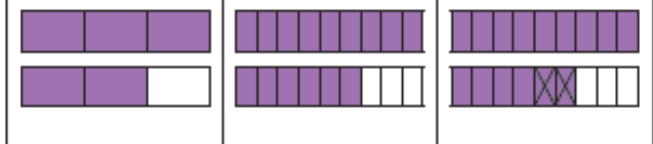
#### Subtract from a Mixed Number

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

starting number

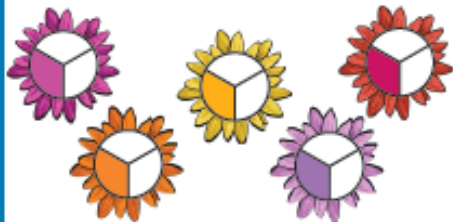
find the equivalent fraction

subtract



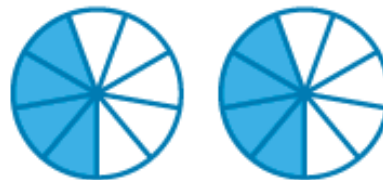
#### Multiply Unit Fractions by an Integer

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



#### Multiply Non-Unit Fractions by an Integer

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



#### Subtract Two Mixed Numbers

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



$$2 - 1 = 1$$

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

#### Multiply Mixed Numbers by Integers

Convert to an improper fraction and multiply the numerator by the integer.

$$2\frac{1}{4} \times 2 = \frac{9}{4} \times 2 = \frac{18}{4} = 4\frac{2}{4} = 4\frac{1}{2}$$

Use repeated addition.

$$2\frac{1}{4} \times 2 = 2\frac{1}{4} + 2\frac{1}{4} = 4\frac{2}{4} = 4\frac{1}{2}$$

#### Subtract from a Mixed Number - Breaking the Whole

$$2\frac{1}{4} - \frac{3}{8} = 2\frac{2}{8} - \frac{3}{8} = 1\frac{10}{8} - \frac{3}{8} = 1\frac{7}{8}$$

