

'I WILL SHINE'

# Fractions

## Prior learning

Let's activate my long-term memory!  
In Y4, I learnt to...

- 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 a hundred and dividing tenths by ten
- Solve problems involving fractions
- Add and subtract fractions with the same denominator

## Key vocabulary

What words will I use in this unit?  
Have I heard any before?  
compare order  
numerator denominator  
multiples equivalent tenths  
hundredths mixed numbers  
proper/improper fractions

## Tools and drawings

Which tools and drawing might I use to support my learning?

Fraction wall

Fraction jigsaws

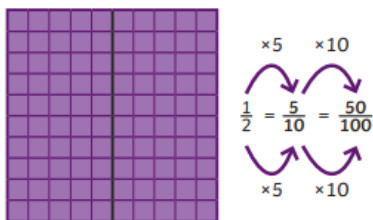
## Current learning

- In this unit, I will learn all about...
- Equivalent fractions
  - Improper fractions to mixed numbers
  - Mixed numbers to improper fractions
  - Number sequences
  - Compare and order fractions less than 1
  - Compare and order fractions greater than 1
  - Add and subtract fractions
  - Add fractions within 1
  - Add 3 or more fractions
  - Add fractions
  - Add mixed numbers
  - Subtract fractions
  - Subtract mixed numbers
  - Subtract- breaking the whole
  - Multiply unit fractions by an integer
  - Multiply non unit fractions by an integer
  - Fraction of amounts
  - Using fractions as operators

## Knowledge Organiser

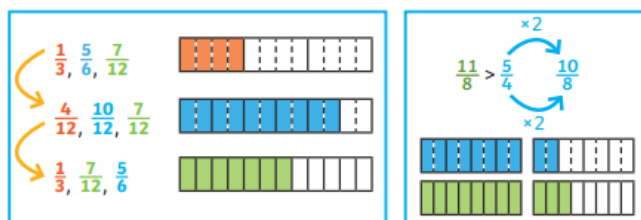
### Equivalent Fractions

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



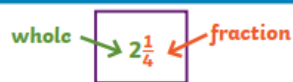
### Compare and Order Fractions

We can compare and order fractions by using common denominators.



### Mixed Numbers

Mixed numbers contain a whole number and a fraction.

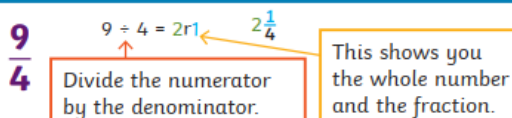


### Improper Fractions

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



### Convert a Mixed Number to an Improper Fraction

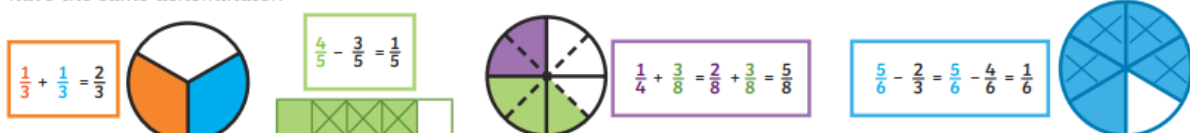
Multiply the whole by the denominator to make an improper fraction.

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

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.



'I WILL SHINE'

# Fractions

Knowledge Organiser

## Add Fractions Where the Total is Greater Than 1

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

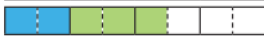


## Add Mixed Numbers

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

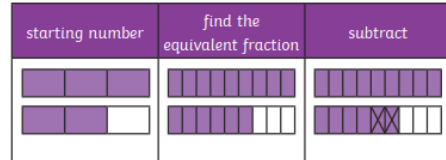


$$1\frac{1}{4} + \frac{3}{8} = \frac{5}{4} + \frac{3}{8} = \frac{10}{8} + \frac{3}{8} = \frac{13}{8} = 1\frac{5}{8}$$



## Subtract from a Mixed Number

$$1\frac{2}{3} - \frac{2}{9} = 1\frac{6}{9} - \frac{2}{9} = 1\frac{4}{9}$$



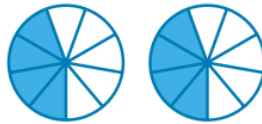
## Multiply Unit Fractions by an Integer

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



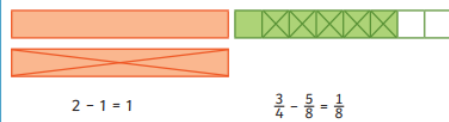
## Multiply Non-Unit Fractions by an Integer

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



## Subtract Two Mixed Numbers

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



$$2 - 1 = 1$$

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

## 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

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

