

Year 6 FRACTIONS KNOWLEDGE ORGANISER

Lesson sequence:

- To simplify fractions and find equivalent fractions.
- To compare and order fractions.
- To add and subtract fractions and mixed numbers.
- To multiply fractions and integers.
- To divide fractions and integers.
- To find fractions of amounts.
- To solve multi-step problems on fractions.

Vocabulary revision (vocabulary I have been taught before)

numerator
denominator
proper fraction
improper fraction
factor
highest common multiple
lowest common multiple
equivalents
common numerator
common denominator
simplify
simplest form
mixed number
whole number

Sticky Learning

New knowledge

- To know that fractions are a result of division
- To know equivalences between simple fractions, decimals and percentages, including in different contexts.

New Skills

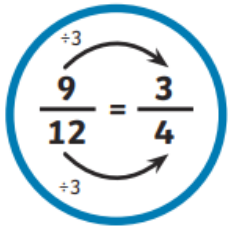
- To divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)
- To use equivalences between simple fractions, decimals and percentages, including in different contexts.

New vocabulary

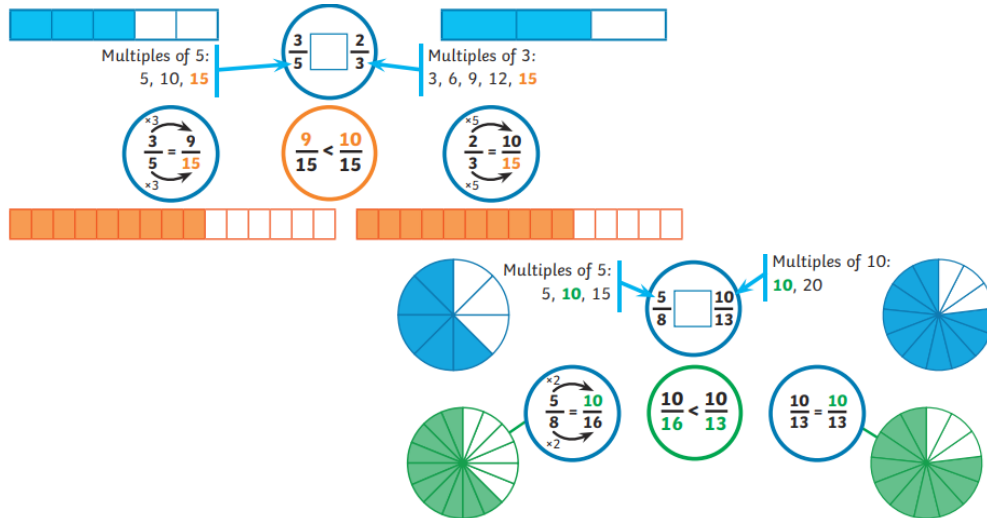
- Decimal Equivalent - A fraction in decimal form e.g. $\frac{1}{2} = 0.5$

Pictorial representations

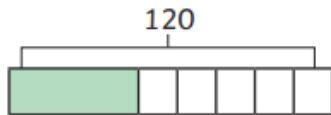
Simplifying fractions



Ordering fractions



Fractions of amounts



Find $\frac{3}{8}$ of 120:

$$\frac{1}{8} \text{ of } 120 = 120 \div 8 = 15$$

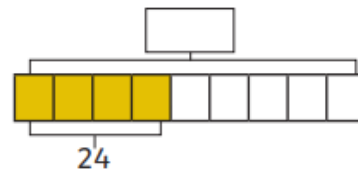
$$\frac{3}{8} \text{ of } 120 = 3 \times 15 = 45$$

Find the whole:

$$\frac{4}{9} \text{ of the whole} = 24$$

$$\frac{1}{9} \text{ of the whole} = 24 \div 4 = 6$$

$$\text{The whole is } 9 \times 6 = 54$$



- To solve problems involving using knowledge of fractions and multiples
- To use common factors to simplify fractions; use common multiples to express fractions in the same denominator
- To calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
- To add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- To multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)
- To interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- To compare and order fractions, including fractions $>$
- To recognise equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- To know that mixed numbers are a whole number and a fraction
- To know that improper fractions have a larger numerator and that they are greater than one
- To know that some fractions > 1 simplify, with division, to integers and other fractions > 1 to numbers with remainders
- To know that percentages, fractions and decimals are connected (for example, 100% represents a whole quantity and 1% is $\frac{1}{100}$, 50% is $\frac{50}{100}$, 25% is $\frac{25}{100}$)
- To recognise that decimal numbers have their equivalent fractions (e.g. $0.71 = \frac{71}{100}$)