



Knowledge Organiser



Number

Year 6

Fractions

When working with fractions in Year 6, we build on all the skills we have learnt in previous years and apply them to different problems. In real life, we might use fractions when following a recipe, when shopping or even when splitting a bill when at a restaurant.

Builds from Year 5:

- Equivalent fractions.
- Convert mixed numbers and improper fractions.
- Add and subtract fractions.
- Multiply fractions.

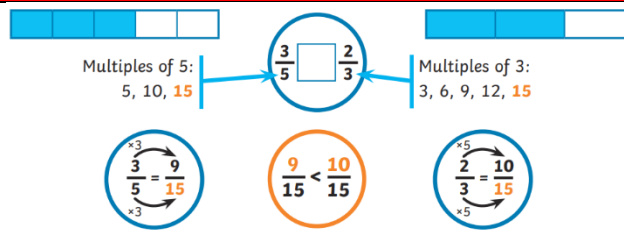
This year:

- Use common factors to simplify fractions.
- Use common multiples to express fractions in the same denominator.
- Compare and order fractions.
- Add and subtract fractions with different denominators and mixed numbers.
- Multiply simple pairs of proper fractions
- Divide fractions.

Leads to Key Stage 3:

- Use the concepts and vocabulary of factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple.
- Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $\frac{7}{2}$ or 0.375 and $\frac{3}{8}$).

Compare and Order Fractions



Adding & Subtracting Mixed Numbers

$$2\frac{2}{5} + 1\frac{3}{10}$$

$$2 + 1 = 3$$

$$\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$$

$$3 + \frac{7}{10} = 3\frac{7}{10}$$

$$2\frac{1}{2} - 1\frac{1}{4}$$

$$2 - 1 = 1$$

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

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

Find a **common denominator** by finding the **lowest common multiple** of each.

When adding and subtracting mixed numbers, we can convert into improper fractions or partition first, then solve.

$$2\frac{2}{5} + 1\frac{3}{10}$$

$$2\frac{2}{5} = \frac{12}{5}$$

$$1\frac{3}{10} = \frac{13}{10}$$

$$\frac{12}{5} + \frac{13}{10} = \frac{24}{10} + \frac{13}{10} = \frac{37}{10}$$

$$\frac{37}{10} = 3\frac{7}{10}$$

$$2\frac{1}{2} - 1\frac{1}{4}$$

$$2\frac{1}{2} = \frac{5}{2}$$

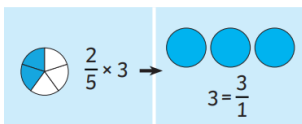
$$1\frac{1}{4} = \frac{5}{4}$$

$$\frac{5}{2} - \frac{5}{4} = \frac{10}{4} - \frac{5}{4} = \frac{5}{4}$$

$$\frac{5}{4} = 1\frac{1}{4}$$

Multiplying Fractions

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$



$$\frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1\frac{1}{5}$$

Dividing Fractions

$$\frac{2}{5} \div 2 = \frac{1}{5}$$

$$\frac{1}{3} \div 2 = \frac{1}{6}$$



Key Vocabulary

numerator denominator proper fraction improper fraction factor highest common factor lowest common multiple common denominator equivalent simplify mixed number

