

NUMBERS AND THE NUMBER SYSTEM

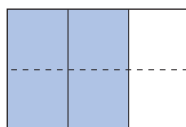
Pupils should be taught to:

Use fraction notation; recognise and use the equivalence of fractions and decimals (continued)

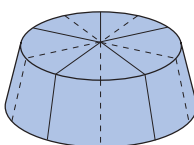
As outcomes, Year 7 pupils should, for example:

Simplify fractions by cancellation and recognise equivalent fractions.

Understand how equivalent fractions can be shown in diagrammatic form, with shapes sectioned into equal parts.



$$\frac{2}{3} = \frac{4}{6}$$



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

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

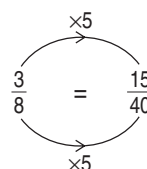
Find equivalent fractions by multiplying or dividing the numerator and denominator by the same number.

For example, recognise that because

$$3 \times 5 = 15$$

$$8 \times 5 = 40$$

it follows that $\frac{3}{8}$ is equivalent to $\frac{15}{40}$.



Know that if the numerator and the denominator have no common factors, the fraction is expressed in its lowest terms.

Answer questions such as:

- Cancel these fractions to their simplest form by looking for highest common factors:

$$\frac{9}{15}$$

$$\frac{12}{18}$$

$$\frac{42}{66}$$

- Find two other fractions equivalent to $\frac{4}{5}$.
- Show that $\frac{12}{18}$ is equivalent to $\frac{6}{9}$ or $\frac{4}{6}$ or $\frac{2}{3}$.
- Find the unknown numerator or denominator in:

$$\frac{1}{4} = \frac{\square}{48}$$

$$\frac{7}{12} = \frac{35}{\square}$$

$$\frac{36}{24} = \frac{\square}{16}$$

Link to finding the highest common factor (pages 54–5).

Continue to convert improper fractions to mixed numbers and vice versa: for example, change $\frac{34}{8}$ to $4\frac{1}{4}$, and $\frac{57}{12}$ to $6\frac{7}{12}$.

Answer questions such as:

- Convert $\frac{36}{5}$ to a mixed number.
- Which fraction is greater, $4\frac{4}{7}$ or $2\frac{9}{7}$?
- How many fifths are there in $7\frac{1}{5}$?
- The fraction $\frac{7}{14}$ has three digits, 7, 1 and 4. It is equal to $\frac{1}{2}$. Find all the three-digit fractions that are equal to $\frac{1}{2}$. Explain how you know you have found them all.
- Find all the three-digit fractions that are equal to $\frac{1}{3}$. And $\frac{1}{4}$...
- There is only one three-digit fraction that is equal to $1\frac{1}{2}$. What is it?
- Find all the three-digit fractions that are equal to $2\frac{1}{2}$, $3\frac{1}{2}$, $4\frac{1}{2}$...

See Y456 examples (pages 22–3).