

As outcomes, Year 5 pupils should, for example:

Use, read and write, spelling correctly:
*fraction, proper/improper fraction, mixed number...
 numerator, denominator...
 half, quarter, eighth; third, sixth, ninth, twelfth;
 fifth, tenth, twentieth, hundredth...
 equivalent, reduced to, cancel...*

Convert improper fractions to mixed numbers, and vice versa: for example, change $\frac{37}{10}$ to $3\frac{7}{10}$.

Recognise from practical work simple relationships between fractions. For example:

- one quarter is half of one half;
- one eighth is half of one quarter;
- one sixth is half of one third;
- one tenth is half of one fifth;
- one twentieth is half of one tenth.

Recognise patterns in equivalent fractions, such as:

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \frac{7}{14} \dots$$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15} = \frac{6}{18} = \frac{7}{21} \dots$$

and similar patterns for $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$.

Start to recognise that:

- $\frac{10}{100}$ is equivalent to $\frac{1}{10}$;
- $\frac{20}{100}$ is equivalent to $\frac{2}{10}$;
- $\frac{50}{100}$ is equivalent to $\frac{5}{10}$ or $\frac{1}{2}$;
- $\frac{25}{100}$ is equivalent to $\frac{1}{4}$;
- $\frac{75}{100}$ is equivalent to $\frac{3}{4}$.

Recognise from practical work that, for example:

- one quarter is more than one eighth;
- one third is more than one ninth;
- two thirds is less than three quarters.

Make a line to 6 showing wholes, thirds, sixths and twelfths.

Answer questions such as:

- Which of these fractions are less than one half?
 $\frac{1}{10}$, $\frac{1}{20}$, $\frac{2}{5}$, $\frac{7}{10}$, $\frac{11}{20}$, $\frac{60}{100}$...
- Mark each of these fractions on a line from 0 to 1 with 20 marked divisions:
 $\frac{3}{10}$, $\frac{3}{4}$, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{7}{10}$, $\frac{4}{5}$, $\frac{13}{20}$.
 Which is the smallest? Which is the largest?
- Place these in order, smallest first:
 $\frac{1}{2}$, $1\frac{1}{2}$, 2, $\frac{1}{4}$, $1\frac{3}{4}$.

As outcomes, Year 6 pupils should, for example:

Use, read and write, spelling correctly, the vocabulary from the previous year, and extend to:
thousandth...

Continue to convert improper fractions to mixed numbers, and vice versa: for example, $\frac{49}{8}$ to $6\frac{1}{8}$.

Recognise from practical work simple relationships between fractions. For example:

- one half is twice as much as one quarter, and three times as much as one sixth;
- one quarter is twice as much as one eighth;
- one tenth is ten times as much as one hundredth.

Recognise that:

- a fraction such as $\frac{5}{20}$ can be reduced to an equivalent fraction $\frac{1}{4}$ by dividing both numerator and denominator by the same number (cancel);
- a fraction such as $\frac{3}{10}$ can be changed to an equivalent fraction $\frac{30}{100}$ by multiplying both numerator and denominator by the same number.

Recognise equivalent fractions, such as:

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \frac{7}{14} = \frac{8}{16} = \frac{9}{18} = \frac{10}{20} \dots$$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15} = \frac{6}{18} = \frac{7}{21} = \frac{8}{24} = \frac{9}{27} = \frac{10}{30} \dots$$

and similar patterns for other unit fractions, relating them to ratios: 1 in every 7, 2 in every 14, and so on.

Answer questions such as:

- Write four more fractions equivalent to:
 $\frac{4}{5}$... $1\frac{1}{10}$...
- Copy and complete:
 $\frac{\square}{10} = \frac{20}{100}$ $\frac{6}{21} = \frac{2}{\square}$

Compare or order simple fractions by converting them to a common denominator. For example:

- Suggest a fraction that is greater than one quarter and less than one third.

Answer questions such as:

- Mark each of these fractions on a line from 0 to 1 with 30 marked divisions:
 $\frac{3}{10}$, $\frac{1}{3}$, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{7}{10}$, $\frac{4}{5}$, $\frac{5}{6}$.
 Which is the smallest? Which is the largest?
- Place these in order, smallest first:
 $2\frac{1}{10}$, $1\frac{3}{10}$, $2\frac{1}{2}$, $1\frac{1}{5}$, $1\frac{3}{4}$.
- What number is half way between:
 $5\frac{1}{4}$ and $5\frac{1}{2}$; $5\frac{1}{3}$ and $5\frac{2}{3}$...?