5M041 Overview

Master The Number Line with Fractions Greater Than 1

Rationale

In this step, pupils build upon their understanding of fractions greater than 1. They will use their knowledge of equivalent fractions to accurately identify and label improper fractions and mixed numbers on number lines beyond 1. For example, when there are 4 intervals on the number line from 1 to 2, the value of each interval is one-quarter. Pupils learn to recognise this as two-eighths, three-twelfths and so on, noticing ten-eighths is on the second interval of the number line. Pupils will develop their learning by identifying, labelling and estimating the position of improper fractions and mixed numbers on a number line where equivalent fractions fall between intervals. For example, when there are 4 intervals on the number line from 1 to 2, a fraction such as 1 and one-twelfth will fall between the intervals of 1 and 1 and one-quarter.

Key Stem Sentences

- The value of each interval is ___ or ___
- There are ___ intervals on the number line. The value of each interval is ___ or ___
- ___ is here on the number line.

Key Vocabulary

- equivalent
- fraction
- interval
- mid-point

Key Representations

Number lines

The value of each interval is one-seventh or two-fourteenths.

$\dfrac{11}{7}$ or $\dfrac{22}{14}$ is here on the number line.

There are 10 intervals on the number line.

The value of each interval is one-tenth or three-thirtieths.
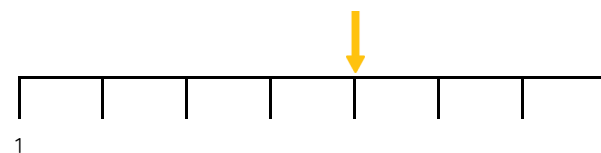
$2\dfrac{19}{30}$ is here on the number line.

Common Errors or Misconceptions

- Pupils may miscount the intervals.
- Pupils may represent the fractions incorrectly.
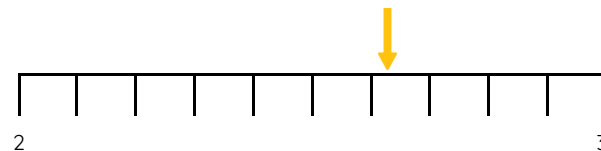- Pupils may not estimate the positions of equivalent fractions between intervals accurately.

Pupils will FLOURISH if they can...

- use their understanding of equivalent fractions to recognise the different values of intervals on a number line.
- identify, label and estimate improper fractions and mixed numbers, including equivalent fractions, on a number line.
- begin to explain their understanding using their own words and representations.