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About eBookPLUS

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4.2 What are rational numbers?

Understanding fractions

- **Rational numbers** are numbers that can be written as fractions.
- **Fractions** are used to describe parts of a whole.
- The **numerator**, or top number of the fraction, shows how many parts are required. The numerator must be an integer.
- The **denominator**, or bottom number, shows the number of parts into which the whole can be divided. The denominator must be an integer, but cannot be zero.
- The horizontal bar separating the numerator from the denominator is called the **vinculum**.

A fraction is written in the form $\frac{a}{b}$, where $a$ is the numerator and $b$ is the denominator.

- **Proper fractions** are fractions where the numerator is less than the denominator, for example, $\frac{1}{3}$.
- **Improper fractions** are fractions where the numerator is greater than the denominator, for example, $\frac{4}{3}$.
- **Mixed numbers** are a combination of a whole number and a proper fraction, for example, $1\frac{1}{2}$.
Dynamic interactivities help students to understand and work through difficult concepts.

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