PhET Tips for Teachers

Fractions: Mixed Numbers

The **Fractions: Mixed Numbers** simulation allows students to engage with and compare multiple representations of fractions, including a mixed number.

Intro Screen

In the Intro screen, students can build their own fraction and see it represented as a pie, rectangle, cylinder, cake, or number line, and compare it to the numerator and denominator of an improper fraction and a mixed number.

VIEW different fraction representations

ADJUST the number of containers

INCREASE/ DECREASE the numerator and denominator of an improper fraction

EQUATE two forms of a fraction

SHOW the mixed number representation

Game Screen

This Game screen can also be found in the Build a Fraction simulation.

RETURN to the level selection screen

BUILD fractions that match the targets

RESET to get a new set of challenges

ADD/REMOVE containers

PARTITION container

Lab Screen

The Lab screen can also be found in the Build a Fraction simulation.

REMOVE most recently added piece

ADD fractional pieces or new containers

ADD/REMOVE containers

ADD numerals or new fraction container

PARTITION container

Suggestions for Use

- Allow students to explore the Intro screen, then facilitate a discussion about the relationship between the improper fraction and mixed number forms. Use this discussion to invent a strategy for interpreting either form and converting between forms.
- Assign specific Game levels to address your learning goals.

Sample Challenge Prompts
- Play on the Intro screen. What does the top number of the fraction mean? What does the bottom number mean? In a mixed number, what does the large number mean? What do the top and bottom numbers mean?
- If you are building a fraction, where can you place the fraction pieces? Does it matter which container you put it in?
- Using the Lab screen, create multiple fractions that are equal. Challenge yourself to use differently sized pieces.

See all published activities for Fractions: Mixed Numbers here.
For more tips on using PhET sims with your students, see Tips for Using PhET.