

The **Fractions: Intro** simulation allows students to engage with and compare multiple representations of fractions and test their understanding on the Game screen.

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.

VIEW different fraction representations

MANIPULATE the fraction

DRAG fraction pieces

ADJUST the number of containers

INCREASE/DECREASE the numerator and denominator of an improper fraction

Fractions: Intro

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

Level 8

Fractions: Intro

Lab Screen

The Lab screen can also be found in the [Build a Fraction](#) simulation.

The screenshot shows the PhET Fractions: Intro Lab screen. The interface includes a top toolbar with various fraction pieces and containers, a central workspace with a fraction $\frac{1}{6}$ and a pie chart, and a bottom toolbar with a number line and navigation buttons. Callouts point to specific features:

- REMOVE** most recently added piece: Points to a yellow arrow icon above the pie chart.
- ADD** fractional pieces or new containers: Points to the top toolbar.
- ADD/REMOVE** containers: Points to a green plus icon and a red minus icon.
- PARTITION** container: Points to a green arrow icon.
- ADD** numerals or new fraction container: Points to a dashed red fraction container in the bottom toolbar.

At the bottom of the screen, the text "Fractions: Intro" is visible, along with navigation icons for Home, Intro, Game, and Lab, and the PhET logo.

Suggestions for Use

- Allow students to explore the Intro screen, then facilitate a discussion about what the top and bottom numbers of the fraction mean. Use this discussion to introduce the terms numerator and denominator, and use student suggestions for defining those terms.
- 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?
- 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 equal one. Challenge yourself to use differently sized pieces.

See all published activities for Fractions: Intro [here](#).

For more tips on using PhET sims with your students, see [Tips for Using PhET](#).