

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

Intro Game Lab

PhET

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

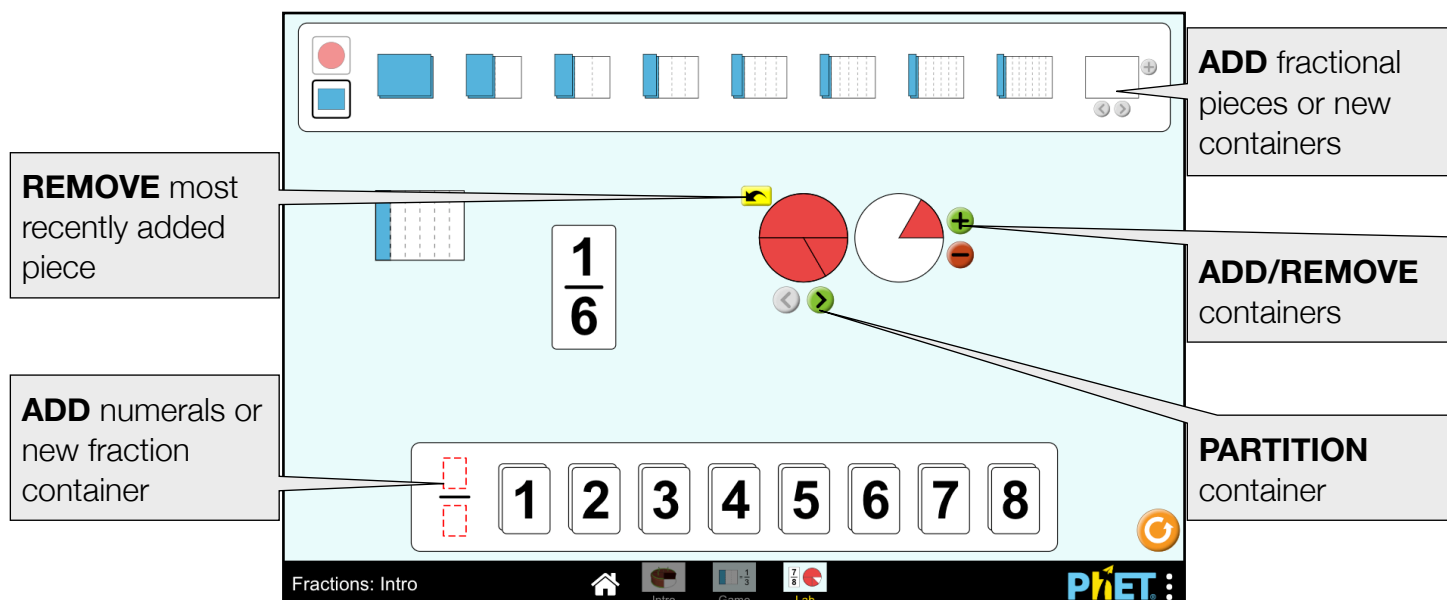
Fractions: Intro

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Lab Screen

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



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.

Customization Options

Query parameters allow for customization of the simulation, and can be added by appending a '?' to the sim URL, and separating each query parameter with an '&'. The general URL pattern is:

`...html?queryParameter1&queryParameter2&queryParameter3`

For example, in Fractions: Intro, if you only want to include the 1st and 2nd screens (`screens=1,2`), with the 2nd screen open by default (`initialScreen=2`) use:

https://phet.colorado.edu/sims/html/fractions-intro/latest/fractions-intro_all.html?screens=1,2&initialScreen=2

To run this in Spanish (`locale=es`), the URL would become:

https://phet.colorado.edu/sims/html/fractions-intro/latest/fractions-intro_all.html?locale=es&screens=1,2&initialScreen=2

Query Parameter and Description	Example Links
<code>screens</code> - specifies which screens are included in the sim and their order. Each screen should be separated by a comma. For more information, visit the Help Center .	<code>screens=1</code> <code>screens=2,1</code>
<code>initialScreen</code> - opens the sim directly to the specified screen, bypassing the home screen.	<code>initialScreen=1</code> <code>initialScreen=3</code>
<code>locale</code> - specify the language of the simulation using ISO 639-1 codes. Available locales can be found on the simulation page on the Translations tab . Note: this only works if the simulation URL ends in “_all.html”.	<code>locale=es</code> (Spanish) <code>locale=fr</code> (French)
<code>allowLinks</code> - when <code>false</code> , disables links that take students to an external URL. Default is <code>true</code> .	<code>allowLinks=false</code>

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

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