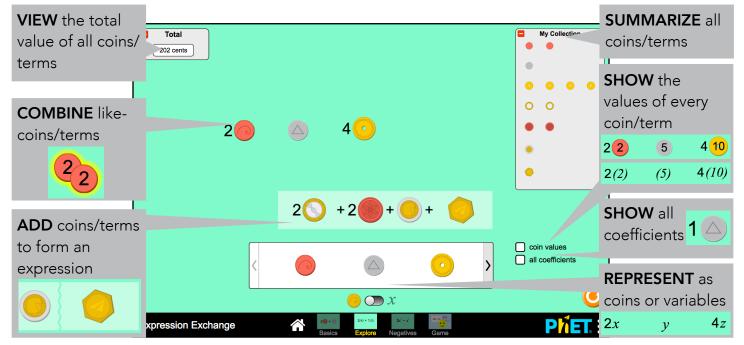


Expression Exchange

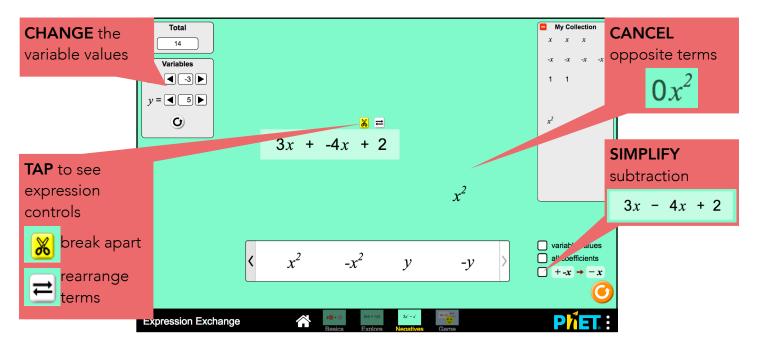
Basics and Explore Screens

Start out with just three different coins on the Basics screen before including four additional coins on the Explore screen. Use coins as a context for thinking about variable terms and expressions.



Negatives Screen

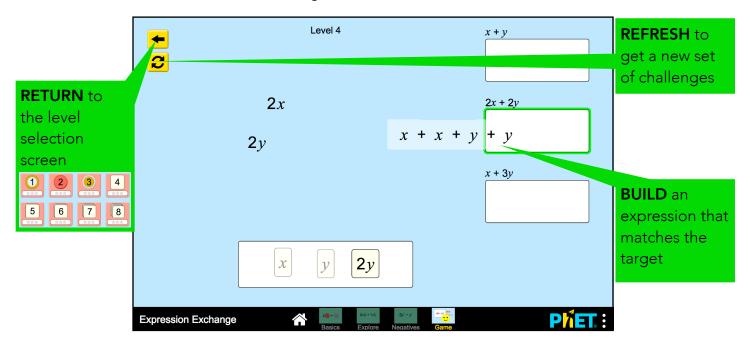
Create more advanced expressions that can include subtraction and negative variable values.



McGarry, June 2017

Game Screen

Challenge yourself to build expressions that match the targets! Play levels 1-3 with coins and 4-8 with variables. Levels 7-8 include challenges with distribution.



Suggestions for Use

Sample Challenge Prompts

- What are the two different ways to combine coins?
 - What does it mean when you see the yellow glow?
 - What does it mean when you see the background rectangle?
- Build an expression that equals 97 cents.
- Minimize the Total. Build an expression that has x, y, and z in it. Set the values for x, y, and z and find the total value for your expression.
- What will happen when you combine x and -x?
- Find the "All Coefficients" checkbox. How would you describe a coefficient? How do you change a coefficient?
- Create an expression that is equivalent to $x^2 2x^2 + 3y$. How do you know they are equivalent?

See all published activities for Expression Exchange <u>here</u>. For more tips on using PhET sims with your students, see <u>Tips for Using PhET</u>.