

Lesson A1: Coin Expressions



This symbol means to stop and share your responses with your partner. If you have different responses, try to come to a consensus.

1. Play with the [Expression Exchange sim](#) for 5 minutes. Write down three questions or observations that you have.

2. These are all **coins**. What is the value of each coin?



3.  +  is an example of an **expression**. Build two coin expressions that have the same total value and record below.



4. How do you know they have the same value?



5. When you overlap two coins, sometimes the sim shows a yellow glow. What is happening?



6. When you overlap two coins, sometimes you *can't* get a yellow glow. What is happening?

7. Write two more expressions that are equivalent to $2(\text{red} + \text{gray} + \text{yellow})$ and confirm using the sim.


$$2(\text{red} + \text{gray} + \text{yellow}) = 2\text{red} + 2\text{gray} + 2\text{yellow}$$

$$2(\text{red} + \text{gray} + \text{yellow}) =$$

$$2(\text{red} + \text{gray} + \text{yellow}) =$$

8. What is true about the values of your expressions?

Extension

9. Notice the toggle at the bottom of the screen.  What does this toggle do?

Summary

10. Describe an **expression** in your own words.

11. Write another expression that is equivalent to $\text{red} + \text{red} + \text{gray} + \text{yellow} + \text{yellow}$.