



# Coin Challenge

## STEM Sims

### Lesson 1: Cents-ical Logic

Trying to figure out exact change with the coins in your pocket can sometimes be tricky. Flip a coin and find out why this simulation is a perfect “combination” of learning and fun!

#### Doing the Science

1. Open the Coin Challenge simulation.
2. Select the “Play a Game” button.
3. Select “No coin” and then click the first slot. Repeat this step for the next two slots. Then select the penny and click the fourth slot.
4. Click submit.
5. If there is a difference, add it to the value to get the targeted price.  
*Note:* The value will always be between \$.01 and \$1.00.
6. Next, select new coins that add up to this price for Guess 2. Record your selections in Table 1. Keep guessing coins until you have no more blue dots.  
*Note:* A blue dot indicates an incorrect coin, a red dot indicates a correct coin in an incorrect place, and a green dot indicates a correct coin in the correct place.
7. Next, put the coins in a new order until you reach the correct order of coins. Record each guess in Table 1.

Table 1.

Guess	Slot 1	Slot 2	Slot 3	Slot 4	Value	Difference
1	0	0	0	.01	0.01	
2						0
3						0
4						0
5						0
6						0
7						0

#### Do You Understand?

1. If mints cost \$0.07 each and you want one for you and six friends, which combination of quarters, dimes, nickels, and pennies requires the fewest number of coins to make exact change?
2. Line up your five friends Aly, Billy, Callie, Dolly, and Ellie so that Aly is between two people, Callie is directly to Billy’s right, and Dolly is not next to someone whose name ends in “e”.