



# Make A Deal

**STEM Sims**

## Lesson 1: Let's Make a Deal Problem

In this lesson, imagine that you are the contestant in a game show. The host asks you to pick one of three curtains. One of the curtains hides a prize the others do not. After you make your choice, the host opens one of the other curtains – one that does not contain the prize – and offers to let you change your pick to the other curtain. What would you do? Keep your original choice or switch to new curtain?

### Doing the Science

1. Load the Make a Deal Sim.
2. When the simulation opens you will see three curtains hiding three stages. One of these stages holds a prize; the other two have smelly goats.
3. Move the cursor onto one of the curtains and click the curtain.
4. The computer will (1) put a “Keep” button on the curtain you picked; (2) open one of the other two curtains (one that does NOT contain the prize); (3) put a “Switch” button on the other curtain.
5. You now have to decide whether to keep your original choice or switch to the other curtain. Make your choice by clicking on the proper curtain.
6. Both covered curtains will open and you will see which stage contains the prize.
7. The simulation will record how many correct decisions you make, how many trials resulted in a win by switching, and how many trials resulted in a win by keeping.
8. Click the Try Again button and go through a second trial.
9. Continue the process for 10 trials – trying different curtains and different Keep or Switch decisions.
10. After the 10th trial, you will see a new choice at the lower left of the screen. The text will say “Play Mode” and the choice will be “Manual”
11. If you click on the “Manual” button, the play mode will change to “Auto” and you will be allowed to choose how many trials you want and what type of choice you wish to make (Switch, Keep, or Random).
12. Move the cursor to the right of number on the screen and then press the backspace key to remove the number. Enter the number of trials you would like (you can pick as many as 99 trials).
13. Click on the “Choice” button and it will rotate through Keep, Switch, and Random.
14. When you have made the choice you want, click on the Start button.
15. After the simulation has gone through the number of trials you asked for, check the number of wins by Switching and by Keeping.
16. You want to have over 50 trials. If necessary, set in a new number of trials and go through the process again.

**Table 1.**

<b>Number of Trials</b>	
<b>Wins by Keeping</b>	
<b>Wins by Switching</b>	

### Do You Understand?

1. Which was the more successful technique, keeping or switching your original curtain choice?