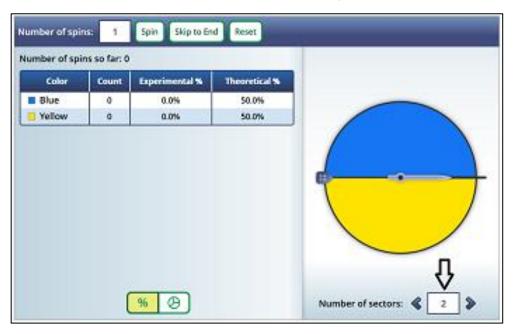# THEORETICAL AND EXPERIMENTAL PROBABILITIES

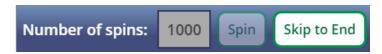1. Go to http://illuminations.nctm.org/adjustablespinner/.

2. Notice that the circle is divided into six equal pieces, called "sectors." Each sector is in a different colour.

3. At the bottom right corner, use the back arrow to change the number of sectors from 6 to 2. This will divide the circle into two equal sectors. One sector is blue and the other is yellow.

4. Spin the spinner one time. What happened in the data table? (What changed? What stayed the same?)

5. Set the number of spins to 10. Spin. (It will spin automatically 10 times, then stop spinning.)

6. Look at the data table. When the number of sectors is two, what is the theoretical probability of the spinner landing on the blue sector?

7. What is the theoretical probability of the spinner landing on the yellow sector? Why does this make sense?

8. You now have data for 11 spins. Capture the image of the data table in the Data Recording Chart in the column labelled "After 11 spins."

9. Describe what happened to the numbers in the data table? (What changed? What stayed the same?)

10. Change the number of spins to 1000. Spin. Suggestion: After you hit Spin, take the option to Skip to End.

11. You now have data for 1011 spins. Capture the image of the data table in the Data Recording Chart in the column labelled "After 1011 spins."

12. Describe what happened to the numbers in the data table? (What changed? What stayed the same?)

13. Leave the number of spins at 1000. Spin again, 10 more times, until you have a total of 11011 spins.

Number of spins so far: 11011

14. Capture the image of the data table in the Data Recording Chart in the column labelled "After 11011 spins."

15. Describe what happened to the numbers in the data table? (What changed? What stayed the same?)