### 3.3 Probability Distributions

Discovery
What pattern do you think the following random phenomena follow (let's say if you repeated each phenomenon 500 times)?

1. The total showing after rolling a pair of dice?
2. The number of heads when flipping multiple coins at once?

3. The final location of a bean falling through the bean machine shown at right?

Use simulations such as those found on the companion website to validate your guesses.
4. What distributions do these behaviors actually follow?
5. Did the results surprise you? Did the patterns follow what you expected?

