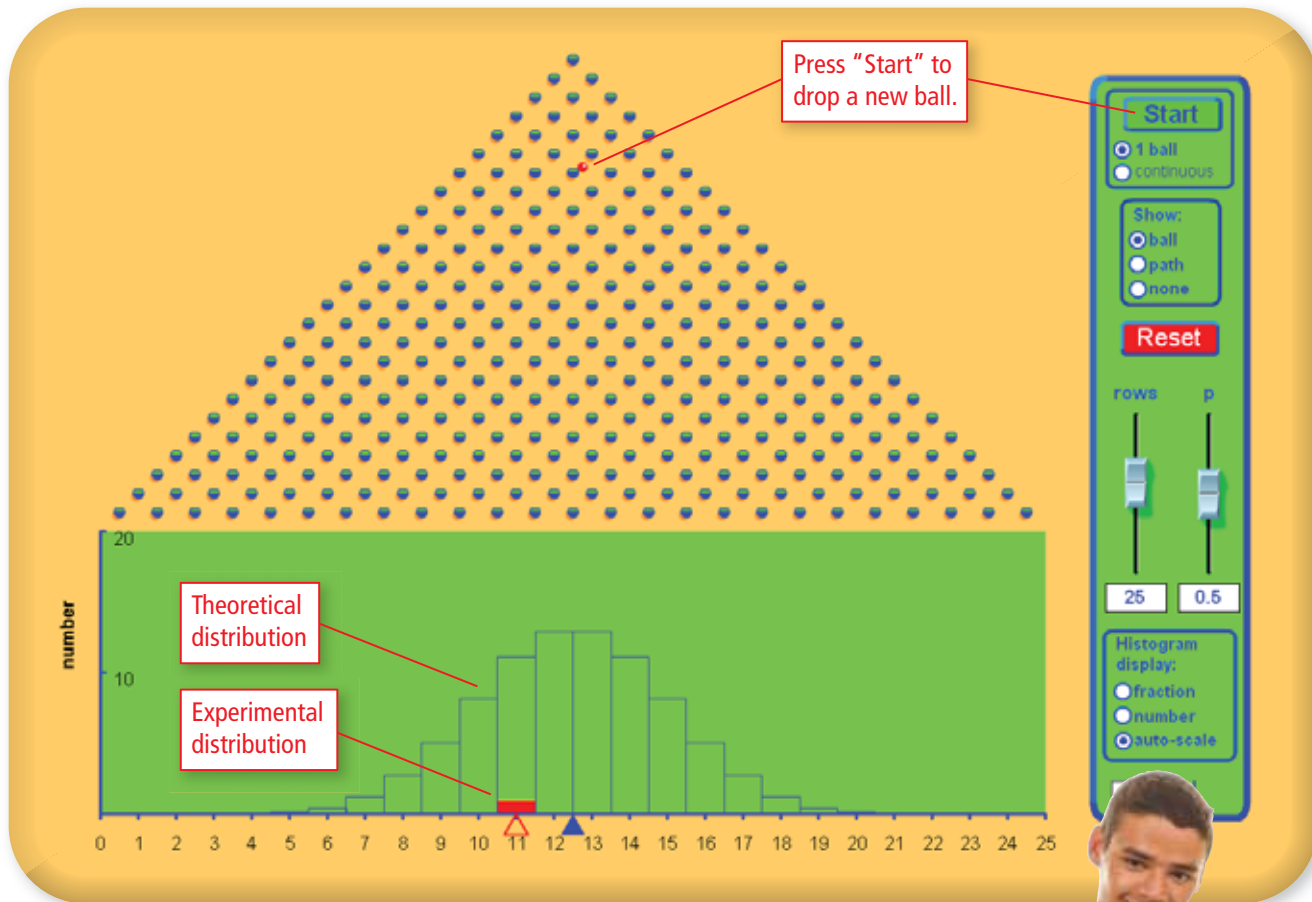


Math & Plinko

PROJECT: Modeling a Binomial Distribution

- Use the *Plinko Simulator* at *Math.andYou.com*.
 - Set the number of rows to 25.
 - Set the probability of falling to the right at 0.5.
 - Drop a ball by pressing “Start.”
 - Drop 99 more balls. You do not have to wait for one drop to complete before starting the next drop.



- Print or copy the distribution. How close is the experimental distribution to the theoretical distribution?
- This type of distribution is called a *binomial distribution*. The name comes from the fact that as the ball hits a peg, it can fall in two ways (right or left). Estimate the probability that the ball lands in each of the positions from 0 through 25. Explain your reasoning.
- Is it possible that a ball lands in position 25? What is the likelihood of this? Explain your reasoning.
- Describe an event in real life that can be modeled by a binomial distribution. Adjust the simulator to fit the event. Run a simulation and summarize your results.

