Activity 13-7: **Theoretical vs. Experimental Probability** Name:

Theoretical probability – determined mathematically
Experimental probability – determined by conducting an experiment

CELEBRITY HUNGER GAMES EXPERIMENT

Based on the book, a tribute has a bit more than a 50% chance of advancing to the next day. After the first day a tributes chance of advancing any given day rises to about 85-90%.

Day 1: Roll two die. If you roll a 8, 9, 10, 11, or 12 the tribute is eliminated.
After day 1: Roll two dice. If you roll a 3, 11, or 12 the tribute is eliminated. If the final tributes are eliminated on the same day, re-roll for that day.

Simulate the 12 person Celebrity Hunger Games five times. In each column record the day the tribute was eliminated.

Player	1st Simulation	2nd Simulation	3rd Simulation	4th Simulation	5th Simulation
Lady Gaga					
Justin Bieber					
Selena Gomez					
Harry Potter					
Kermit the Frog					
Luke Skywalker					
Tony Romo					
Michael Jordan					
Shrek					
Mrs. Buckmaster					
Taylor Swift					
Katniss Everdeen					
WINNER					

1.	What was the theoretical probability Taylor Swift would win?	
2.	What was the experimental probability Taylor Swift would win?	
3.	What was the theoretical probability Kermit the Frog would not win?	
4.	What was the experimental probability Kermit the Frog would not win?	
5.	What was the theoretical probability a male (human) would win?	
6.	What was the experimental probability a male (human) would win?	
7.	Why are theoretical and experimental probabilities not necessarily the same?	

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