

Lesson 1: Did the Creators cheat at the casino?



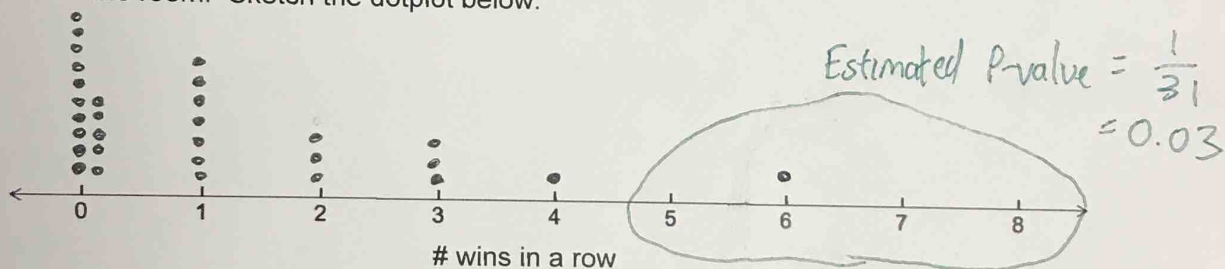
CHOP TOP CHALLENGE

In the final challenge of the Chop Top Challenge, teams were each given \$10 to bet on the roulette table using an "all or nothing" strategy. To keep it simple, teams were only allowed to pick red or black. Each team plays until they lose.

1. The teacher will be in charge of the roulette wheel. Your team will play until you lose. How many wins did you get?

Wins = 2

2. Write the number of wins on a sticker dot and take it to the poster at the front of the room. Sketch the dotplot below.



3. The Creators walked away from the roulette table with \$640 (5 wins in a row!). Is this outcome surprising for a team that is simply guessing? Explain.

Yes! Assuming the Creators were simply guessing, there is about a 3% probability of winning 5 or more in a row, purely by chance.

4. Based on the simulation, do we have convincing evidence that the Creators cheated? Explain.

Yes! Because this result is surprising (less than 5%) we have strong evidence that the Creators were cheating.