

Do People Really Win Soda Cap Contests?

A popular soda company ran a promo contest for their 20 oz. bottles of soda. Some of the caps said, "Please Try Again!" while others said, "You're a Winner!" The soda company advertised their promotion with the slogan, "1 in 6 wins a prize".



Mr. Joel's statistics class wondered if this claim was true. To find out, all 30 students went to the store, and each one bought a 20 oz. bottle of the soda. Out of all 30 students, two of them get caps that say "You're a Winner!"

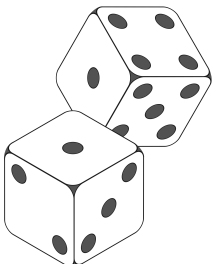
Does this mean that the soda company's claim is false?

We will perform a simulation as a class to explore this question.

1. Roll your die 30 times. Let rolling a 1-5 represent getting a soda with a cap that says, "Please Try Again!". Let rolling a 6 represent getting a soda with a cap that says, "You're a Winner!".

How many students were winners? _____ out of 30

2. Repeat Step 1. How many students were winners this time? _____ out of 30
3. Your teacher will draw a class dotplot. Plot the number of winners you got from Step 1 and Step 2.
4. Once everyone has plotted their data, discuss the results as a class.



- a. What percent of the time did Mr. Joel's statistics class get 2 or fewer winners?
- b. Is it possible that the soda company is telling the truth, but his class just got unlucky?