Case Study 7

The Geeks Who Put a Stop to Pennsylvania's Partisan Gerrymandering

Gerrymandering is the practice of setting boundaries of electoral districts to favor specific political interests within legislative bodies, often resulting in districts with convoluted, winding boundaries rather than compact areas. Gerrymandering in the United States has been used to increase the power political parties; the term "gerrymandering" was coined on a review of Massachusetts redistricting maps of 1812 set by Governor Elbridge Gerry, so named for its resemblance to a salamander (Wikipedia)

Learning Objectives

- Understand how statistics can be applied to solve real world questions
- Understand the process of creating data using a simulation, and the role simulations play when assessing a claim
- Practice using statistics when addressing a question

Read the article below and answer the following questions:

https://www.wired.com/story/pennsylvania-partisan-gerrymandering-experts/

- Outline how Pegden used statistics to provide evidence that Gerrymandering was taking place by answering the following questions below.

– What assumption does Pegden make about the political map in Pennsylvania.

– Under this assumption, how many map simulations were created?

– How unlikely is it to observe Pennsylvania's map under the assumption noted in part 1.

- Chen designed a new way to test this implication. Compare and contrast Chen's procedures versus Pegden's procedures. Do you prefer one procedure over the other? Why or why not?

- How many of Chen's simulation equaled, or was larger than the current number of Republican seats (13).

- Based on the evidence provided above, do you believe Gerrymandering was occurring? Why or why not?

- Brainstorm: Without the use of statistics / simulation, do you think they would have come to the same conclusion based on looking at the map alone? Why or why not? **Compare how you believe a general audience would react to the accusation of Gerrymandering based on the two different types of evidence.** Post your answer on the discussion board "Gerrymandering" on D2L.

- Reflect on the learning objectives above. If you have any questions or comments, please post on the "Gerrymandering Questions" discussion post.