

## Introduction to Statistics

### Activity 1.3b

NAME: \_\_\_\_\_

### Letter Memorization

I distributed a sequence of letters and gave you 20 seconds to memorize as many as you could. Record how many you remember correctly, in the right order. \_\_\_\_\_

Every person received the same sequence of 30 letters, but they were presented in two different groupings. One group received

**JFK-CIA-FBI-USA-SAT-GPA-GRE-IBM-NBA-CPR**

and the other received

**JFKC-IAF-BIU-SASA-TGP-AGR-EIB-MN-BAC-PR**

Similar experiments have shown that those receiving the letters already organized in familiar chunks are able to memorize more than those with the less memorable groupings.

- a) Explain why this study is an experiment and not an observational study.
  
  
  
  
  
  
  
  
  
  
- b) Identify and classify the explanatory and response variables in this study.  
Explanatory: \_\_\_\_\_ Type: \_\_\_\_\_  
  
Response: \_\_\_\_\_ Type: \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
- c) Explain how random assignment was implemented and why it was important in this study.
  
  
  
  
  
  
  
  
  
  
- d) Explain how blindness was implemented and why it was important in this study.

- e) On the board, your instructor will calculate the average memory scores for the two treatment groups. Comment on whether these experimental data appear to support the conjecture that those who receive the letters in convenient 3-letter chunks tend to memorize more letters.
- f) If the JFK group does substantially better than the JFKC group, could you legitimately conclude that the grouping of letters *caused* the higher scores? Explain how you would respond to the argument that perhaps the good memorizers were in the JFK group and the poor memorizers were in the JFKC group.