

1. In your own words, talk about the similarities and differences between a completely randomized design and a randomized block design.

2. Recall the study of treatments for children's cough symptoms from Problem Set #6. (Use the COUGH dataset.)
 - (a) Run a one-way ANOVA and interpret the individual 95% confidence intervals for the three different treatment means. (So there are three intervals to interpret here.) Do any of these intervals overlap? What might this suggest?

 - (b) Find, and interpret, Tukey Simultaneous 95% confidence intervals for the differences of the treatment means. (Again, there are three intervals to interpret.) Based on Tukey's procedure, rank the treatment means.

 - (c) Which method for comparing means, (a) or (b), is preferred? Why?

 - (d) Write a short paragraph addressed to a general audience that summarizes the results of this study. In particular, can we conclude that honey is *causing* a higher average improvement score? Explain.

3. Do 10.79 on p. 551 (I apologize in advance for this one, but it's the only good problem I could find!). In addition to the four parts in the book, answer the following. (Use the COWS dataset.)
 - (e) Why is it reasonable to block by cow?

 - (f) In your analysis, you should have found only two of the treatment means to be significantly different. Find, and interpret, a 95% confidence interval for the difference between these two means. (**Hint:** Use Stat→Basic Statistics→2-Sample t... and select summarized data. Use the s from the ANOVA (under Model Summary) for the standard deviation for both samples.)