Statistical Reasoning in Sports – Chapter 12 Mini – Project

Today you will work as a team using what you have learned in Chapter 12. Investigate the MLB Team Batting Statistics from the last season and use what you find to determine a variable that is useful in predicting wins and to determine a variable that is not useful in predicting team wins.

- First use the *Two Quantitative Variables* applet and the data posted in our Google Classroom to investigate the association between various *Team Batting Statistics* and *Team Wins*. Look for a statistic that has an especially strong association and a statistic that has an especially weak association.

- For each of the statistics (one with strong association and one with weak association) complete a significance test by answering the following questions. You may find the example on pages 542 and 543 helpful for this.

  - Plot your data – be careful with labels, scales and title, but it's ok to be approximate with the data points (use the applet to help with this).
  - Calculate the correlation.
  - Describe the association in the scatterplot.
  - State the appropriate null and alternative hypothesis.
  - Describe the evidence for the alternative hypothesis.
  - What are two explanations for the evidence?
  - Use the applet to run at least 1000 simulations and find the estimated p-value.
  - What conclusion should you make based on the p-value?

- Present your work on poster paper, one statistic on each side. Do careful and neat work. With time use markers, colored pencils and such to make it more presentable. Be sure to put everyone's first and last names on the poster.

- Due at the end of class.