The Task: With your group, determine some characteristics of the Senior Class at RHS that are of interest to you. You will be conducting a survey of randomly selected seniors, and then using the results of the survey to form conclusions about the entire Senior Class as a whole.

Conclusion 1: Construct a confidence Interval to estimate a proportion or mean.

Conclusion 2: Conduct a hypothesis test about an assumption or question of interest.

Your surveys should have about 3 – 5 questions. Consider including anything that will help you analyze your results, such as gender or involvement in a particular activity.

Due Thursday 4/9:
- Draft of the survey
- What characteristic of the senior class will you *estimate* from your sample survey?
- What *hypotheses* will you test using the data from your sample survey?
- Requirements for selecting the random sample (is it a simple random sample? Or stratified by gender? Or something else?)

Your surveys need to be approved by me and finalized before you can begin.
Next week we will select the samples and distribute the surveys.
Once your surveys start coming in, you can begin entering the data in a spreadsheet. Each question should be a column in the sheet, and each row should be the responses to an individual survey.

Once you have collected all the data, you can begin analyzing the results and conduct your inference procedures.

The Presentation: Your presentation should contain the following components:

A. Purpose: Discuss your objectives, including what information you are trying to obtain about the senior class. Why is this topic interesting to you? Include the parameter you are estimating, and the hypotheses you will be testing.

B. The Sample: Describe how you selected the random sample (e.g., SRS or stratified). Give the results of how many people returned the survey. Did you get at least 90% returned?

C. The Survey: Include a blank copy of the survey that you used.

D. The Data: Present the data in both tabular and graphical formats. For categorical data, include pie charts and or bar charts. For quantitative data, include histograms and/or boxplots. Include any other tables or graphs that you think help display the data in a meaningful way.

E. Analysis: State, Plan, Do, Conclude for the estimate AND for the hypothesis test. (ALL FOUR STEPS FOR EACH ONE!!!!)

F. Reflection: What did you learn about the senior class from doing this study? Were there any surprises? What did you learn about doing a formal study from doing this study? Were there possible sources of error (bias, confounding, etc.) and what were their effects on the data? How confident do you feel in your statistical conclusions? What would you do differently next time? Is there any follow up that is suggested by your findings?

Description of Project Presented	Grade
• Submitted Inference Questions and Survey on time and as specified. • Achieved at least 90% return on surveys using randomly selected Seniors • Correctly entered data in Minitab for inference procedures; Correctly applied inference procedures; Showed necessary graphs and summaries for analysis. • Analysis and conclusions are justified by sound statistical support and correct vocabulary; Summary includes answers to all of the questions posed • Individual contributed fully to the success of the project, sharing equally in the workload. • Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project. Evidence of extra care for precision, accuracy and clarity are also apparent.	A
• Submitted Inference Questions and Survey as specified late or incomplete. • Achieved between 80-90% return on surveys using randomly selected Seniors. • Correctly entered data in Minitab for inference procedures; Applied inference procedures essentially correctly; Showed most of the necessary graphs and summaries for analysis. • Analysis and conclusions are justified by statistical support that is essentially sound; Summary includes answers to all of the questions posed. • Individual contributed to the success of the project but relied somewhat more on others to achieve the final result. • Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project. Evidence of extra care for precision, accuracy or clarity is also apparent.	B
• Submitted Inference Questions and Survey as specified late or incomplete. • Achieved between 70-80% return on surveys using randomly selected Seniors. • Correctly entered data in Minitab for inference procedures; Applied inference procedures with one or two small mistakes; Missing more than one necessary graph and/or summaries for analysis. • Analysis and conclusions lack clear statistical support in several aspects; Summary includes answers to all of the questions posed. • Individual contributed to the success of the project but relied on others frequently throughout, and to achieve the final result. • Final result shows evidence of thoughtfulness and clear attempt to produce an academically sound project.	C
• Achieved between 60-70% return on surveys using randomly selected Seniors. • Entered data in Minitab for inference procedures; Applied inference procedures with multiple mistakes; Missing most or all necessary graphs and/or summaries for analysis. • Analysis and conclusions lack clear statistical support in multiple aspects; Summary of answers to all of the questions posed lacks clarity. • Individual contributed to the success of the project but largely depended on others throughout, and to achieve the final result. • Not all requirements met to at least the minimum level, and/or final result shows evidence of careless work, or lack of thoughtfulness, or lack of academic sincerity.	D
• Project not submitted, or submitted with a majority of the requirements lacking.	E