Names: Per:

AP Statistics: Second Semester Project: Experimental Design and Inference (200 points)

Report and presentation (parts explained):

I. Data Report (40 points): This section should be a thorough explanation of how you collected your data and be a beautiful example of how much you've learned this year about the difficulties getting a representative sample. Examples of what you should include are:

- How you collected your data
- Why you are confident your sample matches your population
- Biases avoided and not avoided
- A copy of any survey that was filled out
- Your data: either in "Excel" format or in a table/matrix summary. You need at least 75 people/subjects for each group you want to compare. Your data should be broken up by any category you want to compare.

II. Exploring the Data (50 points)

- This section should be an outstanding example of exploratory data analysis (the first unit in our text). Graphs should show the comparisons between all relevant groups you are comparing. You should state any preliminary conclusions that can be drawn by using your eyeballs.
- Graphs of your data
- Statistics from your data
- Descriptions of the graphs and statistics.
- Extra Credit for using DataDesk!

III. Analyzing the Data (50 points)

Analyze your data using whatever method(s) is appropriate for your data. Your conclusion should be nicely written using all appropriate statistical support. Remember that confidence intervals can be a powerful method for comparing different groups.

- Hypothesis Test (with conditions checked) and/or
- Confidence Intervals (with conditions checked) and/or
- Regression
- Your Grand Conclusion!
- Extra Credit for DataDesk

IV. Presentation (40 points) Must include:

- Clearly communicate your question and how you collected your data (5 pts.).
- Visually display graphs of your data—PowerPoint (if you must), overhead, poster, or video (5 pts.). I do not want a pretty poster that summarizes your whole project. I want you to make a visual aid that shows the class how your data came out. There should be only minimal text on your visual aid—titles and big numbers—not any explanations.
- Clearly communicate your conclusion (5 pts.).
- Be interesting to listen to and give us some sort of "hook" to inspire us to listen (5 pts).
- Do not read off your visual aid—use note cards or your report. Be careful how you communicate numbers to the class—too many numbers at once is confusing, as is too many decimal places.

V. Success!? (20 points)

I will evaluate the overall success and difficulty of your project. More challenging data collection issues add to your score. Small sample sizes or an overly simple question will lower your score. Making all deadlines is included in this section.

Details You Should Know

- Make your own copies of the data, etc. Once you turn in one part of your report, I need to keep it.
- Don't get lazy—this is to be the summation of what you've learned all year.
- Please type your paper. Hand-done work is acceptable for some graphs, etc if it is done very neatly.
- Your work should be thorough and nicely written. Bullet points can be used to delineate a list of observations. Clear communication and thorough analysis is necessary for full credit.

Due dates: Do not lose this paper or you will miss the following points:

_____ Partners approved	_____ Topic approved	_____ Experimental Design approved	_____ Data Check
03/22	04/12	04/19	05/15

Final Report is due 05/20 and presentations are to be completed by 05/24.

Except the final report which is to be turned in ON 05/20 (no exceptions), any portion may be turned in early.

Note doing a survey instead of an experiment is worth a maximum of 85%!