

AP Statistics Second Semester Project

You will identify a topic of interest to you, develop a questionnaire to learn about people's attitudes against the population, and do an analysis of their responses. **OR** develop a question you want to answer by conducting an experiment and analyze the results.

This project is due: TWO WEEKS AFTER THE AP EXAM IS TAKEN.

BEFORE THE SPRING BREAK, YOU WILL HAVE TO GIVE A WRITE UP TO ME AS TO YOUR PROGRESS.

- (1) The question of interest must be approved by Mr. Nelson.
- (2) The project must be typed and graphs done neatly.
- (3) You will present your work as a powerpoint presentation with a poster board for display in class.

Survey:

- (4) The survey should have enough well-written questions to cover your topic, an understandable write-up of the survey design including how your sample was chosen (especially how it was representative and random), how you decided upon the sample size. You must use a random sample from whatever population you might be generalizing to, even if it means that you may have too small a sample to generalize from. It cannot be done from students at VMHS. It must be done from the community.
- (5) Discuss the ways in which your questions might have been adjusted to possibly elicit somewhat different answers (discuss the effect of the wording of questions on the responses). Are there areas in which anonymity might affect the responses to "sensitive" questions?
- (6) Use appropriate data analysis and graphical techniques that we have studied in the course (Chapters 1-3).
- (7) Be sure to discuss possible sources of error (bias, lurking variables, etc.) and their possible effect on the data. What did you do to limit the damage (Chapters 4-5)?
- (8) Use hypotheses and inferences studied this semester to discuss your conclusions and answers to your initial question.
- (9) Include a one-page "press release" for a newspaper or magazine with the write-up that could be given to someone who knows nothing about surveys or survey design could understand.
- (10) Include this page and make sure your work is thorough. The more effort and challenging the survey, the more points you will receive.

OR

Experiment:

- (4) The experiment must have a question that you want to answer. You must surmise as to what the results will be. Will this influence your decisions and/or results? Discuss how you chose your sample and how the experiment was randomized (Chapter 5).
- (5) Discuss your experimental units, factors, levels, treatments, blindness, control group, and confounding variables (Chapter 5).
- (6) Discuss in detail the design of your experiment---from the beginning to the completion. Do not forget the three principles of Experimental Design (Chapter 5).
- (7) Use appropriate data analysis and graphical techniques that we have studied in the course(Chapters 1-3).
- (8) Be sure to discuss possible sources of error and their possible effect on the data. What did you do to limit the damage?
- (9) Use hypotheses and inferences studied this semester to discuss your conclusions and answers to your initial question.
- (10) Include a one-page "press release" for a newspaper or magazine with the write-up that could be given to someone who knows nothing about experiments or experimental design could understand.
- (11) Include this page and make sure your work is thorough. The more effort and challenging the experiment, the more points you will receive.