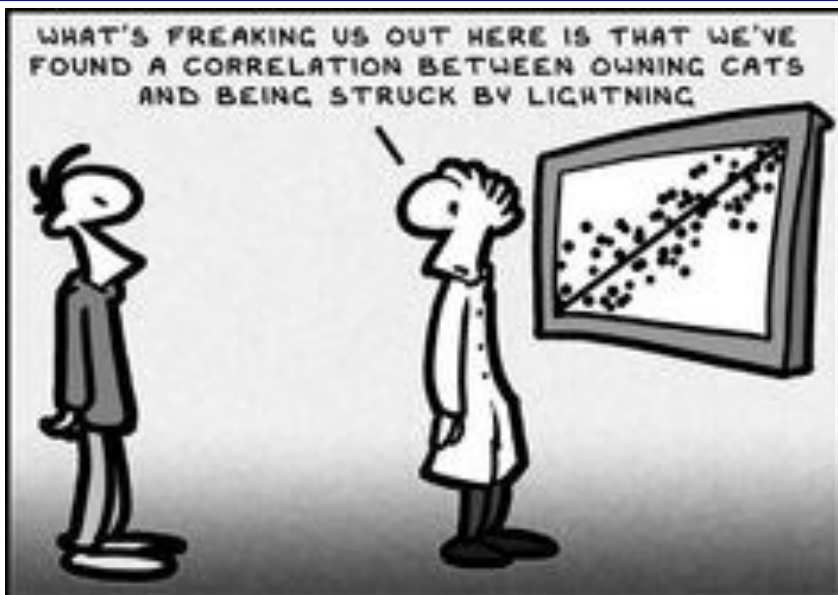


AP Statistics

Unit 12: Overall Test Preparation & Final Project

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
	16 ???	17 Go over Unit 11 Tests & Mock Exams	18 Go over Mock Exam Introduction to Study Groups Introduction to Project	19	20 Project Work	21
	23 Research Question Due 	24 Project Work	25 	26 Organized Data Due 	27 Project Work	28 Study Session Horizon H.S. 10:00-12:30
	30 Exploratory Data Analysis Due 	1 Inference Analysis Due	2 	3 Project Paper Due 	4 Project Work	5 AP Stats Study Guide  https://bit.ly/2EQQc41
	7 Project Presentations 	8 "How do I use that formula sheet anyway?"	9 Seniors' Last Day	10	11	
	14 Graduation 	15	16	17 AP EXAM 12:00 ESC 	Larry Green Review Activities  https://bit.ly/2HuHcqk	



Project Expectations

You and your team should refer to this page for the project expectations. See the unit calendar for due dates for each portion of this project.

Research Question

- Identify a question that is interesting, appropriate, and worthy of investigation
 - Your question must lend itself to data that can be analyzed using the methods learned in class
 - You are expected to get your question approved prior to collecting data
 - Form appropriate hypothesis to guide your investigation
- ### Data Collection
- Data can come from three sources: A well-designed and carried out survey, observational study, or experiment. Your data collection procedure should accurately reflect the question being researched.
 - A full, detailed description of the collection procedure should be included in your final report. Thoroughly describe the procedure in terms of the methodology learned this year.
 - Organize raw data in a spreadsheet (or on the calculator) and include in your final report.

Exploratory Data Analysis

- Analyze raw data using appropriate graphical and numerical procedures.
- Describe shape, outliers, center, and spread of datasets in the contexts of your research questions.
- Include appropriate graphical displays and numeric summaries/descriptions in your final report.
- Interpret the EDA in the context of your research question.

Inference

- Form appropriate hypotheses to answer your research question.
 - Check appropriate conditions for your test of significance.
 - Show all applicable work: Sampling Distribution, Test Statistic, Calculation, p-value, etc.
 - Answer your research question based on your inferential calculations.
- ### Final Paper/Presentation
- You are expected to write up your findings in a final report. This report should follow a standard academic format and should include a section for each task noted above.
 - You and your team will present your findings to a panel in a 5 minute presentation with time for a question & answer session. You are expected to incorporate visuals - Powerpoint, etc.

You will need to provide contact information for 2 potential panelists, one person in the building and one person outside.

Requirements of the paper & presentation

Your paper and presentation should consist of a summary of your research and experiment/survey as well as your personal conclusions. Use the following format:

- Title Page—including: title of paper, your name(s), class (AP Statistics), year
- Introduction (state topic, project goals and direction)
- Describe the project by discussing your question of interest, why you chose it, how you collected your data, and how you planned on analyzing it
- Summary of Experiment (methods, analysis, charts, graphs of results)
 - Describe, in detail, how you collected your data. If you performed an experiment, include a diagram along with your discussion. If you sampled students or others, describe your sampling procedure. Be sure to include a discussion of the potential problems with your data collection and any improvement you would make in future studies.
- Summary of Research (data, statistics, charts, sources)
- Perform an analysis on your data. Describe your findings using numeric summaries along with the appropriate graphs: histograms, bar graphs, scatterplots, etc.
- Perform an inference procedure on your data. Thoroughly describe the inference test, showing detail in conditions, calculations, etc. Write a conclusion in the context of your problem.
- Final Summary of Project
Conclude with an overall summary of your findings. Be sure to answer your original question of interest. Also, include a reflection that describes how you could improve your study. What were the limitations of your project? How could you address those to better answer the question of interest?

Your ultimate goal is to demonstrate an understanding of the connections between collecting, analyzing, and using statistics to answer a question of interest. Use this paper and presentation to illustrate these connections with respect to the context of your question.

Final Project Grading

Introduction (state topic, project goals, and direction)
10 points: Full explanation of research question, methods, etc.

Data Production (methods, analysis)
20 points: Complete description of data collection methods, etc.

Exploratory Data Analysis (data, statistics, charts, graphs)
20 points: Complete data analysis (graphs, explanations in context)

Inference (define parameter, appropriate test)
20 points: Appropriate Test (parameter, Hypotheses, conditions, test, interpretation)

Final Summary of Project (conclusion and reflection)
15 points: Contextual conclusion, Limitations of study/recommendations

Presentation
15 points: Presentation of Results, complete with visuals

 /100 Total Project Score