Statistics Project

You will be conducting research. As a group of 2 (3 with approval), you will decide on at least two items to research/observe. You will need to manipulate this data, so at least one must be numerical information.

Once you decide what you are researching, then you must design your study. Use an observational study, controlled experiment, or survey to gather the information. You must explain what sampling method you will use (convenience, random, self-selected, or systematic) or it can be a census (survey every member of the group). Please be detailed in the plan. I need to be able to recreate your study if needed.

Next, obtain the data. For the numerical data, find the mean, median, mode, and standard deviation. Construct two charts: a box plot and a frequency distribution. These can be from two different data items or the same item.

Finally, summarize the results by explaining what was learned from the data. Can this be applied to a larger population? Was there bias in the collection of data? You need to state the conclusions of the study.

You will be writing a report. The report will include the following sections and information:

- Introduction
    - What are you researching? You need at least two items to research/observe. One of these must be numerical data.
- Methods
    - How did you collect the data?
    - What sampling method did you use?
    - What type of study was it?
    - If it was a survey, what questions did you include?
- Results
    - (Attach your data to the report)
    - Find the mean, median, and mode for the numerical data.
    - Create a box plot for the data.
    - Report the standard deviation.
    - Create a frequency distribution for the data.
- Discussion/Summary
    - What did you learn from the data?
    - Is there a possibility of bias in your data? Why or why not?
    - What does the data tell you; does this relate to a larger population?