GEOG 213

Lab One Write Up

Section I: Abstract

The purpose of lab one was to apply the scientific method to a proposed question and complete the steps of the scientific method. The stated question was "Where do people on this part of campus come from?" (Planet Earth Lab, pg. 3) By using the scientific method, a problem was identified, hypothesis was created, predictions were generated, an experiment was implemented, while we made observations and various notes of our results. Once we had tallied all the results, a conclusion of the experiment could be obtained, which may or may not support the established hypothesis.

Section II: Background

The scientific method can be used to solve any problem, in this case to collect data on vehicles on campus and measure the findings against given statistics. Texas A&M University published a demographic statistic in 2012 stating, "96.6% of undergraduate students at Texas A&M are from Texas." (Planet Earth Lab, pg. 10) The auto industry also published a statistic stating, "12% of vehicles produced in the United States are pickup trucks." By forming a hypothesis, each group and class were able to decide if the given hypothesis formulated from the statistics was supported by the findings.

Section III: Question and Hypotheses

The overview of the lab asked, "Where do people on this part of campus come from?" (Planet Earth Lab, pg. 3) Different interests in this lab include what kind of vehicles do students drive and what state they are from by their displayed license plate. By counting cars vs. pickup trucks and license plates by state, we are able to answer the question of the lab and evaluate our generated hypothesis. The devised hypothesis is given that there are 100 vehicles in a parking lot, 3 vehicles are out of state and 12 vehicles are pick up trucks. The hypothesis was made on the basis of the two given statistics in the lab manual. By making predictions and testing the hypothesis, we were able to answer the overview question of the lab and implemented the scientific method while doing so.

Section IV: Experimental Design

The data was collected by going out into a designated parking lot and counting vehicles and displayed state license plates. The group I was placed in, Group 3, counted vehicles in lot 55 in the center 4 rows (Figure 1.4, Planet Earth Lab, pg. 7) In these four rows, 7 trucks and 73 other vehicles were tallied all within the state of Texas.

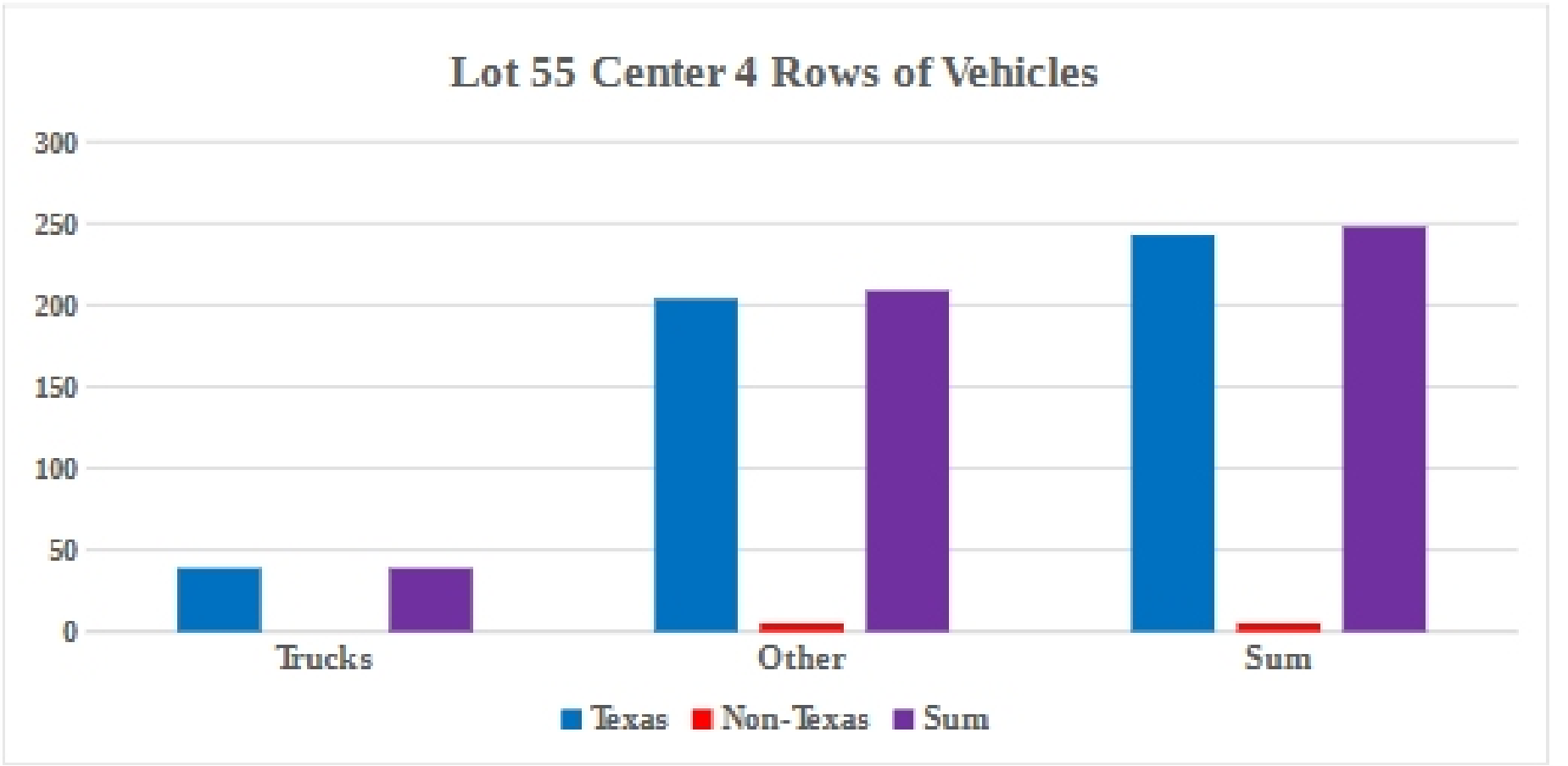
Section V: Limitations

A few factors that could affected our data collection were vehicles leaving and arriving, time of day, weather, and whether or not the vehicles were undergraduate cars or staff cars. The formulate hypothesis from one of the given statistics was based on undergraduate student cars,

not the variation of people parking on campus such as staff, visitors, and graduate students. Also, deciding what a car and pickup truck could fluctuate our results. Is a pickup truck only defined with a bed or open like a jeep or a large SUV? Our group only considered trucks as a something with an actual bed-pickup truck. If we would have selected more variation in what a truck was our results would have changed drastically.

Section VI: Results

The entire class tabulated 39 trucks all in Texas and 209 other vehicles with 5 being out of state vehicles shown in the chart below.



After going outside and physically counting vehicles into the appropriate columns, data was put into an Excel spreadsheet and tabulated. These results helped our group to interpret the data and discuss if the results supported our hypothesis.

Section VII: Discussion/Conclusion

This lab helped the class understand how to us the scientific method in the proper way, not the "water downed" version. The scientific method is important in computing and completing an experiment. It always biases to be taken out, specific tasks to be completed, and always students to have a better understand of what they are being asked to do. This specific lab allowed everyone in class to go down the check list of the scientific method and see how it was applied to our experiment. This will allow us in future experiments to implement the scientific method in a correct way and to achieve our goals for future experiments.

Bibliography

GEOG 213

Texas A&M University Geography Department. 2016. *Planet Earth Lab Manual*, Plymouth, MI:

Hayden-McNeil Publishing