Tuva: Making Data Visible

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Liberty Christian Academy
Room 170

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Resources:

1. Tuva Homepage: https://tuvalabs.com/
2. How to Create an Activity in Tuva: https://tuvalabs.com/support/create_activities_with_tuva/
3. Tuva How-to Videos: https://tuvalabs.com/support/videos/
4. Introductory Webinar: https://tuvalabs.com/support/webinars/
5. All About Us Dataset: bit.ly/lcarsp

All About Us Project Steps:

1. Create a survey on Google forms or other survey site.
2. "Clean Up" the data to delete units, data entered in word form, shorten headers, etc.
3. Export the data as a CSV file (File > Download As > Comma-separated values)
4. Upload the data to Tuva and set access to "Anyone with link"
5. Share the dataset link with students. Optional: Create a bit.ly link for easy access.
6. Create questions for students, or have students create questions. See the next two pages for the questions our students answered.

Name _____ All About Us – Tuva Exploration

Class Period_____

1. Show the case cards. How many students took this survey? _____

2. Show the table view. How many siblings does case 150 have? _____

3. Drag the siblings attribute to the x-axis. Make an observation:

4. How many pets does the person with 8 siblings have? _____

5. Did more boys or girls take this survey? _____

6. Drag the school attribute to the y-axis. Make an observation:

7. How many people did not follow directions on “What year were you born?” _____

8. Drag height to the x-axis. Exclude outliers. Drag school to the y-axis. Identify the mean of each school.
RSP _____ (rounded to the nearest whole number)
LCA _____ (rounded to the nearest whole number)

9. What’s the difference in the average of the two schools? _____

10. Drag bellybutton to floor height to the x-axis to replace height. Exclude outliers. Identify the mean of each school.
RSP _____ (rounded to the nearest whole number)
LCA _____ (rounded to the nearest whole number)

11. What’s the difference in the average of the two schools? _____

12. Write an observation and conclusion about your answers on #9 and #11.

13. Write a prediction about what the average difference between schools will be when we look at head circumference.

14. Change the x-axis to head circumference, and remove school from the y-axis.
Identify the mean. _____

15. Discuss and remove the outliers. Identify the mean. _____

16. Explain the error in this statement. “The students in 4th and 6th grade have an average head size of 23 inches.”

17. Drag school to the y-axis. What do you notice? Was your prediction correct?

Here are some questions to work out on your own. Read each question and decide what information is needed to answer it. Drag those items to the correct axis. Remember to reset before each question.

18. Who is taller...girls or boys? _____ How do you know?

19. What is the average number of letters in students’ names? Remember to exclude any outliers that seem unreasonable before answering this question. _____

20. What are the most popular birthday months? _____

21. What are the least popular birthday months? _____

22. How many students have more than six pets? _____

23. Mrs. Proffitt says, “Most students are car riders.” Is this true for both schools? Explain.

24. Mrs. E says, “Something doesn’t look right with hand width.” Do you agree? Explain.

25. Get a ruler and decide which hand width values you think should be excluded. Once you have excluded all of the unreasonable answers, what is the mean?

26. Write your own good question here that involves one or two of the attributes. Include the answer.

Public Datasets found on Tuvalabs.com
Taken from https://tuvalabs.com/datasets/list/

Click on the title below to view the dataset

Altura y Peso 6–16 Height, weight, and more attributes of kids 6-16 in Spanish.
Animales del Mar Size, speed, and more attributes of marine animals in Spanish.
Arby's Menu Nutritional information of Arby's menu items.
Can Plants Save the World? Change in forest cover, CO_2 emissions, and threatened species.
Census At School - Clean Data Favorite activities, technology use, etc. of 500 kids.
Chesapeake Bay: Underwater Bay Grass Density of bay grass and how much of the Bay has been mapped.
Devastating Earthquakes Magnitude, longitude, and latitude and years of earthquakes.
El tiempo de San José Weather from 2014 in San José, Costa Rica in Spanish.
Elements in the Periodic Table - Part I Includes column, atomic number, natural state, etc. for all elements.
Estimated Streamflow: Chesapeake Bay Amount of water that flowed into the Bay over 1.5 years.
Global Warming and Arctic Sea Ice How has sea ice changed from 1979 to 2014
GMOs, Pesticides, and Bee Population in the US Changing number of bee colonies and pesticide use over the past 74 years.
GMRI Green Crab Data Data collected on an invasive crab species by middle school students in Maine.
GMRI Purple Loosestrife Data Data collected on an invasive plant species in Maine.
Greenhouse Gas & Ocean Acidification Acidity of oceans and greenhouse gases from 1990 to 2011.
Historic Drought in California Average temperature and precipitation from 1970 to 2013.
Hurricane Sandy, Her Brothers and Sisters Data showing latitude, longitude, wind speed, and pressure of 654 hurricanes
Land Animals Length, weight, and speed of land animals.
Man's Best Friend - Part I Weight, life expectancy, and disposition towards children of different dog breeds.
Mochilas Weight of backpacks of students in grades 4 and 6 in Spanish.
Music Project Music preference questions such as genre and how often people listen to music.
NYC Employment Data 2014 Age, gender, education, employment, income, etc. of New Yorkers.
Ocean Animals Length, weight, speed of ocean animals.
Pixar vs DreamWorks Budget, profits, and ratings of movies.
Pizza Sizes and Toppings Crust types, toppings, and diameter of pizzas from 2 different restaurants.
Plastic Sold, Recycled, and Wasted How much plastic has been sold, recycled, and wasted in the US.
Popular Pets Number of pets in average households and veterinary costs.
Population of the Bronx by Zip Code in 2010 Area, population, and population density.
Presidents of the United States Info on presidents including years served, salary, religion, number of children, etc.
Projectile Motion of a Steel Marble Multiple recordings of a steel marble begin thrown through the air at different angles with varying velocity.
Radiosonda Data from a weather balloon in Spanish.
Río Barranca River data in Spanish.
Speed of Sound Speed of sound through various materials.
Survivors of the Titanic gender, age, passenger class, and names of passengers that survived and died
Viruses and Bacteria Information about different bacteria and viruses such as reproductive rate, survival time on surfaces, etc.
Weather Balloon Data Weather balloon data collected by high school students in Indiana.