Textbook Activity
Day 2

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These questions will be completed by the student and will count as class time. The students will be responsible for completing the work related to these activities and this work will count as attendance.

This work is due first thing during class on Day 3. Failure to turn in this work will cause you to be 2 hours out without an excuse.

Directions:
Read Chapters 2 AND 3 of EYCLS, pages 17 to 60

Please use the lecture slides and your textbook to answer the following questions:

- List the appropriate charts to use with categorical data

  BAR CHARTS, PIE GRAPH

- List the appropriate charts to use with numerical data.

  LINE CHART, SCATTER PLOTS

- Give an example of a chart used with numerical data and discuss its possible use.

  AN EXAMPLE OF CHART WITH NUMERICAL DATA IS A BAR GRAPH THAT SHOWS HOW MANY PEOPLE LIVE IN EACH COUNTY IN FLORIDA. IT COULD BE USEFUL TO COMPARE TRENDS, SUCH AS HOUSE VALUE IN RELATION TO POPULATION.

- A gaming company conducted a survey among its customers to determine with gaming console, among 5 different ones, was most popular.

    - What would be an appropriate chart to use to display this data?

      PIE CHART

- **Why?**

  THERE'S ONLY 5 CATEGORIES AND PIE CHARTS ARE
  GOOD FOR THINGS WITH A SMALL AMOUNT OF CATEGORIES

- When would it be appropriate for a statistician to use the median over the mean of a data set?

  THE MEDIAN IS JUST THE MIDDLE POINT OF DATA WHEREAS

  THE MEAN IS THE AVERAGE. THE MEDIAN IS THEREFORE

  MORE HELPFUL WHEN YOU WANT TO DETERMINE IF THE
  CENTERPOINT IS LOW OR HIGH (1·5 STARS, MEDIAN OF 2 IS LOW

- What are the differences between histograms and bar charts? RATINGS)

  HISTOGRAMS DON'T HAVE THE GAPS BETWEEN BARS THAT

  BAR GRAPHS DO. A HISTOGRAM ALSO DEALS MORE WITH

  NUMERICAL DATA AND A BAR GRAPH WITH CATEGORICAL.

- What is the mean? How do we calculate? Is the mean always reliable? Why or why not? If it is not reliable, what measurement can we use?

  THE MEAN IS THE AVERAGE OF A DATASET AND CAN

  BE FOUND BY ADDING THE DATA TOGETHER AND

  THEN DIVIDING BY THE NUMBER OF VARIABLES IN A SET.
  THE MEAN CAN BE FAIRLY USELESS WITH HIGHLY SKEWED
  DATASETS THOUGH - IN WHICH CASE, THE MEDIAN IS A BETTER CHOICE.

- What is the median? How do we calculate it when we have an odd number of data points? How do we calculate it when we have an even number of data points?

  MEDIAN IS THE MIDDLE POINT OF A DATA SET AND

  CAN BE FOUND BY ORDERING THE NUMBER SET FROM

  SMALLEST TO LARGEST, THEN 1) IF IT'S ODD AMOUNT OF

  NUMBERS, JUST FINDING THE MIDDLE-MOST NUMBER OR

  2) ADDING THE TWO MIDDLE-MOST TERMS AND DIVIDING BY 2.

- Define, in your own words, what a *z-score* is. What is its usefulness?

A Z-SCORE IS THE NUMBER OF STANDARD
DEVIATIONS (SQUARE ROOT OF THE VARIANCE) FROM THE
MEAN A CERTAIN DATA POINT IS.