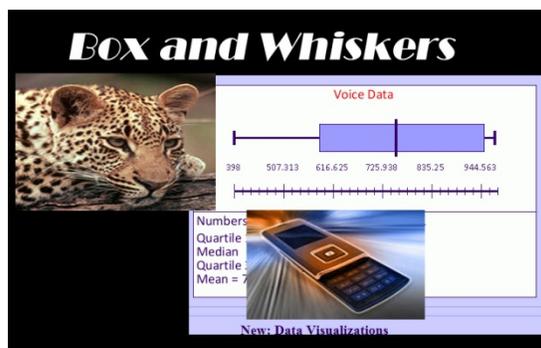13. Dig the Data Quest 3 Whiskers

Briefing

In this Quest you will analyze information to determine the best cell phone plan for 6 relatives, or members of a household, based on data for their different ages (teenager under 18, 20, 43, 46, 63, and 66 years old). This is different than the activity in Quest 2.In this Quest you will use *Box and Whiskers* graphs to help analyze the data to make your recommendation. Being able to find, organize, and analyze data is an important skill you are likely to use for future employment and courses you take. You may have some opinions or ideas on the best cell plan, but a *Box and Whiskers* plot will give you a fresh way to look at the plans.

Your task is to make a recommendation on how many voice minutes and text messages should be included in a family plan to meet the most needs. It is likely that not everyone will get what they want and compromises will need to be made. The data you will be using is based on national statistics by age group.

We recommend working with a partner as you do this Quest.

Steps:

1. Click this link and watch a tutorial from brainingcamp on *Box and Whiskers* plots. (Full URL http://www.brainingcamp.com/resources/math/box-plots/lesson.php)

2. Download and open this Whiskers data spreadsheet (xls file), or open and make a copy of this version in Google Drive .

3. Download one of the number line documents provided here (Number line.pdf , or this version in Word doc.) to use for your plots in step 4.

4. With a partner (or on your own), create two separate *Box and Whisker* Plots. Create one plot using the data for voice, and a separate plot for text message data on the provided number line.

5. Check your plots by entering your voice data and then text message data into this interactive site (mathwarehouse). Take a screen shot of each of the plots created using the mathwarehouse site. (Full URL http://www.mathwarehouse.com/charts/box-and-whisker-plot-maker.php)

6. Copy and paste the following questions into your document, discuss them with your partner and then answer them in your document.

1.   How do the online plots compare to the ones you created on the number lines?
2.   Why might they look different?
3.   Do they give you the same information? Why or why not?

4. What does the median tell you about the data collected?
5. Why are Quartile 1 and Quartile 3 important?
6. Which was more difficult to decide on: Voice minutes or text messages and why?

7. Time for your recommendation. This will be completed in 3 steps.

1. You and your partner decide on how many minutes your family should purchase and how many text messages your family can purchase. Be prepared to defend your answer. Use your data plots and keep in mind that not everyone may have all of the voice minutes they are used to using, or all of the text messages they are used to having!

2. When you are prepared with a reasonable plan for your family, defend your solution to two other groups. After discussion with two other groups, write a paragraph which will serve as a sales pitch for your recommendation, using terms such as median, quartile, and data.

3. Create an advertisement using a media resource (video, audio, presentation tool) which will get your message across, be informative, and use one or more of your screenshots to help convince the audience that you have the best thought out plan for this family unit.

8. Pitch your recommendation to your class for a vote, being prepared to defend it based on the data. Good luck, *may the whiskers be with you!*

Completing this Quest

Turn in your presentation with supporting documentation (screen shots and answers to the questions). Check with your teacher to find out how he/she wants you to share your work with them.