

# Statistics Support Activity: Introduction to StatKey

## Opening StatKey, Analyzing Column of Categorical or Quantitative Data

### Notes

- **StatKey:** StatKey is a free statistics analysis program designed for intro stat students. It works great on MAC and PC and does NOT need to be saved on your computer.
- **Open StatKey:** Go to [www.lock5stat.com](http://www.lock5stat.com) and click on “StatKey”.
- **Categorical Data:** To analyze one column of raw categorical data, open StatKey. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Categorical Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the column of categorical data into the “Edit Data” window in StatKey. Check the boxes that says “Raw Data” and “Data has a Header Row” (title). Then push “OK”. StatKey will create a bar chart and give summary statistics including the names of the categories, the counts (frequencies) and proportions (decimal equivalent of %).
- **Quantitative Data:** To analyze one column of raw quantitative data, open StatKey. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Quantitative Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the column of quantitative data into the “Edit Data” window in StatKey. Do NOT check the box that says “Identifier”. Do check the box that says “Data has a Header Row” (title). Then push “OK”. StatKey will create a dot plot, histogram, box plot, and give summary statistics including the sample size, mean, median, standard deviation, 1<sup>st</sup> and 3<sup>rd</sup> quartiles (Q1 and Q3), max and min. (*Note: StatKey does not give IQR (Interquartile Range). Just use the given Q1 and Q3 and the formula  $IQR = Q3 - Q1$  to calculate IQR if needed.*)

### Problems

1.

Go to [www.matt-teachout.org](http://www.matt-teachout.org). Click on “statistics” and then “data sets”. Open the bear data in Excel. Copy the bear sex column in Excel. Go to [www.lock5stat.com](http://www.lock5stat.com) and open StatKey on your class computer. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Categorical Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the bear sex column into the “Edit Data” window in StatKey. Check the boxes that says “Raw Data” and “Data has a Header Row” (title). Then push “OK”. StatKey will create a bar chart and give summary statistics including the names of the categories, the counts (frequencies) and proportions (decimal equivalent of %). Answer the following questions.

- a) How many total bears were in the data? (See total count)
- b) How many bears were female?
- c) How many bears were male?
- d) What proportion of the bears were female?
- e) What proportion of the bears were male?

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2.

Go to [www.matt-teachout.org](http://www.matt-teachout.org). Click on “statistics” and then “data sets”. Open the bear data in Excel. Copy the month the bear was measured column in Excel. Go to [www.lock5stat.com](http://www.lock5stat.com) and open StatKey on your class computer. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Categorical Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the month bear was measured data into the “Edit Data” window in StatKey. Check the boxes that says “Raw Data” and “Data has a Header Row” (title). Then push “OK”. StatKey will create a bar chart and give summary statistics including the names of the categories, the counts (frequencies) and proportions (decimal equivalent of %). Answer the following questions.

- a) How many bears were measured in June?
- b) How many bears were were measured in October?
- c) What proportion of the bears were measured in July?
- d) What proportion of the bears were measured in August?

3.

Go to [www.matt-teachout.org](http://www.matt-teachout.org). Click on “statistics” and then “data sets”. Open the bear data in Excel. Copy the bear age column in Excel. Go to [www.lock5stat.com](http://www.lock5stat.com) and open StatKey on your class computer. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Quantitative Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the bear age column of quantitative data into the “Edit Data” window in StatKey. Do NOT check the box that says “Identifier”. Do check the box that says “Data has a Header Row” (title). Then push “OK”. StatKey will create a dot plot, histogram, box plot, and give summary statistics including the sample size, mean, median, standard deviation, 1<sup>st</sup> and 3<sup>rd</sup> quartiles (Q1 and Q3), max and min. Answer the following questions.

- a) How many bears were in the data? (See Sample Size)
- b) What was the age in months of the youngest bear?
- c) What was the age in months of the oldest bear?
- d) What was the mean average age of the bears?
- e) What was the median average age of the bears?

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4.

Go to [www.matt-teachout.org](http://www.matt-teachout.org). Click on “statistics” and then “data sets”. Open the bear data in Excel. Copy the bear weight column in Excel. Go to [www.lock5stat.com](http://www.lock5stat.com) and open StatKey on your class computer. Under the “Descriptive Statistics and Graphs” menu in StatKey, click on “One Quantitative Variable”. Click on “Edit Data”. Hold the control key down and press “A”. Then click “Delete” on your keyboard. This will delete the old data in the StatKey edit menu. Paste the bear weight column of quantitative data into the “Edit Data” window in StatKey. Do NOT check the box that says “Identifier”. Do check the box that says “Data has a Header Row” (title). Then push “OK”. StatKey will create a dot plot, histogram, box plot, and give summary statistics including the sample size, mean, median, standard deviation, 1<sup>st</sup> and 3<sup>rd</sup> quartiles (Q1 and Q3), max and min. Answer the following questions.

- a) What was the weight in pounds of the heaviest bear?
- b) What was the weight in pounds of the lightest bear?
- c) What was the mean average weight of the bears?
- d) What was the median average weight of the bears?