

## **Stat Support Activity: Intro to Categorical Graphs**

### **Bar Charts, Relative Frequency Bar Charts, and Pie Charts**

*Directions: Go to [www.matt-teachout.org](http://www.matt-teachout.org), click on the “data sets” tab. Open the indicated data set and copy the indicated column of categorical data. Go to [www.lock5stat.com](http://www.lock5stat.com) and click on StatKey. Under the “descriptive statistics and graphs” menu, click on “one categorical variable”. Click on the “edit data” button and paste it in the column. Check the box for “raw data” and “data has a header row” and push OK. Then answer the questions.*

1. Open the “Math 140 Survey Data Fall 2015” at [www.matt-teachout.org](http://www.matt-teachout.org). Look at the “campus” data. Use StatKey to make a bar chart and a summary of the proportions and counts.
  - a) Draw a picture of the bar chart provided by StatKey.
  - b) Convert all of the StatKey proportions into percentages.
  - c) Use the percentages to draw a relative frequency bar chart similar to the regular bar chart provided by StatKey. The bars will go up to the percentage instead of the count.
  - d) Use the percentages to draw a pie chart. Make sure the pieces of the pie are labeled with the name of the category and the percentage and are the appropriate size.
  
2. Open the “Math 140 Survey Data Fall 2015” at [www.matt-teachout.org](http://www.matt-teachout.org). Look at the “natural hair color” data. Use StatKey to make a bar chart and a summary of the proportions and counts.
  - a) Draw a picture of the bar chart provided by StatKey.
  - b) Convert all of the StatKey proportions into percentages.
  - c) Use the percentages to draw a relative frequency bar chart similar to the regular bar chart provided by StatKey. The bars will go up to the percentage instead of the count.
  - d) Use the percentages to draw a pie chart. Make sure the pieces of the pie are labeled with the name of the category and the percentage and are the appropriate size.
  
3. Open the “Math 140 Survey Data Fall 2015” at [www.matt-teachout.org](http://www.matt-teachout.org). Look at the “political party” data. Use StatKey to make a bar chart and a summary of the proportions and counts.
  - a) Draw a picture of the bar chart provided by StatKey.
  - b) Convert all of the StatKey proportions into percentages.
  - c) Use the percentages to draw a relative frequency bar chart similar to the regular bar chart provided by StatKey. The bars will go up to the percentage instead of the count.
  - d) Use the percentages to draw a pie chart. Make sure the pieces of the pie are labeled with the name of the category and the percentage and are the appropriate size.

4. Open the “Math 140 Survey Data Fall 2015” at [www.matt-teachout.org](http://www.matt-teachout.org). Look at the “preferred social media” data. Use StatKey to make a bar chart and a summary of the proportions and counts.
- a) Draw a picture of the bar chart provided by StatKey.
  - b) Convert all of the StatKey proportions into percentages.
  - c) Use the percentages to draw a relative frequency bar chart similar to the regular bar chart provided by StatKey. The bars will go up to the percentage instead of the count.
  - d) Use the percentages to draw a pie chart. Make sure the pieces of the pie are labeled with the name of the category and the percentage and are the appropriate size.