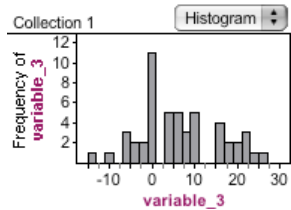
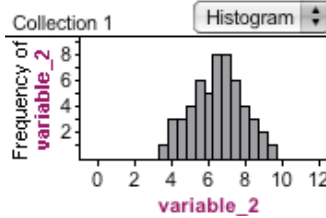
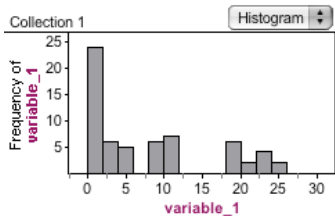


1. Mr. Brown, a high school statistics teacher, was skeptical about a New York Times article that stated: “Teenagers ages 13 to 17 are by far the most prolific texters, sending or receiving 1,742 messages a month.” Mr. Brown collected data from his first period statistics class on the number of text messages they had sent and received in the past 24 hours. The data are listed below.

0 7 1 29 25 8 5 1 25 98 9 0 26 8 118 72 0 92 52 14 3 3 44 5 42

- Find the 5-number summary
- Find the boundary for outliers. Are there any, if so, which data members?
- Sketch a boxplot. Describe its shape.
- Find the mean and standard deviation.
- Compare the mean and median, does this make sense based on your boxplot?
- What should you use to describe the center and spread of the data? Why?

2. Match the summary statistics with the histograms. Explain how you made your decision.



- mean = 6.6, median = 6.8, standard deviation = 1.3, variable = _____
- mean = 6.6, median = 6.0, standard deviation = 8.65, variable = _____
- mean = 6.6, median = 3.75, standard deviation = 7.4, variable = _____

3. You read that the mean income of U.S. households in 2007 was \$67,609 and that the median income was \$50,233. Explain why the mean household income is so much higher than the median household income.

4. A study examining the health risks of smoking measured the cholesterol levels of people who had smoked for at least 25 years and people of similar ages who had smoked for no more than 5 years and then stopped. Create appropriate graphical displays and calculate summary statistics (5-number summary, mean, sd) for both groups. Write a brief report comparing the two cholesterol levels. Here are the data:

Smokers

225	211	209	284
258	216	196	288
250	200	209	280
225	256	243	200
213	246	225	237
232	267	216	232
216	243	200	155
216	271	230	309
183	280	217	305
287	217	246	351
200	280	209	

Ex-Smokers

250	134	300
249	213	310
175	174	328
160	188	321
213	257	292
200	271	227
238	263	163
192	242	249
242	267	243
217	267	218
217	183	228

5. A timeplot is a display of values over time. Time is on your horizontal axis and your variable is on the vertical axis. A timeplot can show you patterns and trends over a specified time period.

Accidents involving drunk drivers account for about 40% of all deaths on the nations highways. The table below tracks the number of alcohol related fatalities for 24 years.

Year	Deaths (thousands)	Year	Deaths (thousands)
1982	26.2	1994	17.3
1983	24.6	1995	17.7
1984	24.8	1996	17.7
1985	23.2	1997	16.7
1986	25	1998	16.7
1987	24.1	1999	16.6
1988	23.8	2000	17.4
1989	22.4	2001	17.4
1990	22.6	2002	17.5
1991	20.2	2003	17.1
1992	18.3	2004	16.9
1993	17.9	2005	16.9

- Create a histogram and/or boxplot of the deaths. Describe the picture.
- Create a timeplot. What is it telling you about the data?
- Using both pictures, write a few sentences about deaths caused by drunk driving.
- Which picture told you the most information and why?