

Pg. 44

What is a distribution?

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What is the difference between a frequency table and a relative frequency table? When is it better to use relative frequency tables?

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Histograms (half-day)

The following table presents the average points scored per game (PPG) for the 30 NBA teams in the 2009–2010 regular season. Make a dotplot to display the distribution of points per game. Then, use your dotplot to make a histogram of the distribution.

Team	PPG	Team	PPG	Team	PPG
Atlanta Hawks	101.7	Indiana Pacers	100.8	Oklahoma City Thunder	101.5
Boston Celtics	99.2	Los Angeles Clippers	95.7	Orlando Magic	102.8
Charlotte Bobcats	95.3	Los Angeles Lakers	101.7	Philadelphia 76ers	97.7
Chicago Bulls	97.5	Memphis Grizzlies	102.5	Phoenix Suns	110.2
Cleveland Cavaliers	102.1	Miami Heat	96.5	Portland Trail Blazers	98.1
Dallas Mavericks	102	Milwaukee Bucks	97.7	Sacramento Kings	100
Denver Nuggets	106.5	Minnesota Timberwolves	98.2	San Antonio Spurs	101.4
Detroit Pistons	94	New Jersey Nets	92.4	Toronto Raptors	104.1
Golden State Warriors	108.8	New Orleans Hornets	100.2	Utah Jazz	104.2
Houston Rockets	102.4	New York Knicks	102.1	Washington Wizards	96.2

How do you make a histogram?

Why would we prefer a *relative* frequency histogram to a frequency histogram?

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What is the most important thing to remember when making a stemplot?

Alternate Example: Which gender is taller, males or females? A sample of 14-year-olds from the United Kingdom was randomly selected using the CensusAtSchool website. Here are the heights of the students (in cm). Make a back-to-back stemplot and compare the distributions.

Male: 154, 157, 187, 163, 167, 159, 169, 162, 176, 177, 151, 175, 174, 165, 165, 183, 180

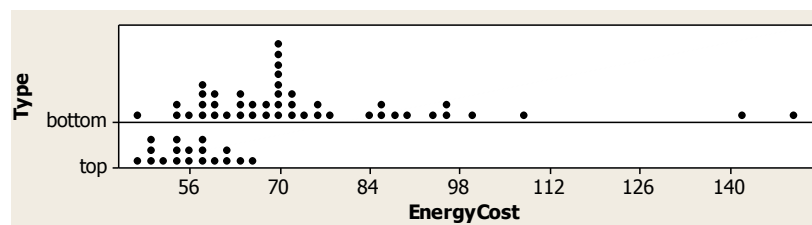
Female: 160, 169, 152, 167, 164, 163, 160, 163, 169, 157, 158, 153, 161, 165, 165, 159, 168, 153, 166, 158, 166

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What is the most important thing to remember when you are asked to compare two distributions?

Alternate Example: Energy Cost: Top vs. Bottom Freezers

How do the annual energy costs (in dollars) compare for refrigerators with top freezers and refrigerators with bottom freezers? The data below is from the May 2010 issue of *Consumer Reports*.



Displaying Quantitative Data with Graphs

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When describing the distribution of a quantitative variable, what characteristics should be addressed?

Briefly describe/illustrate the following distribution shapes:

Symmetric

Skewed right

Skewed left

Unimodal

Bimodal

Uniform

Alternate Example: Smart Phone Battery Life

Here is the estimated battery life for each of 9 different smart phones (in minutes). Make a dotplot of the data and describe what you see.

Smart Phone	Battery Life (minutes)
Apple iPhone	300
Motorola Droid	385
Palm Pre	300
Blackberry Bold	360
Blackberry Storm	330
Motorola Cliq	360
Samsung Moment	330
Blackberry Tour	300
HTC Droid	460

Describing Quantitative Data with Numbers

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Is the median a resistant measure of center? Explain.

How does the shape of a distribution affect the relationship between the mean and the median?

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What is the range? Is it a resistant measure of spread? Explain.

What are quartiles? How do you find them?

What is the interquartile range (*IQR*)? Is the *IQR* a resistant measure of spread?

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What is the difference between \bar{x} and μ ?

What is a resistant measure? Is the mean a resistant measure of center?

How can you estimate the mean of a histogram or dotplot?