

AP Statistics

Unit 02 – Bivariate Data
Day 01 Notes: Scatterplots

Name _____

Period _____

When examining relationships of 2 or more variables, ask:

- 1.
- 2.
- 3.
- 4.

Explanatory Variable:

-
-

Response Variable:

-
-

Steps for Exploring Bivariate Data:

- 1.
- 2.
- 3.

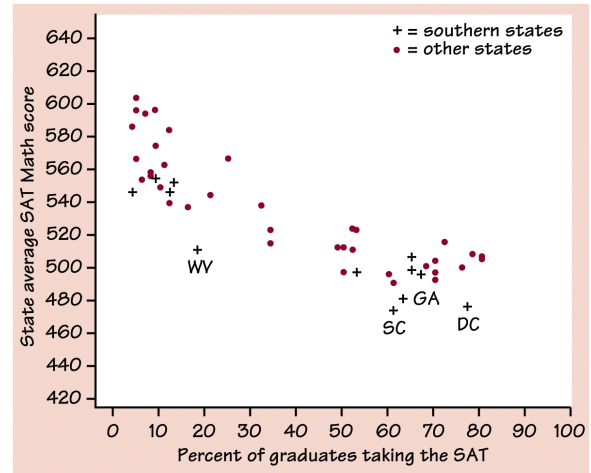
Scatter plots:

-
-

Interpreting Scatterplots

- 1.
- 2.

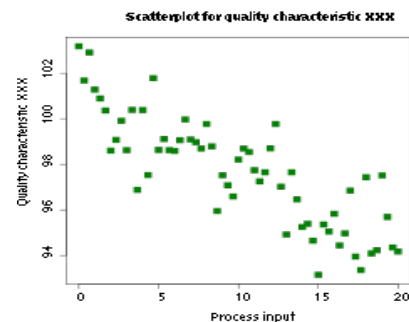
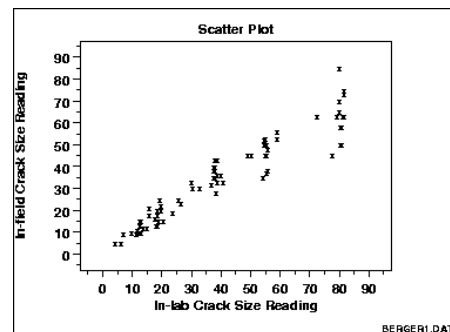
Sometimes the information that you are trying to gather includes categorical data. Notice the data points are still talking about the percent of graduates taking the SAT and the state average on the SAT Math. But also notice that we were able to make a different mark to represent the southern states so that we could see where the categorical data lies in the distribution.



FORM:

DIRECTION:

- Positive association:
- Negative association:



STRENGTH:

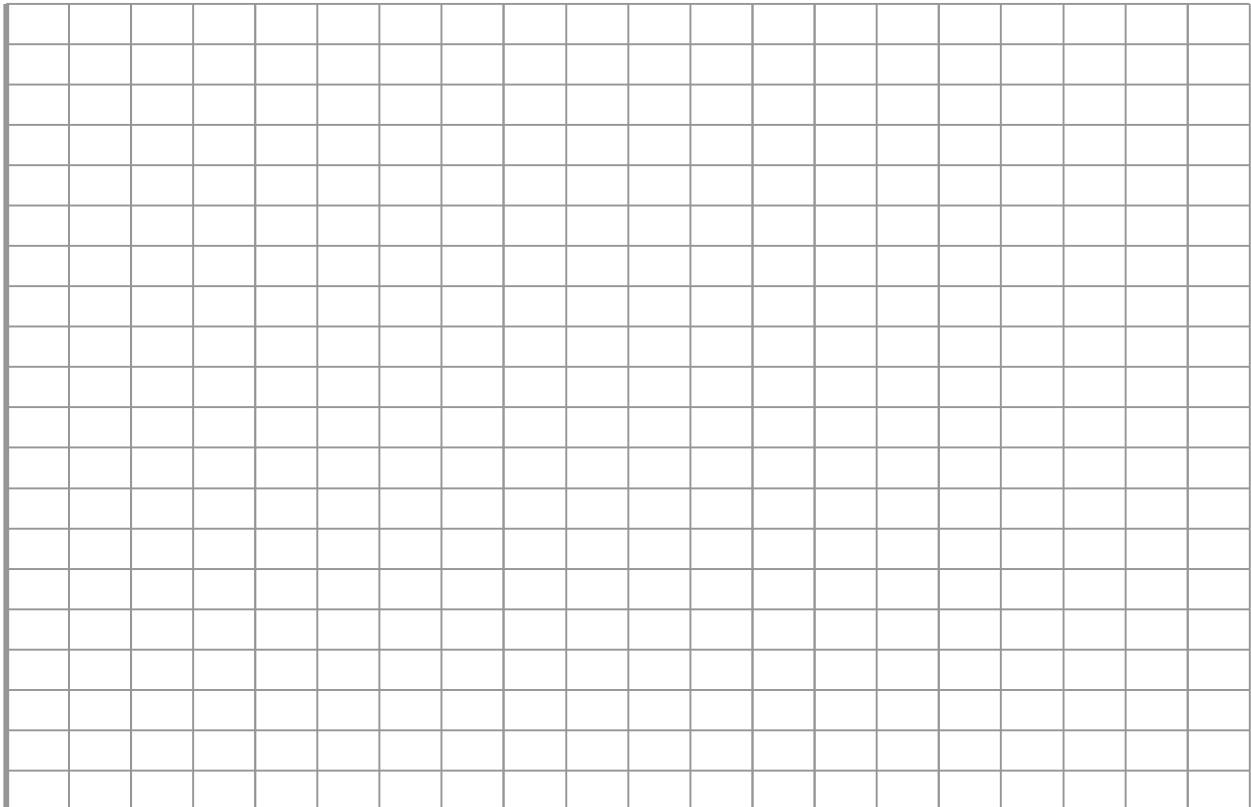
Drawing a Scatter Plot

- 1.
- 2.
- 3.

Example: Ninth-grade students at BHS go on a backpacking trip each fall. Students are divided into hiking groups of size 8 by selecting names from a hat. Before leaving, students and their backpacks are weighed. Here are data from one hiking group in a recent year:

Body Weights (lbs)	120	187	109	103	131	165	158	116
Backpack Weight (lb)	26	30	26	24	29	35	31	28

Make a scatter plot of the relationship between body weight and pack weight and then interpret the scatter plot.



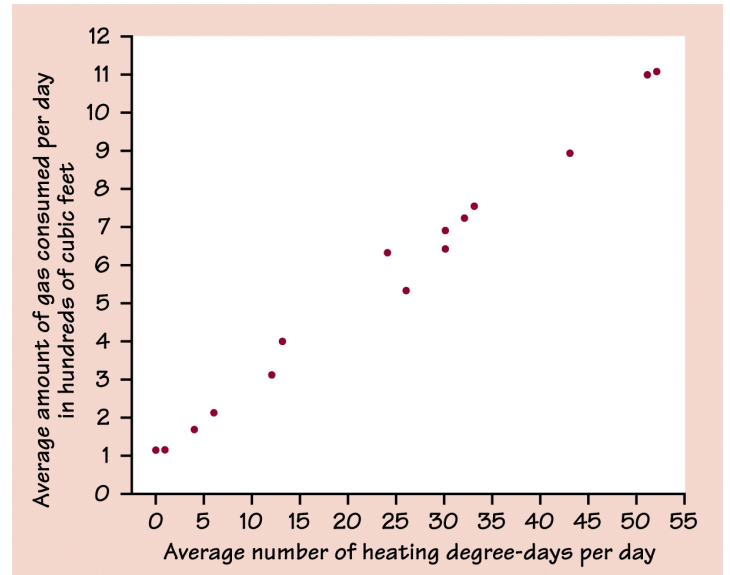
Example: Interpreting Scatter Plots

The following problem is dealing with the average degree-days and the natural gas consumption for the household. Interpret the graph and data in detail.

TABLE 3.1 Average degree-days and natural gas consumption for the Sanchez household

Month	Degree-days	Gas (100 cu. ft.)	Month	Degree-days	Gas (100 cu. ft.)
Nov.	24	6.3	July	0	1.2
Dec.	51	10.9	Aug.	1	1.2
Jan.	43	8.9	Sept.	6	2.1
Feb.	33	7.5	Oct.	12	3.1
Mar.	26	5.3	Nov.	30	6.4
Apr.	13	4.0	Dec.	32	7.2
May	4	1.7	Jan.	52	11.0
June	0	1.2	Feb.	30	6.9

Source: Data provided by Robert Dale, Purdue University.



FORM:

DIRECTION:

STRENGTH:

Scatter Plot in the Calculator

Using the data above:

1. Put the degree-days values in L1
2. Put the gas values in L2
3. Push 2nd y= (Stat Plot)
4. Enter and then make sure plot 1 is on
5. Go to the first type of graph and push ENTER
6. X-list should be degree-days
7. Y-list should be gas
8. Graph
9. To zoom in, push zoom and then click 9. ZoomStat