Data Displays Review

Today's Learning Goal: *At the end of today's lesson, you should be able to make and interpret data displays.*

There are several different types of data displays you will need to understand how to create and interpret for upcoming standardized tests:

Histogram -- _____

Example: The heights (in feet) of the tallest dams in the United States are 718, 754, 632, 725, 600, 636, 626, 708, 607, and 610. Display the data using a histogram.

Step 1: Choose intervals of equal size that cover all data values and organize the data in a frequency table.

Step 2: Use the intervals in the frequency table to draw the bars of the histogram.

Example: Use the bar graph, which shows the time a student spent doing homework on each of five days, to answer the questions.

Hours Doing Homework
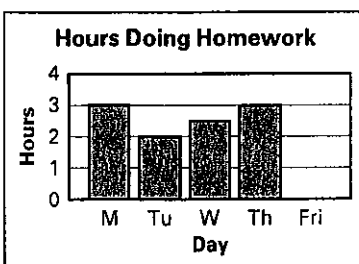
A. How many hours did the student spend doing homework on Monday?

B. How many more hours did the student spend doing homework on Thursday than on Friday?

C. What is the total number of hours that the student spent doing homework on Monday and Tuesday?

Line Graph -- _____

Example: The table shows the temperature outside your school during one day. Display the data using a line graph.

Time	8:00 am	10:00 am	12:00 pm	2:00 pm	4:00 pm	6:00 pm
Temperature	63° F	66° F	72° F	75° F	76° F	74° F

When did the greatest temperature change occur? _____

Example: Use the line graph, which shows the number of turtle nests recorded in Cape Lookout, North Carolina, from 1990-2000 to answer the questions.

Turtle Nests Recorded
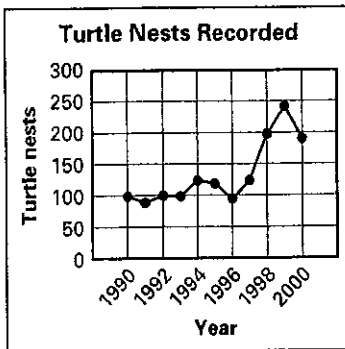
A. Between which two years did the number of turtle nests decrease the most?

B. Between which two years did the number of turtle nests increase the most?

C. In which year was the greatest number of turtle nests recorded? Estimate the number of turtle nests recorded that year.

Circle Graph -- _____

Example: The bar graph below shows the CDs in Diane's collection. Display this data using a circle graph.

Step 1: For each music category, write a fraction comparing the number of CDs in the category to the total number of CDs in the collection.

Step 2: Multiply by 360° to find the angle measure of the corresponding section.

Step 3: Draw a circle using a compass.

Step 4: Use a protractor to draw each angle and label each section.

Example: Use the circle graph, which shows the results of a survey asking, "What is your favorite sport to watch" to answer the questions.

What is Your Favorite Sport to Watch?

- Football 37%
- Basketball 13%
- Baseball 12%
- Auto racing 5%
- Other 33%
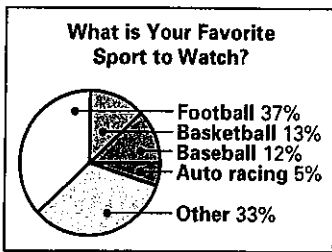
A. What percent of people surveyed named football or basketball as their favorite sport to watch?

B. What percent of people surveyed did not name football as their favorite sport to watch?

C. Suppose 200 people were surveyed. Make a bar graph to show the number of people who gave each response.

Stem and Leaf Plot -- _____

Example: The travel times (in minutes) for 14 students on a school bus are 15, 12, 8, 22, 17, 6, 13, 24, 11, 27, 7, 3, 12, and 14. Display the data using a stem-and-leaf plot.

Example: Use the stem-and-leaf plot, which shows the ages of people in one family, to answer the questions.

A. How many family members are 30 years old or older?

B. How many family members are under the age of 10?

C. What is the median age of people in the family?
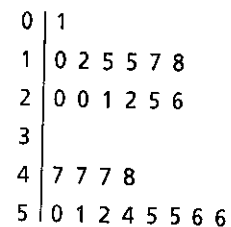
```
0 | 1
1 | 0 2 5 5 7 8
2 | 0 0 1 2 5 6
3 |
4 | 7 7 7 8
5 | 0 1 2 4 5 5 6 6      Key: 4|7 = 47
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<u>**Box and Whisker Plot**</u> -- _____

_____

Example: The scores on a test in your science class are 85, 90, 72, 95, 93, 87, 88, 80, 78, 100, 96, 92, 86, 95, 94, and 88. Display the data using a box and whisker plot.

Step 1: Write the data in increasing order.

Step 2: Find the median and divide the data into two halves (an upper and lower half).

Step 3: Find the median of the lower half of the data. This is your lower quartile 1 (Q1) value.

Step 4: Find the median of the upper half of the data. This is your upper quartile 3 (Q3) value.

Step 5: Draw and label a number line using the data given. Place a dot above the median, Q1, and Q3 values.

Step 6: Draw a box around these three values. Put a line through the median in the box.

Step 7: Put a dot above the lowest and highest value of the data set. Draw the "whiskers" from the Q1 value to the lowest value and from the Q3 value to the highest value.

Example: Use the box and whisker plot, which shows average wind speeds (in miles per hour) in 16 California locations in January to answer the questions.
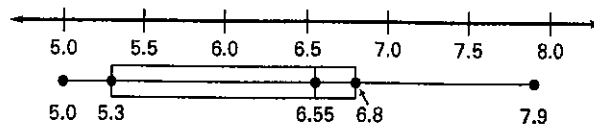
A. What is the media wind speed?

B. What are the upper and lower quartiles of the data set?

Progress Monitoring: *How do you feel about your level of understanding of making and interpreting data displays?* (Rate yourself from 0 (don't understand at all) to 10 (doing awesome))