Lesson #1: Graphs and pies and histograms, oh my!

Part I: Introduction [Individual]

First, read sections 2.1 and 2.2 in the text[1] or a similar resource about ways to represent data graphically. As you read, write down what you think are the "key elements" being discussed. Include examples, pictures, definitions, etc. in your notes to help you remember and understand what you're reading. Be an "active reader" in this process … {Please stop and read the sections before continuing.}

Now, to help you remember what you've read (and demonstrate to me that you did your pre-class work), please complete a summary sheet. I have provided a sample below for you to go by but you are free to modify this if you used a different text or resource. You will be asked to post your summary sheet on our LMS prior to our class discussion.

Please write the six[2] major types of graphs discussed. Next to each, write the page number in your text where the graph type is <u>first</u> defined / discussed and a brief summary of each:

1.

2.

3.

4.

5.

6.

Next, please complete the following:

1. Numerical variables are called _____ while nonnumeric variables are called _____.
2. A discrete variable usually involves a _____ of something while a continuous variable usually involves a _____ of something.
3. This entire chapter centers around _____ statistics.

[1] Larson, Ron & Farber, Betsy (2006). ***Elementary Statistics: Picturing the World***.

[2] In section 2.1 we will not consider the frequency polygon nor the ogive to be a major graph type. In section 2.2 we will not consider the Pareto chart nor the time series chart to be a major graph type.

Part II: Action [Small Group]

We are going to complete this activity in small groups. Follow the directions in class to form a group, and then write down the group's information here:

My Group

My Name: _____ Player 2's Name: _____

Player 3's Name: _____ Player 4's Name: _____

OK, now examine the following data sets:

Dice Data I

Roll	Sum of Dice
1	6
2	9
3	11
4	9
5	7
6	4
7	6
8	11
9	7
10	8
11	7
12	6
13	12
14	7
15	4
16	8
17	12
18	10
19	9
20	7

Test Data I

Student	Test Score
1	56
2	99
3	70
4	89
5	81
6	82
7	77
8	67
9	90
10	50
11	65
12	78
13	75
14	72
15	81
16	80
17	93
18	50
19	77
20	89

Budget Data I

Item	Amount
Rent	950
Food	200
Utilities	250
Car	325
Loan	180
Misc.	75

Data Set	Data Type	Graph Chosen
Dice		
Test		
Budget		

For each data set, your group will create a graph. You may choose from frequency histogram, pie chart, or stem-and-leaf plot. You must create one graph of each type. Your first task as a group is

to decide which data set is best represented by which graph type. Next, you will create accurate, labeled graphs for each set.

Part III: Discussion [Whole Class]

In this activity, we have discussed three graph types. Record the three types here and give a two- or three-sentence description that includes the type of data best represented by the graph, the advantages of the graph, the disadvantages of the graph, and any specific values or labels shown in the graph: (use the back of this sheet if you need more room)

1.

2.

3.

Part IV: Graphs [Individual]

Please attach your three completed graphs to your activity sheets. Be sure each graph is complete with: Title, Axes Labels, appropriate scale(s) for axes, and all needed statistical values (e.g. tally chart).

Circles to use or trace for the pie charts and spare "calculation" space:
(A.k.a. Scratch Paper)