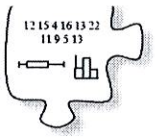
8.1.2 What is a typical value?



Choosing Mean or Median

~~8-9~~ Efren has been keeping data on the Calaveras County frog-jumping contest for several years. Look carefully at the stem-and-leaf plot he made for the top 8 jumpers in 2007, shown at right.

8-17

8-17

2007 Frog Jump Winners Stem-and-Leaf Plot

22	1	2	5	8
23	4	8		
24	5			
25	6			

a) What is the minimum (smallest) value? What is the maximum (largest) value?

b) Are there any outliers in the data?

c) Find the median.

d) Calculate the mean and explain what the mean tells you about the frog jumps in 2007.

e) Which represents a "typical" jump for 2007 better, the mean or the median? Explain.

f) Create a new stem-and-leaf plot for the 2006 data below. What is a typical (mean or median) jump for 2006?

2006	
Frog Name	**Jump Length**
Clausenn's Cuzor	235 in.
Whipper	222 in.
Me Me Me Me	212 in.
Haren's Heat	212 in.
Midnight Croaker	209 in.
Alex's Hopper	208 in.
Oh Sweet Sue	205 in.
Humpty Jumpty	204 in.

~~8-18~~ Lessons 1 & 2 **LEARNING LOG**:

8-19 a) **Describe how** to find the mean and the median for the following set of data. How do you find the median if there is an even number of values in the data set?

7, 6, 4, 8, 1, 0

b) **Calculate** the mean, median and range of the data set above.

c) If a data set includes an outlier, which measure best describes the middle?

d) Describe/show an example of a dot plot, histogram and stem-and-leaf plot.

8-19

a) ~~*~~Stl in their own words*

0, 1, 4, 6, 1, 8

b) The median is 5 (between 4 and 6).
The mean is 4.3̄ (26 ÷ 6)

c) If there is an outlier median is better for a typical jump length.

3.625

h.

fine.

tier,
e.
ive
209

2 = 210.5
n/median

4	1 3 7
5	2
6	0 0 1 3

Key: 4|1 = 41

Must be in order

[S-L7]

8-17 a) The maximum is ____ and the minimum is ____.

b) There are no obvious outliers.

c) ~~221~~, ~~222~~, ~~225~~, (228, 234), ~~238~~, ~~245~~, ~~256~~ — Middle

~~228~~, ~~229~~, ~~230~~, (231), ~~232~~, ~~233~~, ~~234~~

The median is 231.

d) Sum of all values = 1869 ÷ 8 = 233.625
The mean is 233.625 inches and it tells us the average jump length.

e) There are no outliers, so either is fine.

f) 2006 Frog Jump

20	~~4~~ ~~5~~ ~~8~~ 9
21	2 ~~2~~
22	~~2~~
23	~~5~~

There is no outlier, so either is fine. The median value is between 209 and 212.

209 + 212 = 421 ÷ 2 = 210.5

8-19 LEARNING LOG:

a) *Students should describe how to find mean/median in their own words*

0, 1, 4, 6, 7, 8

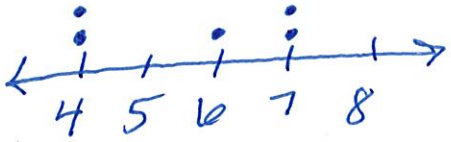
b) The median is 5 (between 4 and 6).
The mean is $4.\overline{3}$ (26 ÷ 6)

c) If there is an outlier, median is better for a typical jump length.

8-19

Dot Plot

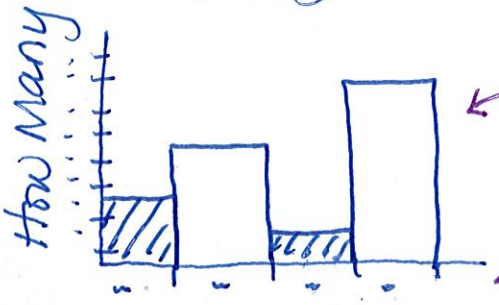
a)



← Must start w/ consistent Number Line

8-10

Histogram



← Bars w/out Gaps

← Consistent Number Ranges

(ex) 45-50
51-56

Stem-and-Leaf Plot

Must be in order

4	1 3 7
5	2
6	0 0 1 3

Key: 4|1 = 41

8-11

53

8-17 a) The maximum is ___ and the minimum is ___.

b) There are no obvious outliers.

c) 221, 222, 225, (228, 234) 238, 245, 256

Middle

228, 229, 230, (231) 232, 233, 234

The median is 231.