

Sunday, September 02, 2018  
2:38 PM

**Do Now (with a partner):**

1. The video mentioned the fact that soldiers are bulking up along with the rest of America. Even so, soldiers are expected to be physically fit. What are several **quantitative variables** that you might use to measure fitness? Name at least 3.

\* Body mass Index

\* Time to run a mile

\* How many pullups can be done

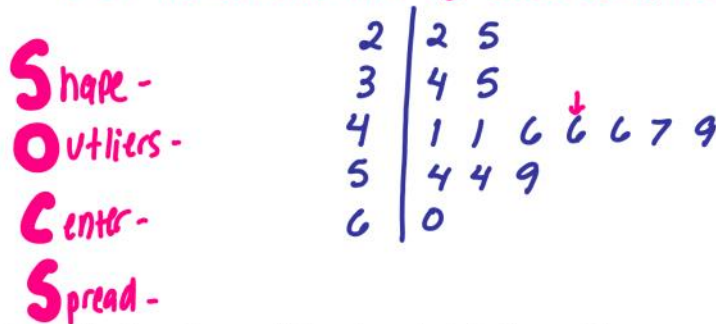
(answers will vary)

2. Below are the number of home runs that Babe Ruth hit in each of his 15 years with the New York Yankees, 1920 – 1934.

54	59	35	41	46
25	47	60	54	46
49	46	41	34	22

a. Make a stemplot of the home run data.

# of Home runs Hit By Babe Ruth (1920-1934) with Yankees



KEY 3/4 = 34 home runs

b. Describe the shape of the stemplot. Is it roughly symmetric or not? Is it unimodal (single peak) or multimodal (more than one peak)?

"SOCS"

Shape! Roughly symmetric and unimodal.

c. What is the center (this is the number of home runs the Babe hit in a typical year)?

\* 15 data values.

\* Middle entry is 46. (7 values on each side.)

The center is at 46.

In a typical year Babe Ruth hit 46 home runs.

d. Ruth's record of 60 home runs in 1927 stood for more than 30 years. Is 60 an observation that falls outside the pattern of the other observations and hence could be considered an outlier?

No. 60 is not outside the pattern that includes two 54s and a 59. There is no gap between 60 and the other data.

3. IT IS HELPFUL TO USE YOUR GRAPHING CALCULATOR TO SORT YOUR DATA IN ORDER **ESPECIALLY** WHEN YOU HAVE A LOT.

Here is the data on the number of pairs of shoes that each of the 20 females surveyed owned.

50	26	26	31	57	19	24	22	23	38
13	50	13	34	23	30	49	13	15	51

To create a stemplot, first use your calculator to put the data in *ascending* order.

- 1) Make sure there is no data in the calculator already:  
**HIT:** STAT, 1: Edit, use arrow to highlight list number (L1), CLEAR (not delete), ENTER
- 2) Arrow over to L1 (if not there already) and type in all the data carefully. Hit ENTER after each entry.
- 3) To arrange in ascending order, hit: STAT, 2:SortA, 2<sup>nd</sup> 1 (will give you L1), ENTER
- 4) To go back to the list, hit: STAT, 1:Edit, ENTER
- 5) You now have your number of pairs of shoes in ascending order.

Make your stemplot here:

**S**hape unimodal, Roughly Symmetric  
**O**utliers none  
**C**enter 26  
**S**pread 13 to 57

# Shoes owned by 20 random female students

```

1 | 3 3 3 5 9
2 | 2 3 3 4 6 6
3 | 0 1 4 8
4 | 9
5 | 0 0 1 7
  
```

Key: 2|2 = 22 pairs of shoes

☆ Turn your stemplot on its side to see the **shape, center, spread** & to check for **outliers!**

☆ **Where is the center?** 26 **the median**

The AP Statistics students also collected data from a random sample of 20 male students at their school. Here are the number of pairs of shoes reported by each male in the sample:

14	7	6	5	12	38	8	7	10	10
10	11	4	5	22	7	5	10	35	7

To create a stemplot, don't forget to first use your calculator to put the data in *ascending* order.

Shoes owned by 20 random male students

Make your stemplot here:

```

0 | 4 5 5 5 6 7 7 7 8
1 | 0 0 0 0 1 2 4
2 | 2
3 | 5 8
  
```

KEY: 0|5 = 5 pairs of shoes

```

0 | 4
0 | 5 5 5 6 7 7 7 8
1 | 0 0 0 0 1 2 4
2 | 2
2 | 2
3 | 5 8
  
```

\* There were only 4 stems

\* We need to make a Split Stem Plot

What do you notice?

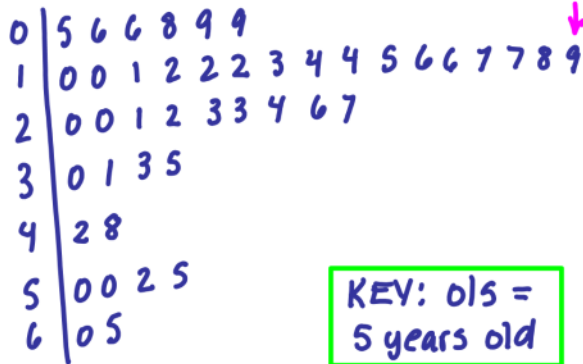
**Classwork Exercise:**

4. A local television station gathered data on the ages of viewers of ACTION, a program aimed at a young audience. The ages in years as reported by the rating service were as follows:

35.3	17.0	23.7	6.4	5.6	12.1	50.4	14.7	10.5
55.5	23.7	33.4	11.2	22.7	20.4	12.6	9.8	14.8
10.1	65.2	52.3	9.8	16.2	19.7	18.6	24.7	<del>120.0</del> ← omit
15.3	48.6	26.3	21.4	12.1	17.3	60.9	6.2	13.1
31.5	20.9	16.6	8.1	30.9	42.0	50.9	27.7	

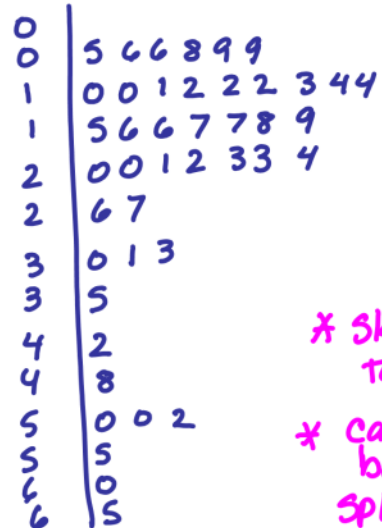
a.) Make a stemplot of the age distribution. As a first step, **truncate** the number by getting rid of the digit after the decimal point. (For example: If your data is 35.3, to **truncate**, you write 35.3 as **just 35**.) \* Sort on calculator!

Ages of Action viewers



KEY: 015 =  
5 years old

Ages of Action viewers



\* Skewed to Right  
\* can see better on split stem plot.

"SOCS"

b.) Describe the main features of the distribution using shape, center, and spread.

**S**hape: unimodal, skewed to the right

**O**utliers: Appear to be none.

**C**enter: The center is at 19, so your average viewer is 19 years old.

\* 43 data values

\* MIDDLE entry is 19 (21 entries on each side)

**S**pread: The viewers range from 5 to 65 years old.