

## *January 21, 2020*

- 1) Balance ACT/HW
- 2) Notes
- 3) Scissors and Glue

Did you hear about the chef that died?  
He pasta way  
We cannoli do so much  
His legacy will become a pizza history  
He ran out of thyme



**PROFIT FOR ZHU BOOK**

6	7	31	62
8	7	6	18
5	15	31	9
14	18	23	23
6	11	38	17
8	18	15	13
48	30	11	26

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**Topic:** Histograms & Describing Distributions

**Date:** \_\_\_\_\_

**What am I learning today?**

**Main Ideas/  
Questions**

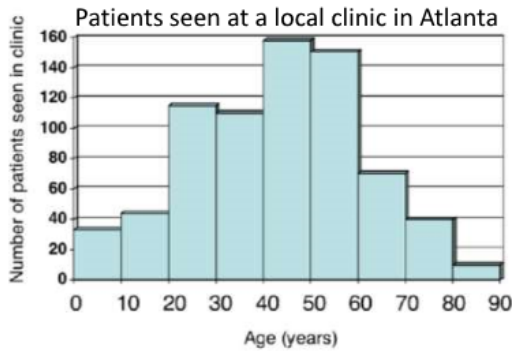
Histogram  
Characteristics

**Notes**

**Histogram**

- Used for quantitative data
- Used for large data sets where it makes sense to group nearby values together
- It shows how frequently data occurs within certain ranges or intervals
- The height of each bar gives the frequency for each interval.

★ BARS SHOULD TOUCH!



**Example:** Peter and Chris Griffin go to a hot dog eating contest. The following data show how many hotdogs each person ate in 1 hour.

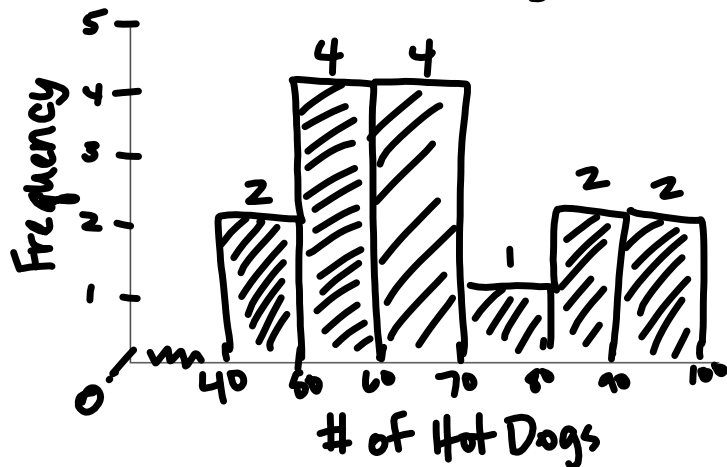
~~83~~ ~~76~~ ~~80~~ ~~58~~ ~~66~~ ~~44~~ ~~85~~ ~~86~~ ~~61~~ ~~59~~ ~~50~~ ~~83~~  
~~81~~ ~~49~~ ~~83~~

Construct a histogram that displays these results.

**# Hot Dogs Eaten**

Score	Frequency
40 to < 50	2
50 to < 60	4
60 to < 70	4
70 to < 80	1
80 to < 90	2
90 to < 100	2

15 ✓



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**Main Ideas/  
Questions**

Describing Data

**Notes**

**Distribution** – ALL of the different values the variable takes and how often it takes these values. We describe the distribution using 3 characteristics

- \*\*\* Center - mean, median, or mode
- \*\*\* Spread - range, IQR, and standard deviation
- \*\*\* Shape - symmetric, skewed left, and skewed right

**Center** – The point where there are about half of the observations are on either side. We use this to describe the middle of the data.

**Spread** – Used to describe range or how "spread" out the data is displayed

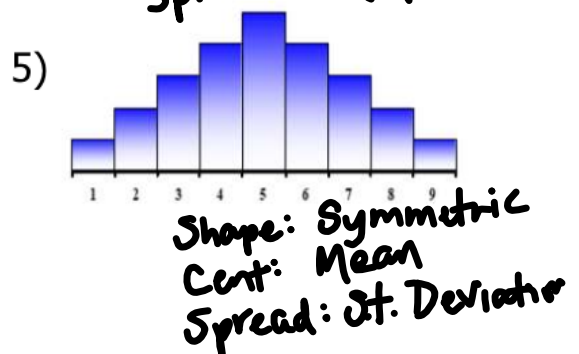
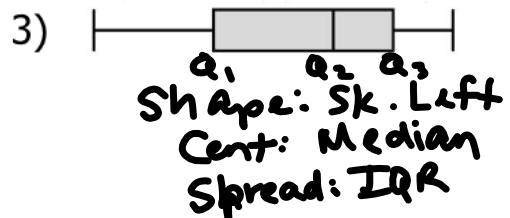
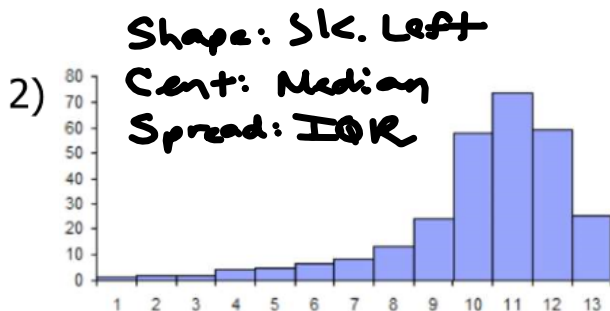
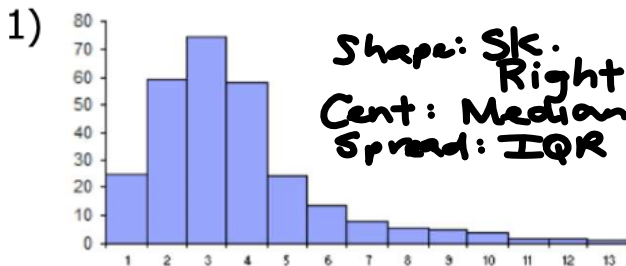
**Best Measure of Center and Spread**

The best measure of center and spread to use is determined by looking at the Shape of your data.

**Symmetric** – The best measure of **center** is the MEAN. The best measure of **spread** is the ST. DEVIATION.

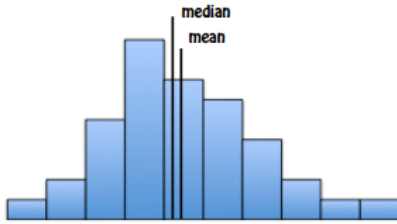
**Skewed data (Left/Right)** – The best measure of **center** is the MEDIAN. The best measure of **spread** is the IQR.

**Examples** – Describe the shape and best measures of center/spread

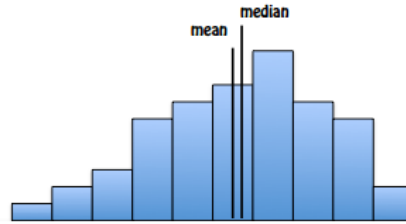


# Describing Shape Foldable

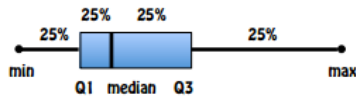
**Skewed Right Histogram**



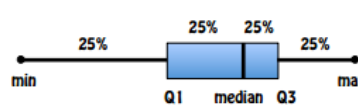
**Skewed Left Histogram**



**Skewed Right Box & Whisker Plot**



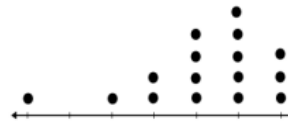
**Skewed Left Box & Whisker Plot**



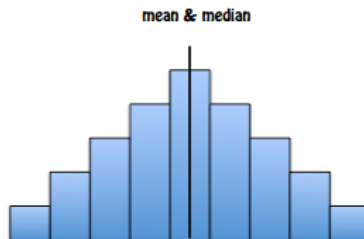
**Skewed Right Dot Plot**



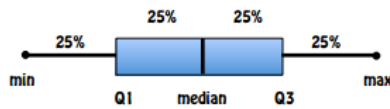
**Skewed Left Dot Plot**



**Symmetric Histogram**



**Symmetric Box & Whisker Plot**



**Symmetric Dot Plot**

