

**What am I learning today?**

**Main Ideas/  
Questions**

Introduction

**Notes**

Create a dot plot of everyone's height in inches.



1. Count the number of people with a height less than or EQUAL to you:
2. What percentage of the class has a height less than or EQUAL to you?

The answer to #2 is your \_\_\_\_\_ in the height distribution of this class!

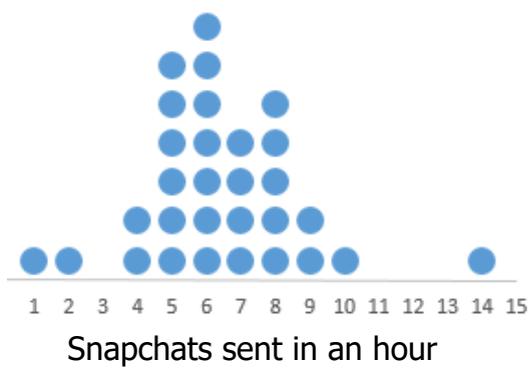
Percentile

**Percentile** – The percentage that an observation is less than or equal to a certain value.

\*\*\*The LOWEST is the called the \_\_\_\_\_ (there is no 0<sup>th</sup> percentile)

\*\*\*The HIGHEST is called the \_\_\_\_\_ (there is no 100<sup>th</sup> percentile)

**Example:**



1. Kelsey sent 9 snapchats. What percentile is she in?

2. Charlie sent 1 snapchat. What percentile is he in?

3. Destiny sent 4 snapchats. What percentile is she in?

**Main Ideas/  
Questions**

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**RECALL:** What is the definition of standard deviation?

Z-Score  
Introduction

1. Looking at the height data, what is the class's mean and standard deviation?

2. What does this mean in context?

<b>YOUR Height</b>	<b>ABOVE or BELOW the Mean (relative to the mean)</b>	<b>Distance from Mean</b>	<b>Standard Deviations away from Mean</b>

Z-Score

**Z-Score** – The \_\_\_\_\_ value of an observation; shows your how many standard deviations an OBSERVATION is away from the mean

$$z - score = \frac{observation - mean}{standard\ deviation} \quad \text{OR} \quad z = \frac{x - \bar{x}}{S_x}$$

\*\*\* The CLOSER to zero, the closer the data is to the \_\_\_\_\_

\*\*\* A POSITIVE z-score is \_\_\_\_\_ the mean

\*\*\* A NEGATIVE z-score is \_\_\_\_\_ the mean

\*\*\*A typical z-score is between \_\_\_\_\_ and \_\_\_\_\_ standard deviations

Z-Scores and Percentiles

**Examples:**

1. Height: \_\_\_\_\_ inches                      a) Percentile:                      b) Z-Score:

2. Height: \_\_\_\_\_ inches                      a) Percentile:                      b) Z-Score: