

CCSS.Math.Content.HSS.ID.A.2

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

Standard Deviation: Class Activities

**Group Practice & Graphic Organizer
(with Answers)**

**Objective: SWBAT Determine variance and standard deviation
through using the SD 5 step process**

Name: _____

Date: _____

Class Activity:
Standard Heights?

List the name and height (in inches) of each member of your class in the space below:

Who is the tallest? Who is the shortest?

What is the mean height? _____

Estimate the standard deviation: _____

Graph the data on attached graph paper (histogram).

Find the standard deviation: _____

What is the distribution shape: _____

Are there any outliers? _____

Who is/are they? _____

Name: _____

Date: _____

Class Activity:
Number of Athletes in Professional Sports

Below is a list of all the professional sport organizations in the United States and the current number of players in each (2014):

MLB: 858

MLS: 410

NBA: 463

NFL: 1861

NHL: 722

NASCAR: 76

PGA: 262

Which organization has the most players? Which organization has the least? _____

What is the mean of this data? _____

Estimate the standard deviation: _____

Graph the data on attached graph paper (histogram).

Find the standard deviation: _____

What is the distribution shape: _____

Are there any outliers? _____

Who is/are they? _____

Standard Deviation Organizer

Data Values (x):	Value – mean (x – \bar{x}) =	Differences ² (x – \bar{x}) ² =
Add up Data Values =		Add up Differences ² = $\sum(x - \bar{x}) =$
Find the mean of the Data Values (\bar{x}) =		Find the mean of Differences ² = $\frac{\sum(x - \bar{x})^2}{N} =$ (this is your VARIANCE)
		Find the square root of your VARIANCE = $\sigma = \sqrt{\frac{\sum(x - \bar{x})^2}{N}} =$

Standard Deviation

Organizer Teacher Copy Class Activity #2

Data Values(x):	Value – mean ($x - \bar{x}$) =	Differences ² ($x - \bar{x}$) ² =
858	$858 - 664.6 = 193.4$	$193.4^2 = 37403.6$
410	$410 - 664.6 = -254.6$	$(-254.6)^2 = 64821.2$
463	$463 - 664.6 = -201.6$	$(-201.6)^2 = 40642.6$
1861	$1861 - 664.6 = 1196.4$	$1196.4^2 = 1431373$
722	$722 - 664.6 = 57.4$	$57.4^2 = 3294.8$
76	$76 - 664.6 = -588.6$	$(-588.6)^2 = 346450$
262	$262 - 664.6 = -402.6$	$(-402.6)^2 = 162086.8$
Add up Data Values = 4652		Add up Differences ² = $\Sigma(x - \bar{x})^2 =$ = 2086072
Find the mean of the Data Values (\bar{x}) = $4652 \div 7 =$ 664.6		Find the mean of Differences ² = $\frac{\Sigma(x - \bar{x})^2}{N} =$ $2086072 \div 7 =$ 198010.3 (this is your VARIANCE)
		Find the square root of your VARIANCE = $\sigma = \sqrt{\frac{\Sigma(x - \bar{x})^2}{N}} =$ $\sqrt{198010.3} =$ 445