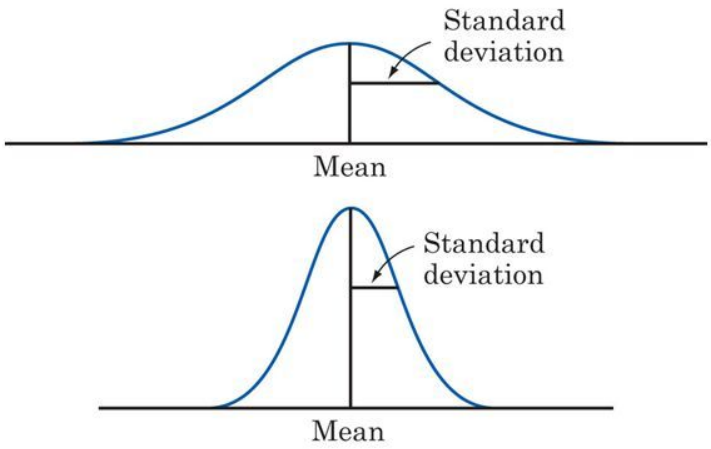
Interpreting Standard Deviation

A small standard deviation means that the values in a statistical data set are close to the mean of the data set, on average.

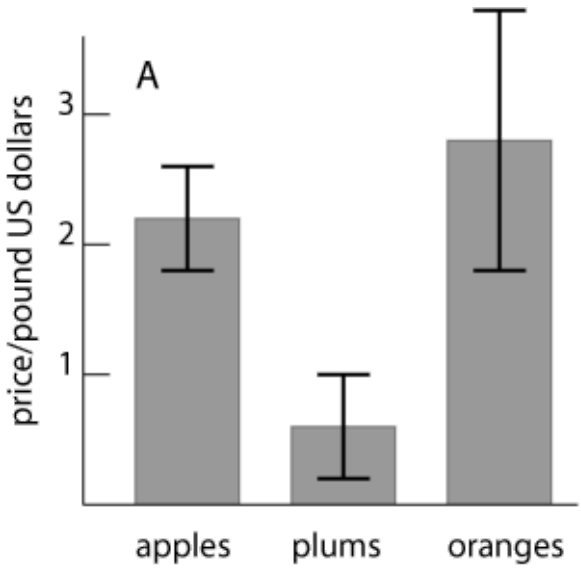
A large standard deviation means that the values in the data set are farther away from the mean, on average.



The figure on the top has a larger SD than the figure below.

The lower the SD, the more reliable the data.

Interpreting Standard Error



If SE bars overlap (apples and oranges), then there is a greater than 5% probability that results are due to change - therefore data is not significant, i.e. *we can't be certain that apples cost less than oranges*

If SE bars do not overlap (plums and oranges), there is a less than 5% probability that the results are due to chance - therefore data is significant.

We can say for certain that plums cost less than oranges.