HOW TO SUMMARIZE CONTINUOUS DATA

To describe your data, you will present both where the center of the data is located and a measure of spread.

Typical measures of central tendency:

	How to compute:	Computed example:	When to use:
Arithmetic Mean	Sum of all the values and divide by the sample size (n)	$\frac{1+4+6+1}{4} = \frac{12}{4} = 3.00$	Continuous, normally distributed (symmetric, bell-shaped) data
Geometric mean	The nth root of the product of all the values, where n= sample size	$\sqrt[4]{1\ x\ 4\ x\ 6\ x\ 1} = \sqrt[4]{24} = 2.21$	Used with growth rates such as bacterial counts.
Median	The middle value in the data set, when ordered from low to high value	Ordered data: 1,1,4,6 Middle value: $\frac{1+4}{2} = 2.5$	Continuous, skewed data
Mode	The value most commonly appearing in the data set	1 appears twice, therefore it is the mode. Truly continuous data often has no mode	Can be used for continuous data but mostly used for categorical data – nominal or ordinal

Typical measures of spread:

	How to compute:	When to use:
Variance	Take the sum of the squared deviations from the mean value divided by (n-1)	Continuous, normally distributed (symmetric, bell-shaped) data
Standard deviation	The square root of the variance	Same as variance
Range	The max - min of the data	Continuous, skewed data
Interquartile Range	The range of the middle fifty percent of a set of data; in other words, it's where the bulk of data tends to lie.	Continuous, skewed data