Distributions are graphs that tell us about some characteristic of a population. Mean and median are important parts of these graphs.

Samples are shadows of what data can look like.

Distribution of Data represents all possible values for a set of data and how often they occur. It tells us about the shape and distribution of data.

Data Shapes

Normal distribution: Tells the distribution is symmetric and unimodal (one peak.) Mean = Peak
Boxplot: Positive or negative skew.

Bimodal/multimodal data: Often means there are two different machines with two different distributions but are merged together. Often means two unimodal distributions being measured at the same time.

Uniform distribution: Each value has the same frequency

Standard deviation: 68-95-99.7

1. Deviation: 68 / 2 = 34% of population on both sides of mean on normal distribution
2. Deviations: 95 / 2 = 47.5% of population on both sides of mean or normal distribution
3. Deviations = 99.7 / 2 = 49.85% of population on both sides of mean or normal distribution