Statistical Inference
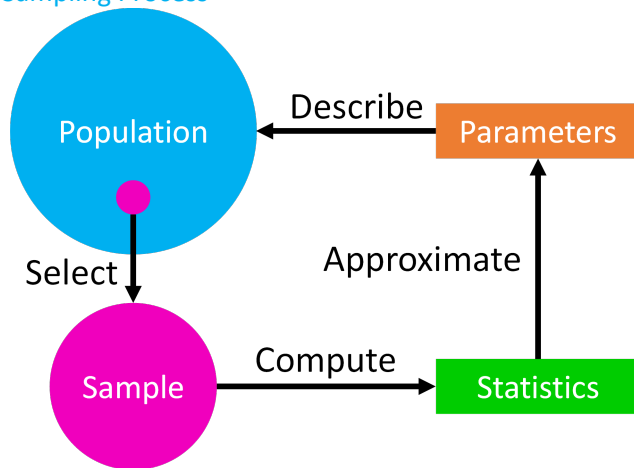
Population
A group that you want to know something about

N = number of members in a population

Population Parameter
A characteristic of a population. We generally want to find out this information but it can be difficult to determine as everyone in a population needs to be surveyed which is often impractical or expensive.

Mean	Variance	Standard Deviation	Proportion
μ	σ^2	σ	p

Sample
A group within the population you collect the information from

n = number of members in a sample

Sample Statistic
A characteristic of a sample. It is relatively simple to obtain a sample from a population and to calculate the statistics of the sample. For a well selected random sample, the statistics will approximate the population parameters.

Mean	Variance	Standard Deviation	Proportion
$\bar{x}$	s^2	s	$\hat{p}$