

## What Is Sampling?

Sampling is a process used in statistical analysis in which a predetermined number of observations are taken from a larger population. The methodology used to sample from a larger population depends on the type of analysis being performed, but it may include simple random sampling or systematic sampling.

### **Types of Sampling**

There are five types of sampling: Random, Systematic, Convenience, Cluster, and Stratified.

Random sampling is analogous to putting everyone's name into a hat and drawing out several names. Each element in the population has an equal chance of occurring. While this is the preferred way of sampling, it is often difficult to do. It requires that a complete list of every element in the population be obtained. Computer generated lists are often used with random sampling. You can generate random numbers using the TI82 calculator.

Systematic sampling is easier to do than random sampling. In systematic sampling, the list of elements is "counted off". That is, every kth element is taken. This is similar to lining everyone up and numbering off "1,2,3,4; 1,2,3,4; etc". When done numbering, all people numbered 4 would be used.

Convenience sampling is very easy to do, but it's probably the worst technique to use. In convenience sampling, readily available data is used. That is, the first people the surveyor runs into.

Cluster sampling is accomplished by dividing the population into groups -- usually geographically. These groups are called clusters or blocks. The clusters are randomly selected, and each element in the selected clusters are used.

Stratified sampling also divides the population into groups called strata. However, this time it is by some characteristic, not geographically. For instance, the population might be separated into males and females. A sample is taken from each of these strata using either random, systematic, or convenience sampling.

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