

## 9.3 Sampling Techniques

When conducting a survey, we can gather the data by:

1. **Direct observation** (record events or behaviours of people)
2. **Face to face interview** (in a public place or shopping center)
3. **Telephone interview** (usually faster, efficient)
4. **Written questionnaire** (to be filled out and returned)
5. **Documentary observation** (pull from existing data base)
6. **Mechanical or electronic instrumentation** (scanner in supermarkets, electronic counters)

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To choose the sample of our population:

You have already seen 2 Techniques in grades 7/8 :

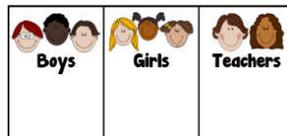
1. **Simple Random Sampling:** Method where we randomly choose the individuals belonging to the sample. (Choose numbers out of a hat)
2. **Systematic Random Sampling:** Method where we choose a starting individual and then choose every  $n^{\text{th}}$  individual after that. (Inspecting every 100<sup>th</sup> TV on an assembly line for quality control)

2

There are two other techniques:

**3. Stratified Sampling:** we use it when the population is divided into subgroups called Strata (by personalities, sex, interests, grade level, age groups)

We want all proportions of the population to be represented in the sample.



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Ex 1: A small school with 400 students has 160 grade 9's, 140 grade 10's, and 100 grade 11's .

A sample of 60 students are to be chosen for a survey. How many of each grade should be included?

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Ex 2: The following table shows the distribution of the 1200 students in a school.

	# of girls	# of boys
First cycle	360	345
Second cycle	240	255

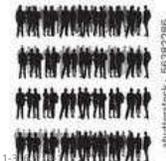
A sample of 180 students is required, it must be representative of the population. How many girls from the second cycle should be in the sample?

Another sampling technique:

**4. Cluster sampling:** When the population is made up of several similar clusters where there is a lot of variation inside each cluster. (such as grade 9 homerooms)

We then randomly choose some clusters.

Each individual in the cluster is surveyed.



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