

Name \_\_\_\_\_

Date \_\_\_\_\_

**Survey:**

<b>Types of Samples:</b>	
<b>Self – Selected:</b> members of a population can volunteer to be in the sample.	<b>Random:</b> each member of a population has an equal chance of being selected.
<b>Systematic:</b> a rule is used to select members of a population, such as selecting every other person.	<b>Stratified:</b> The population is first divided into groups. Then members are randomly chosen from each group.
<b>Convenience:</b> easy-to-reach members of a population are selected, such as those in the first row.	<b>Clustered:</b> The population is first divided into groups. A sample of the groups is randomly chosen. All members of the chosen groups are surveyed.

**Biased vs. Unbiased:**

- Biased:
  
  
  
- Unbiased:

**Convert from a Sample to Population**

## More vocabulary:

- Variables:
  
  
- Treatment Group:
  
  
- Control Group:

An **Experiment** or an **Observational Study**?

<p><b>Experiment: An experiment imposes a treatment on individuals to collect data on their responses.</b></p>	<p><b>Controlled experiment: In a controlled experiment, two groups are studied under conditions that are identical except for one variable.</b></p>
<p><b>Randomized comparative experiment: In a randomized comparative experiment, the individuals are assigned to a group at random</b></p> <ol style="list-style-type: none"> <li>1. <b>control group</b></li> <li>2. <b>treatment group</b></li> </ol>	<p><b>Observational Study: An observational study observes individuals and measures variables without controlling the individuals or their environment in any way.</b></p>

**Ex.3** – A researcher wants to know if a soil additive makes a fern grow more quickly. He grows one specimen in treated soil and one in untreated soil.

**Ex. 4** – To find out whether car accidents are more likely on rainy days, a researcher records the weather conditions during 50 randomly selected accidents for the past year.

**Ex. 5** – Does using tanning beds at least twice a month affect the likelihood of developing skin disease?

**Ex. 6** – One hundred arthritis sufferers reported the severity of their symptoms daily for a month. Fifty of the subjects were given Epsom salt to bathe in at least every other day. At the end of the month, 30% of the subjects who used Epsom salt reported a decrease in severity of their symptoms, compared 5% in the other group.

**Ex. 7** – Classify the method:

Method A:	Method B:	Method C:
Choose 50 people who have at least one serving of soy a day and 50 who don't, and check their cholesterol levels.	Randomly choose 100 people. Ask how many servings of soy they have a week, and ask if their cholesterol levels are high.	Randomly choose 50 people to eat at least one serving of soy a day, and 50 people not to, and monitor their cholesterol levels.