Unit 2: Sampling and Experimentation

Content Area: **Mathematics**
Course(s): **AP Statistics**
Time Period: **Semester 1**
Length: **4 weeks**
Status: **Published**

Standards

MA.S-IC.B.3	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
MA.S-IC.B.4	Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
MA.S-IC.B.6	Evaluate reports based on data.
TECH.8.1.12.E.CS2	Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.

Enduring Understandings

1. Data collected is only as good as the collection process.

2. Observational studies and Experiments serve different purposes and show different outcomes.

3. Errors in the data collection process occur, but need to be at a minimum.

Essential Questions

1. What is the difference between an observational study and an experiment?

2. How do you design an experiment?

3. What types of error and bias can be present in data collection?

Knowledge and Skills

- Distinguish between an observational study and an experiment.
- Recognize when an observational study or an experiment is more appropriate.
- Design an experiment.
- Decide what type of design to make an experiment.

- Identify what types of bias occured in sampling.
- Identify what types of bias occured in responses.

Transfer Goals

Goals need to be considered when crafting questions.

Bias can be reflected in who is asked or how information is protrayed.

Resources

The Practice of Statistics, 4th edition by BFW

www.webassign.net

myap.collegeboard.org