Unit 4: Statistical Inference

Content Area: **Mathematics**
Course(s): **AP Statistics**
Time Period: **Semester 2**
Length: **8 weeks**
Status: **Published**

Standards

MA.K-12.6	Attend to precision.
MA.S-IC.A.1	Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
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.5	Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
MA.S-IC.B.6	Evaluate reports based on data.

Enduring Understandings

Statistics come from samples, parameters describe entire populations.

Most parameters in the real world are unknown.

Confidence intervals estimate parameters using sample statistics.

Significance testing analyzes accuracy of claims made about paramters.

Essential Questions

1. How can a confidence interval be constructed and interpreted?

2. How can experimental data be used to test a claim about a population paramter?

Knowledge and Skills

- Use the 4-step process to make inferences about parameters.
- Construct confidence intervals on many different population parameters.
- Differentiate between single proportions, single means, two-sample proportions, two-sample means, and paired samples.

- Complete a significance test on claims made about parameters.

Transfer Goals

Adhering to procedures leads to success.

The same problem can look different through different lenses.

Resources

The Practice of Statistics, 4th edition by BFW

www.webassign.net

myap.collegeboard.org