Do Now

- What is an experiment?
- Think of an example of an experiment that you have completed or heard about. If you can't think of either of those, make one up.

Is anchored putting better? The opener.

- Video

- Many golfers started using longer putters (anchored putting), until it was recently banned.
- Are anchored putters actually better than traditional putters?

- In your group, discuss an experiment that we could do IN CLASS to test which putter is better. Give very specific details.
- You will write the details of the experiment in padlet.
- Then answer questions 2-5

Questions

2. What is the data that you will collect?

3. What variables will you try to keep the same during the experiment? How?

4. What if one putter is better for short putts and the other is better for long putts. Will your experiment be able to tell? Adjust your experiment if needed.

5. What if some of the people in the experiment are really good at golf and others are very bad. Will that affect the results?

Lesson 3.1

Introduction to Data collection

Objectives

- Distinguish statistical questions from other types of questions.
- Identify the population and sample in a statistical study.
- Distinguish between an observational study and an experiment.

Statistical Questions

- Valid statistical questions are based on data that varies

How to Complete the Statistical Problem-Solving Proccess

- **Ask questions**: Clarify the research problem and ask one or more valid statistical questions
- **Collect Data**: Design and carry out an appropriate plan to collect data
- **Analyze data**: Use appropriate graphical and numerical methods to analyze the data
- **Interpret results**: Draw conclusions based on the data analysis

Definitions

- The **population** in a statistical study is the entire group of individuals we want information about.
- A **census** collects data from every individual in the population.
- A **sample** is a subset of individuals in the population from which we actually collect data.

Definitions

- An **observational study** observes individuals and measures variables of interest but does not attempt to influence the responses.
- An **experiment** deliberately imposes some treatment on individuals to measure their responses.

Check your understanding