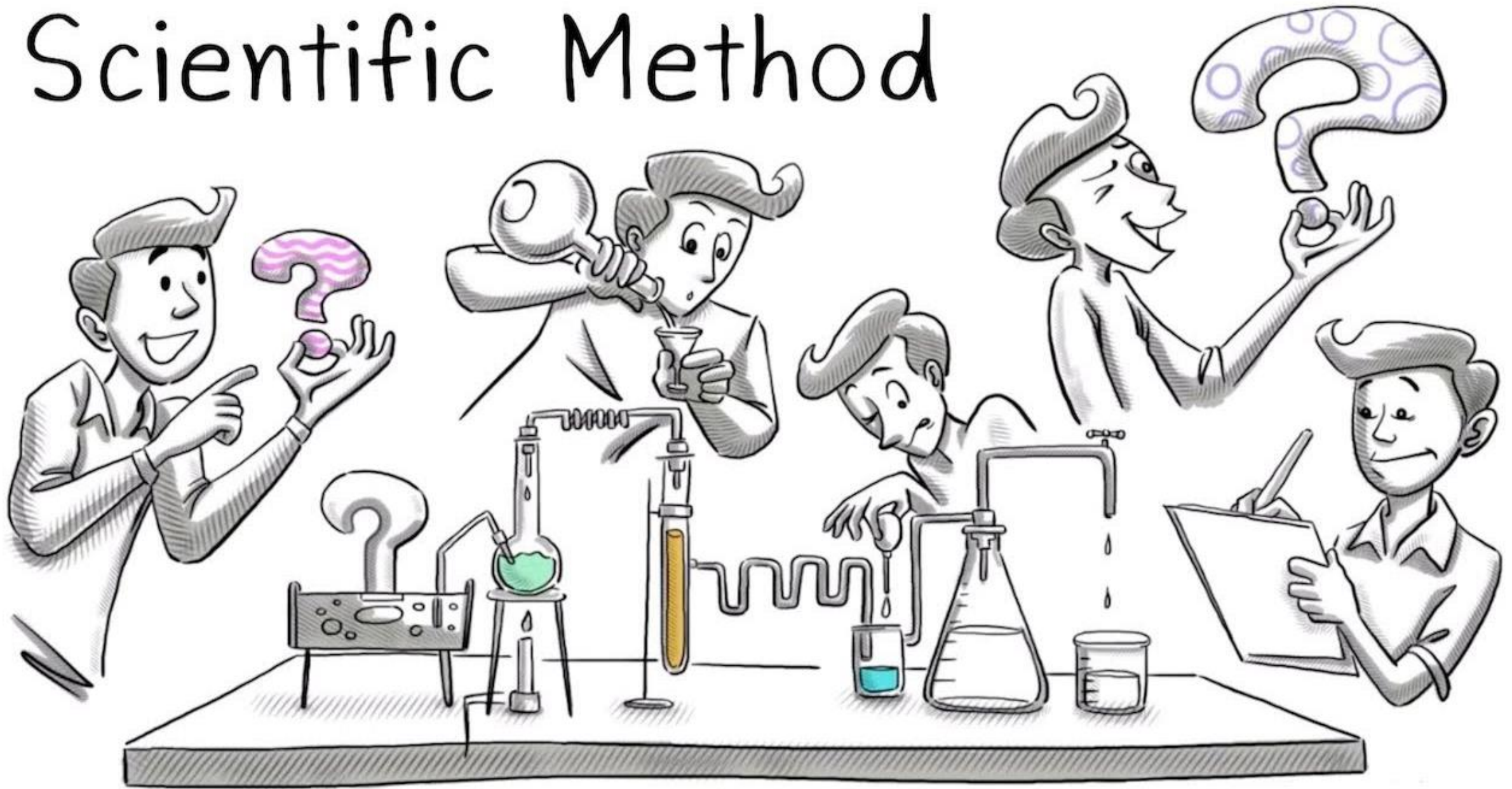




Story Time

Scientific Method





Make an Observation / Ask a Question / State the Problem

- This step is about wanting to understand something that you have seen or trying to find a solution to a problem that you may have.
- Made with the senses
- What observation did I make?



Hypothesis

A testable idea or explanation that leads to scientific investigation

It is an attempt to answer your question with an explanation that can be tested.

Made from previous experience and/or research

What hypothesis did I make?

Experiment

- An experiment is a procedure designed to test your hypothesis under controlled conditions.
- It is important for your experiment to test 1 independent variable at a time to see how your dependent variable will be effected. It is also important to test against a control group

Independent Variable

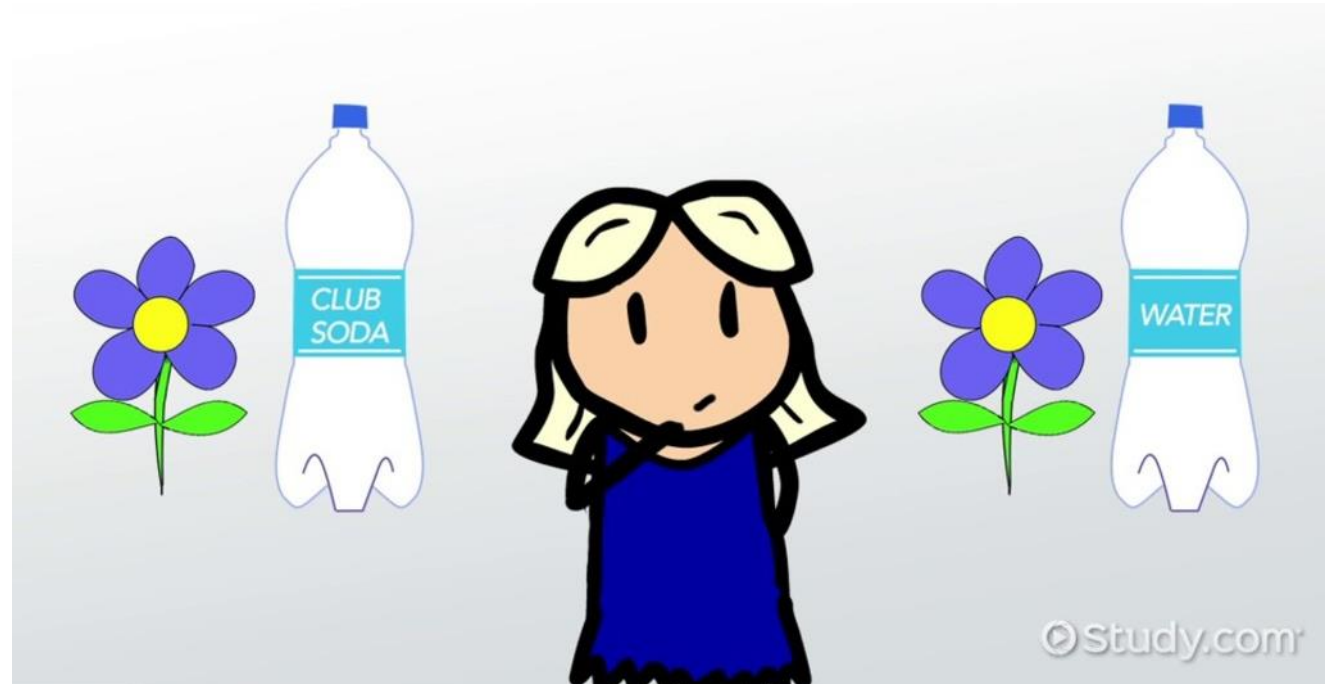
- Factor that is manipulated by the experimenter in an experiment

Dependent Variable

- Factor in an experiment that can change if the independent variable is changed

Control Group

- The control should be the part of the experiment where you do not include the Independent Variable. This is used for reference to compare your results in the experiment.



Organize Data

- Data is any pieces of information acquired through observation or experimentation.
- Data can be qualitative or quantitative.
- Data should be organized with the use of data tables, charts, and graphs.

Conclusion



- Once your experiment is complete, you then analyze your data to see if it supports your hypothesis or not.
- This should be a statement of whether or not your hypothesis was correct.
- It is not “bad” if your hypothesis was wrong, because it means you still discovered something! Scientists often find that their predictions may not be accurate and that their hypotheses were incorrect.

Repeat

- Regardless of the results of your experiment, you should always repeat your experiment to make sure that you get the same results.
 - If your results change, then something is happening during your experiment that you are not aware of.
- If your hypothesis was incorrect, a new hypothesis should be tested.

