

# Scientific Method

A blueprint for experiment success.

## What is the scientific method?

It is a simple method scientists use to conduct an investigation.

It is a way to ask & answer scientific questions by asking questions & conducting experiments.

### I) Question/Problem

- a) Ask a question about something observed.
  - i) Why?
  - ii) How?
  - iii) What?
- b) Question to be solved.
- c) Must be about something measurable.

### II) Hypothesis

- a) Educated guess about how things work.
- b) Prediction
  - i) Use If, then statements
  - ii) If \_\_\_\_\_ [*I do this*], then \_\_\_\_\_ [*this will happen*]
  - iii) Focus on one variable only.

### III) Experiment

- a) Tests your hypothesis.
- b) Is it accepted (right) or rejected (wrong) ?
  - i) Change only one variable at a time.
  - ii) Use a control or control group  
(*A group that has nothing done to it. Standard used for comparison in an experiment.*)
  - iii) In order for results to be valid, conduct several tests.

### IV) Conclusion

- a) Summary of your experiment.
- b) After your experiment, analyze your data to see if your hypothesis was accepted or rejected.
- C)** If hypothesis is rejected, give possible reasons for the difference between your hypothesis and the experimental results.