

SCIENTIFIC METHOD

1. Observation

- a) **Law** is a statement of fact. A statement of what is observed. (*Laws do not ever change because they are based on observations of natural phenomena.*)

2. Literature research

3. **Hypothesis** is a statement that tentatively explains what is observed and that can be tested by doing an experiment.

4. **Experiment** is conducting a controlled test to **collect data** to support or negate a hypothesis. (*Experiments must be conducted under carefully controlled conditions so that they can be reproduced over and over. This separates science from pseudo science.*)

5. **Theory** is a statement which explains what is observed that is supported with experimental evidence and is used to make predictions. (*Mathematical models are frequently derived from a theory. At any time, a new experiment may be done that invalidates the theory.*)