

Scientific Method – Notes

The scientific method is a systematic approach to problem solving.

Listed below are the basic steps of the scientific method, in one possible order:

- State the problem
- Gather information on the problem
- Form a hypothesis
- Perform an experiment to test the hypothesis
- Record and analyze data
- State a conclusion
- Repeat the work

Vocabulary:

Problem – scientific question that can be answered by experimentation

Hypothesis – an educated prediction about how the independent variable will affect the dependent variable stated in a way that is testable (“If...then...” statement)

Variable – a factor in an experiment that changes or could be changed.

Independent Variable – the variable that is changed on purpose.

Dependent Variable – the variable that responds to the independent variable.

Control – the standard for comparison in an experiment; the independent variable is not applied to the control group.

Constant – a factor in an experiment that is kept the same in all trials.

Repeated Trials – the number of times an experiment is repeated.