

**Course/Level**  
11<sup>th</sup> and 12<sup>th</sup> Grade  
AP Biology II

**P.A.S.S. Strand:**  
(not applicable)

**Time Range**  
10 days

**Objective (local objective to address College Board curriculum)**  
**I. What is Science? What does it do?**  
A. State the scientific method – know parts of the scientific method and how it is applied in biology fields  
1. Identify control and why it's needed  
2. Identify variables – dependent and independent variables  
B. Be able to list major laboratory safety skills  
C. Describe what organizational skills are needed to keep a notebook  
D. Identify major characteristics found in all living things  
E. List the levels of classification and apply concept of hierarchical order  
F. Identify differences in prokaryotic and eukaryotic cells  
G. Describe the major characteristics of the five kingdoms of life  
H. List the four greatest environmental challenges facing the world today  
I. List the scientists who helped to develop the cell theory, classification systems, and the scientific method.

**Suggested Teaching Strategies:**  
Students will read and take their own notes on the chapter (maybe in outline form).  
Lecture on how and what to keep in a class notebook.  
**Science as a Process:** Lecture on who developed the scientific method.  
Lecture and class discussion on scientific method.  
Lecture and class discussion on limits of science, what are laws, theories, and hypotheses.  
Lecture on characteristics found in all living things.  
Lecture on the major characteristics of the five kingdoms of life.  
**Science as a Process:** Lecture on the who helped developed cell theory  
Students take notes on lecture (maybe in outline form).  
Students will fill out cross word puzzle that uses terms from the chapter  
Students will fill out chapter study guide to compliment their lecture and board notes.  
Students will do worksheets on classifications of animals and what kingdom, phylum and class they belong to.  
**Science as a Process:** Students will use computer and do activity 1.1 Acid Rain Precipitation – Hypothetic-deductive system on CD Rom on “Campbell’s Biology”  
Lecture and class discussion on laboratory safety and laboratory rules review sheet. Lab safety test.  
**Critical Thinking:** Use reading and question set on “Tragedy of the Commons” to guide students through cause and effect, basics on how certain human activity has drastic effects on an ecosystem. Have students postulate how and why commons were lost in ancient times.  
**Core Lab 1:** Testing a Hypothesis – The Black Box Lab  
**Core Lab 2:** Independent Research Project

**Aligned Resources:**  
Handout on prefixes and suffixes  
Handout on scientists  
Handout on how to do a lab write-up  
Handout on metric conversion  
Study guide over unit one  
Overhead notes on scientific method  
Crossword puzzle  
Safety laboratory rules sheet.  
Transparencies on scientific method  
Computers and CD-ROM  
Labs and materials  
International Science and Engineering Fair rules and forms

**Assessment Sample Format:**  
Prefix / suffix test, Grade on reading quiz, Test on laboratory safety rules, Grade on study guide and crossword puzzle, Grade for lab write-up, Grade rubric for research project, Unit test.