Outline 1: Science and Biology

I. The Process of Science
   A. What is Science?
   
   B. What is data?
      1. Quantitative Data
      2. Qualitative Data
   
   C. What do data tell us?
      1. Inductive Reasoning
      2. Deductive reasoning

II. The Scientific Method
   A. Scientific Hypotheses
      1. Hypothesis-based science
      2. Properties of Scientific Hypothesis
      3. Support or Rejecting Hypotheses
B. The Scientific Method

C. The Nature of Science
   1. Limits of Science
   2. Scientific Theories
   3. Scientific knowledge can change
   4. Science is influenced by society

III. Biology
   A. What is Biology?
   B. What is Life?
C. The Biological Hierarchy of Organization

1. Cell
2. Tissue
3. Organ
4. organ system
5. organism
6. species
7. population
8. community
9. ecosystem
10. biosphere

IV. Evolution, Unity, and Diversity
A. Taxonomy

B. The Three Domains of Life
1. Bacteria
2. Archaea
3. Eukarya
C. Evolution as a core theme of biology

1. Charles Darwin

2. Natural Selection

3. Natural Selection can lead to the formation of new species

4. Related species share common ancestors