Issues in Biology and the Scientific Method

1. Issues in Biology
   1. Bioterrorism
      1. Biowarfare
      2. Biochemical Agents
         1. Pathogens
            1. Anthrax
            2. Small pox
         2. Agriculture pesticides
   2. Avian Flu Pandemic
      1. Major outbreaks
   3. Embryonic Stem Cells
   4. Over population
      1. Carrying capacity
      2. Niche
   5. Global warming
   6. Biodiversity
      1. Goal of scientists
2. Scientific Method
   1. Scientific theory
      1. Components
      2. Biology
   2. Common Steps
      1. Observation
         1. Problem
      2. Hypothesis
         1. Postulating a Premise
         2. Critical thinking/analysis
            1. Deductive reasoning
            2. Inductive reasoning
            3. Hypothetico reasoning
      3. Experimentation
         1. Relation to Hypothesis
         2. Experimental Design
         3. Materials and Procedures
            1. Variables

Dependent

Independent

Controlled

* + - * 1. Control
    1. Collection of Results
       1. Tables and Graphs
    2. Interpretation of Data
       1. Statistical Tests
          1. T-Test
          2. ANOVA
          3. Chi Square
    3. Conclusion
    4. Replication of experiment
  1. Scientific Law
  2. Limitations of the Scientific Method