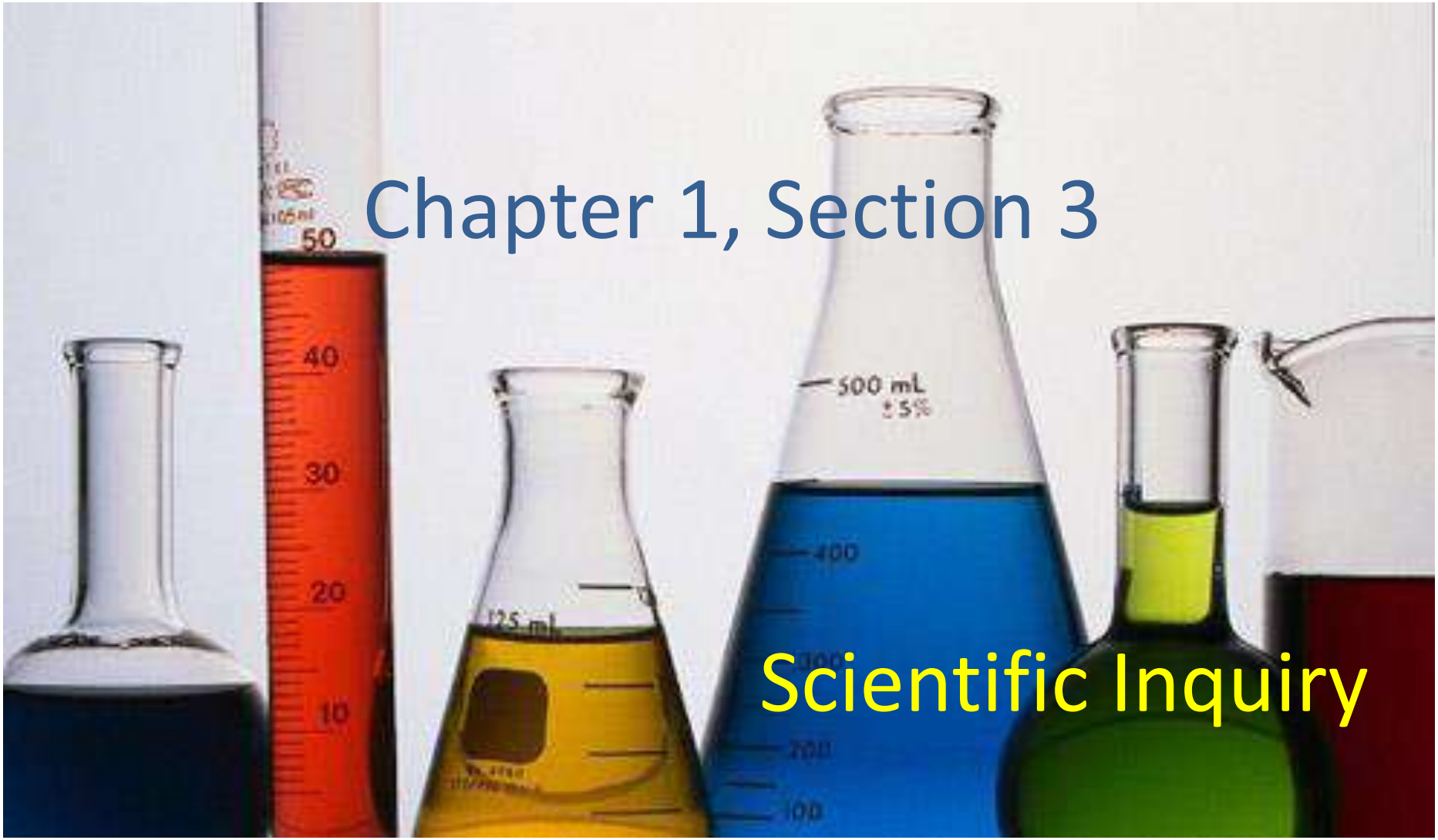
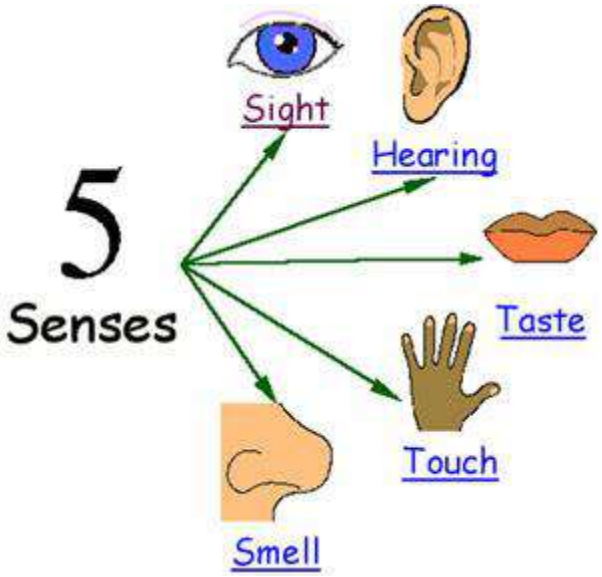


Chapter 1, Section 3

Scientific Inquiry

KEY IDEA:

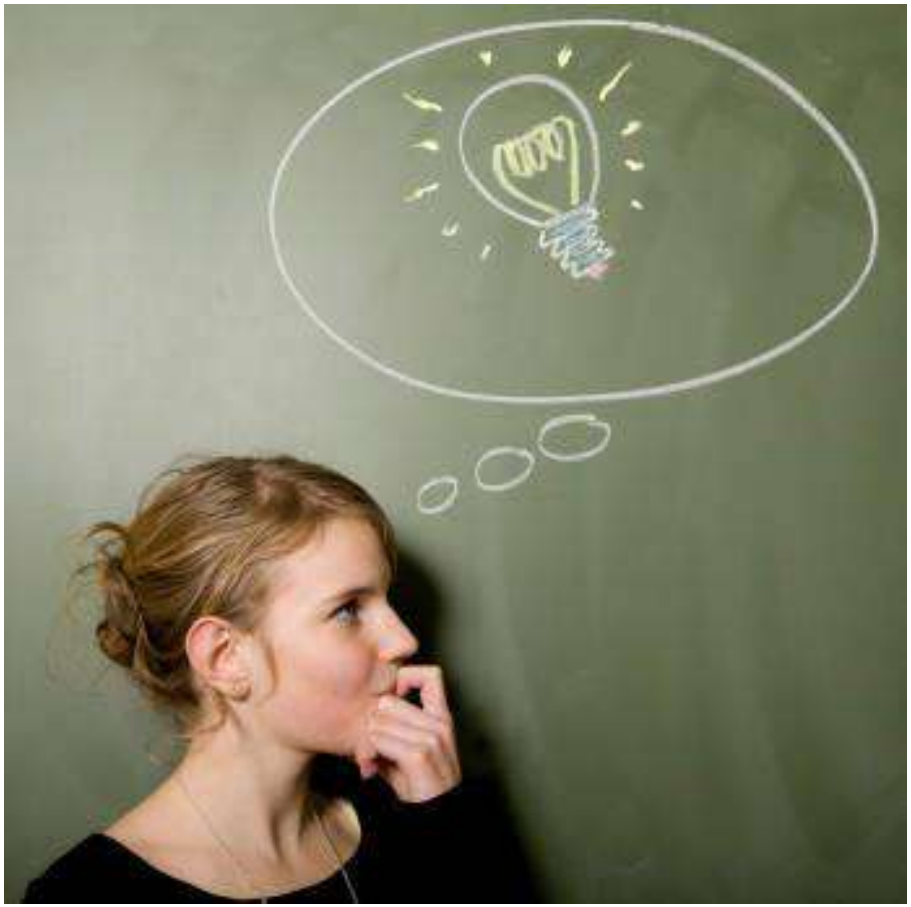
Scientific Inquiry refers to the many ways in which scientists investigate the natural world and make explanations based on evidence they gather.



Steps to the Scientific Process

1. Question:
   - Based on your observation
   - Example: does the air temperature affect the chirping of crickets?
2. Hypothesis:
   - An educated guess or possible explanation for your observation
   - Must be testable
   - Table talk: Guess how you think the frequency of cricket chirps would change with temperature.

Steps, cont'd.



3. Design an Experiment:
   - To test your hypothesis
   - Only change one variable at a time

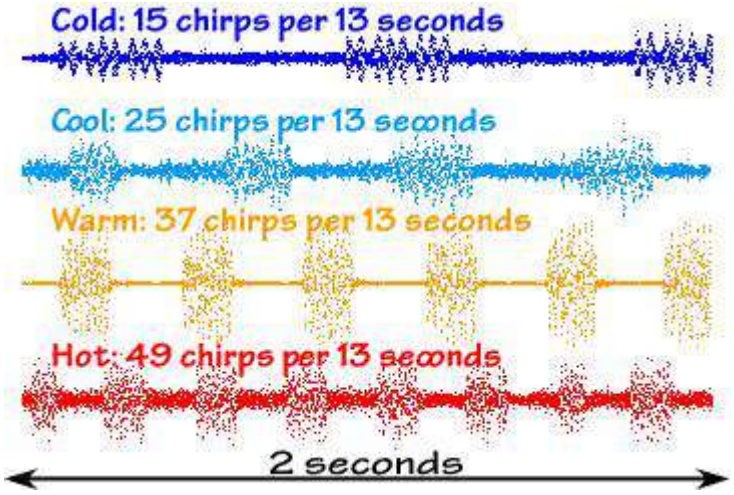
variable - a factor that can change in an experiment

(Example: temperature would be the variable that changes in studying crickets)

control - a part of the experiment to which you can compare other tests

(Example: control crickets have no temperature change)

Steps, cont'd.



4. Collect and Interpret Data

data = facts, figures, & other evidence gathered through observations.

Example: a chart of the number of cricket chirps counted at different temperatures

5. Draw Conclusion

Decide if your original hypothesis was correct.

Steps, cont'd.

6. Communicate Results

Share results, ideas and experimental findings with others

See BrainPop, "Scientific Method"

See DiscoveryEd video: "How Scientists Work – What is the Scientific Method?" 21 min.

End