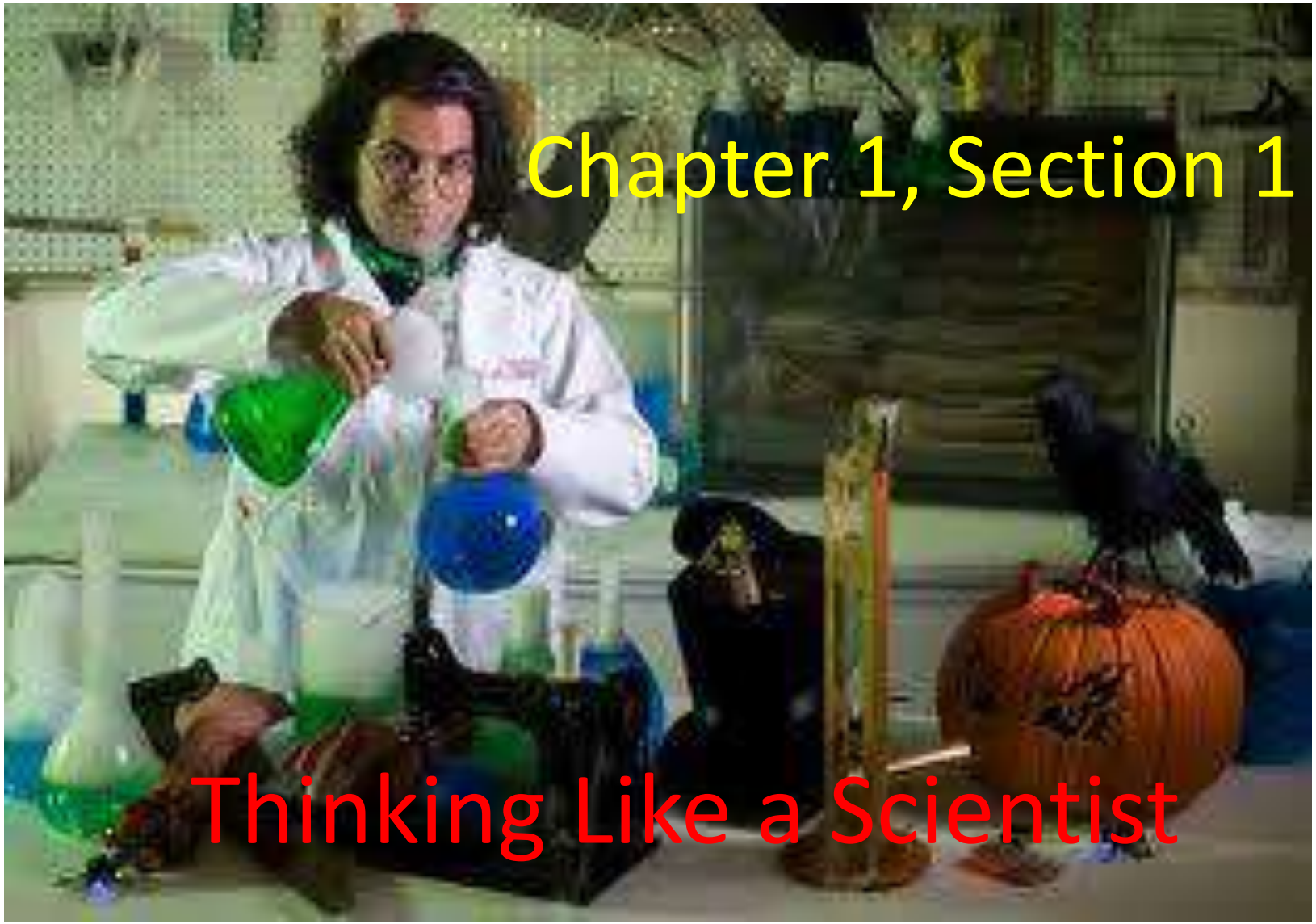
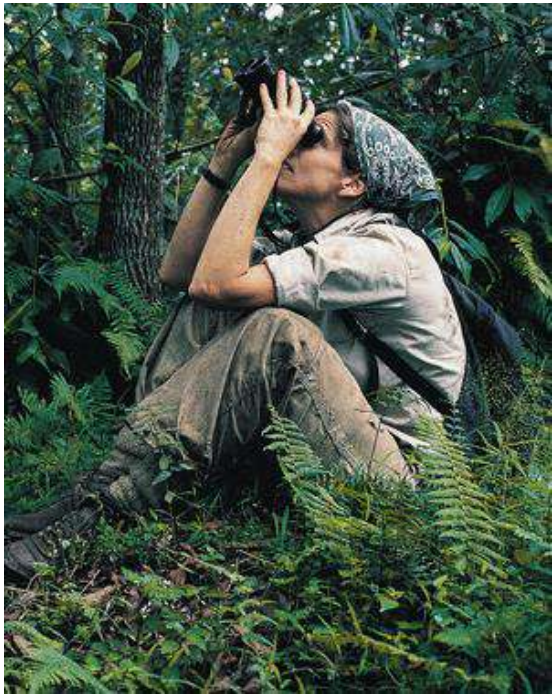

Chapter 1, Section 1
Thinking Like a Scientist

KEY IDEA:

Scientists use skills such as observing, inferring, predicting, classifying, and making models to learn more about the world and make scientific progress.



Observation

Table talk: What ARE the five senses?

- Uses the five senses:
- 5 senses: taste, touch, sight, smell, hearing
- 2 types of observations:
  - Quantitative Observation: these observations deal with numbers or amounts. (Example: a scientist may study the number of bees that go in and out of a hive.)
  - Qualitative Observation: These observations deal with descriptions that can't be expressed in numbers. (Example: an artic fox's fur changes color with the seasons)

Inference

Table Talk: Based on what you observe, infer why this student is smiling.

- what you know + what you learn
- When you interpret or explain what is observed.
- Based on reasoning
- An inference may not always be correct.

Predicting

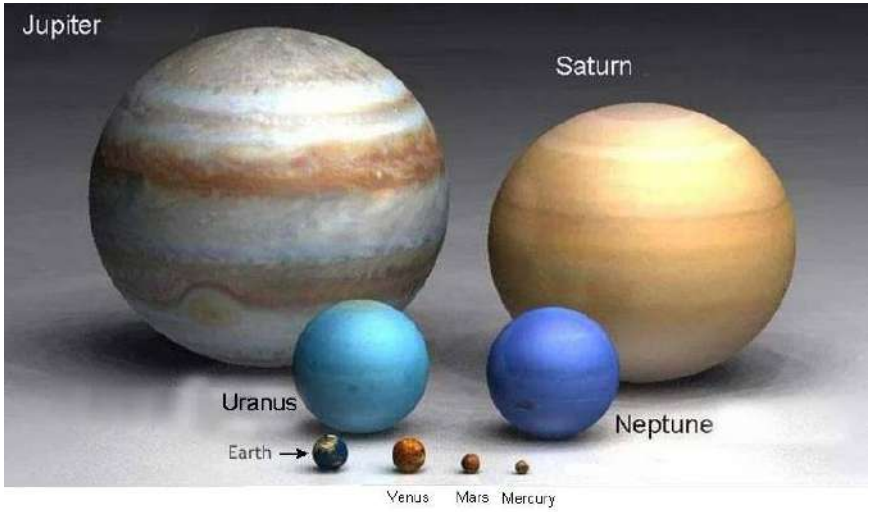
- to make a forecast of what will happen in the future based on past experience or evidence.

- Quickwrite: Make three predictions about school this week in your notebook.

Classification

- The process of grouping like items together.
- Quickwrite: classify these items into two separate categories:
  - Goldfish
  - Dog
  - Cat
  - Shark
  - Lion
- Table talk: discuss your results with your table

Making Models



- Creating representations of complex objects and processes
  - Example: map of Bengal Tiger habitats

- Scale models show proportions between parts; Example: solar system

See DiscoveryEd video: "How Scientists Work – What is Scientific Inquiry?" 20 min.

End