How is scientific research conducted?

- Identify the components of the scientific method.
- Explain why the scientific method is a cycle.

How is science done?

- The **scientific method** is a way to investigate and organize knowledge
- The 5 steps of the scientific method listed in your book are:
  - 1. **QUESTION**
  - 2. **MAKE HYPOTHESIS**
  - 3. **PREDICT**
  - 4. **EXPERIMENT**
  - 5.**DEVELOP RULES**

How is science done?

- In real science, there is no such thing as "THE Scientific Method." Most scientific thinking involves **continuous** observations, questions, multiple hypotheses, and more observations. It seldom "concludes" and never "proves."

How is science done?

- A scientific **law** is formed from a hypothesis that has been tested repeatedly and never been refuted
  - **Newton's Laws of Motion**
  - **The Law of Conservation of Energy**

How is science done?

- An explanation based on the synthesis of scientific laws and facts is a scientific **theory**
  - **Atomic Theory**
  - **Theory of Evolution**

How is science done?

- Scientific facts, laws, and theories are **NOT absolute truths**.
- As new information **becomes available, scientific concepts are adapted** and **changed** to reflect the latest data.