**UNIT 0: Scientific Methodology**

The Scientific Method

1. Observation
2. Question
3. Hypothesis
4. Experiment
5. Analysis and Conclusion
6. Communicate your results

Scientific Law vs. Scientific theory

Scientific Law: an **observed** phenomenon (Newton’s laws of physics)

Scientific Theory: an **explanation** that is consistently supported by the available

Evidence (natural selection)

Ex. Evolution: the observation that life changes over time to form new species

Evolution by natural selection: explanation of how/why new species form

Characteristics that define life

1. Growth and development
2. Reproduction (genetic)
3. Maintains homeostasis
4. Responds to external stimuli
5. Made of cells

Cell Theory: all cells come from existing cells

Why is this a theory and not a law?

A cell is the smallest unit of matter currently considered alive. Cells are made of smaller parts called **organelles** which each have specific functions.