

Exam #1

Found in this chapter:

- **What is science?**
- **What is biology?**
 - **Unity**
 - **Diversity**
- **Main cell types**
 - **Prokaryotic**
 - **Eukaryotic**
- **Taxonomy**
 - **Taxonomy classifications**
 - **Binomial system**
- **Five kingdoms system**
 - **Monera**
 - **Plantae**
 - **Fungi**
 - **Animalia**
 - **Protista**
- **Three domain system**
 - **Bacteria**
 - **Archaea**
 - **Eukarya**
- **Organizational levels**
 - **Chemical**
 - **Organelle**
 - **Cell**
 - **Tissue**
 - **Organ**
 - **Organ system**
 - **Organism**
- **Chemistry basics**
 - **Matter**
 - **Mass**
 - **Weight**
- **Physical states of matter**
 - **Solid**

- Liquid
- Gas
- **Periodic table of elements**
 - Elements
 - 98% of live if made up of (CHNOPS)
 - Remaining 2% (SCMPCI)
- **Chemistry basics**
 - Atoms
 - Atoms are composed of
 - electrons
 - neutrons
 - protons
 - Mass number
 - Atomic number
 - AMU
 - Isotope
- **Structure of an atom**
- **Electron shells**
 - Octet Rule
- **Chemical reactions**
 - Molecule
 - Compound
 - Ion
 - Cation
 - Anion'
 - Ionic Bond
 - Covalent Bond
 - Polar Covalent Bond
 - Nonpolar Covalent Bond
 - Solution
 - Solute
 - Solvent
- **Acids and Bases**
 - Acid
 - Base
 - pH scale
 - Buffer
 - pH Balance

What is science?

- A dynamic, ever changing, organized body of knowledge acquired through observation, experiments and reason.

-Anything you are going to find doing experiments, by observing and by problem solving (scientific method).

- It is **Empirical**
 - **Empirical** - based on observations experience, measurement (*common sense*).

What is not science?

- A topic made to look scientific.
 - Anything that lacks empirical data.

Examples:

- *Horoscopes*
- *Crystal healing*
- *Ghosts*
- *UFOs*
- *Noah's Ark*
- *Extraterrestrials*
- *God*

Biology