Physical Science - Semester 1 Final Study Guide

Ch. 1 Introduction to Physical Science

- Know the difference between a hypothesis, a scientific theory, and a scientific law. Be able to give examples.
- Know the steps in the tech design process.
- Know the difference between social and physical constraints.

Ch. 2 Matter and Its Interactions

- Know the difference between physical and chemical *properties*, and give examples of each.
- Know the difference between physical and chemical *changes*, and give examples of each.

Ch. 3 Solids, Liquids and Gases

- Know the different states of matter, their molecular arrangement, volume, and shape.
- Be able to explain Boyle's Law and Charles' Law.
- Identify examples of Boyle's Law and Charles' Law.

Periodic Table

- Be able to "read" the periodic table.
  (Identify groups, periods, metals, nonmetals, metalloids, atomic number and what it represents, atomic mass and what it represents, etc.).
- Know the parts of an atom.

Ch. 4 Radioactivity

- Explain what happens during nuclear fission and nuclear fusion.
- Explain what is emitted during each type of nuclear decay, and how the atomic and mass numbers change.

Ch. 5 Solutions

- Know the differences between elements, compounds, and mixtures, and give examples.
- Distinguish between homogeneous mixtures and heterogeneous mixtures.
- Identify the parts of a solution.
- Tell the difference between solubility, saturation and concentration, and what affects them.
- Find the concentration of a solution.