

Basic Chemistry

I. Chemical Elements

- Matter
- Elements
- The Atom
- Chemical Properties of Elements

II. Molecules

- Naturally Occurring Elements vs. Compounds
- Chemical Bonds

III. Chemistry of Water

- Important properties of water (due to polarity and hydrogen bonds)
- Acids, Bases, and the pH scale

Key Terms: Matter, Subatomic Particles, Protons, Neutrons, Electrons, Atoms, Elements, Periodic Table, Molecules, Compounds, Ions, Chemical Reactions, Chemical Bonds, Ionic Bonds, Covalent Bonds, Hydrogen Bonds, Water, Properties of Water, pH, Acids, Bases, Acid Precipitation.

Recommended videos:

1. Khan Academy: Elements and Atoms (13:09 min)
(https://www.youtube.com/watch?v=IFKnq9QM6_A)
2. Don Johnson: Tom Lehrer CHEMISTRY element song (1:24 min)
(<https://www.youtube.com/watch?v=DYW50F42ss8>)
3. Khan Academy: Introduction to the atom (21:05 min)
(<https://www.youtube.com/watch?v=1x5QlwWGT8M>)
4. The Age of Our World Made easy [Isotopes] (9:35 min)
(<https://www.youtube.com/watch?v=w5369-OobM4>)
5. Bozeman (Mr. Anderson): Water: A Polar Molecule (8:37 min)
(<https://www.youtube.com/watch?v=iOOvX0jmhJ4>)

Learning Objectives: Understand the following topics / concepts:

1. Elements
2. Atoms
3. Molecules
4. Importance of Water