

## Study Goals: Biochemistry (1 & 2)

### Elements

- Four elements that make up everything
- If you measure elements in living things are:
  - i. C
  - ii. H
  - iii. O
  - iv. N

### Atoms

- atoms
- basic building blocks of all matter
- consist of nucleus that has:
  - i. protons, which has \_\_\_\_\_ relative positively electrons spin around the nucleus
  - ii. Neutrons, which has \_\_\_\_\_ relative electrons (not charged)
- mass of different elements have different numbers of \_\_\_\_\_
- isotopes:
  - i. same number of protons and are called isotopes

### Compounds

- substances made up of 2 or more elements chemically combined
  - i. table salt is made up of \_\_\_\_\_

### Chemical Bonds

- atoms combine with each other in order to fill up their valence energy level with electrons, which makes the atom stable
- atoms are held together through \_\_\_\_\_ bonds
- Two types of chemical bonds:
  - i. \_\_\_\_\_; formed when one atom donate electrons to another atom
  - ii. \_\_\_\_\_; formed when one atom share electrons
  - iii. Molecules: compound held together by covalent bonds

### Water

- Water (H<sub>2</sub>O) is a molecule that consists \_\_\_\_\_ bonds
- Water is \_\_\_\_\_, which means there is a positive end and a negative end
- Multiple water molecules are held together by \_\_\_\_\_ bonds

### Organic compounds

- Compounds that contain \_\_\_\_\_ atoms bonded to each other
- Found in all living things
- Carbon is important because it can bond to other atoms in so many ways
- Four different types of organic compounds