Compounds & Molecules

- **COMPOUNDS** are combinations of 2 or more elements in definite integer ratios by number.
- The character of each element is lost when forming a compound.
- **MOLECULES** are the smallest units of a compound that retain the characteristics of the compound.

Molecular Formulas

- Formula for glycine is $\text{C}_2\text{H}_5\text{NO}_2$
- In one molecule there are:
  - 2 C atoms
  - 5 H atoms
  - 1 N atom
  - 2 O atoms

Writing Formulas

- One can also write the glycine formula as $\text{H}_2\text{NCH}_2\text{COOH}$ to show atom ordering.
- or in the form of a structural formula.
IONS AND IONIC COMPOUNDS

- **IONS** are atoms or groups of atoms with a positive or negative charge.
- Taking away an electron from an atom gives a **CATION** with a positive charge.
- Adding an electron to an atom gives an **ANION** with a negative charge.

Formation of Cations & Anions

- A cation forms when an atom loses one or more electrons.
- An anion forms when an atom gains one or more electrons.

Molecular Models

- **Drawing of glycine**
- **Ball & stick**
- **Space-filling**

IONs and Ionic Compounds

- **Mg** → **Mg^{2+} + 2 e^-**
- **F + e^- → F^-**