

# Basic Elements of the Human Body

## Elements (% of body weight)

- Oxygen** (65%) - component of water, oxygen gas, O<sub>2</sub>, and most organic compounds
- Carbon** (18.6%) - found in all organic molecules
- Hydrogen** (9.7%) - found in water and in all organic molecules
- Nitrogen** (3.2%) - found especially in proteins and nucleic acids
- Calcium** (1.8%) - found in bones and teeth; also vital for membrane functions, nerve impulses, muscle contractions, heart beat, glandular secretions, blood clotting and as cofactor for some enzymes
- Phosphorus** (1.0%) - found in bones and teeth; also a component of nucleic acids and ATP
- Potassium** (0.4%) - most of the body's potassium is found within cells; affects nerve impulses and muscle contractions, main control on fluid volume inside cells, helps control acid/base balance
- Sodium** (0.2%) - important in membrane functions, water balance, nerve impulses and muscle contractions
- Chlorine** (0.2%) - important in membrane functions, water balance, nerve impulses and muscle contractions
- Magnesium** (0.06%) - cofactor for several enzymes
- Sulfur** (0.04%) - found in many proteins
- Iron** (0.007) - component of hemoglobin used to transport oxygen, O<sub>2</sub>, to cells
- Iodine** (0.0002%) - essential for synthesis of thyroid hormone that controls metabolism

## Trace Elements

**Silicon**  
**Fluorine**  
**Copper**  
**Manganese**  
**Zinc**  
**Selenium**  
**Cobalt**  
**Molybdenum**  
**Cadmium**  
**Chromium**  
**Tin**  
**Aluminum**  
**Boron**