

Biology 101 Chapter 2 the Chemical Basis of Life

Chemistry = the study of matter and the changes matter undergoes.

Nature of Matter:

Element defined: the basic kinds or types of matter, a substance that cannot be broken down further by chemical means.

- - substances whose atoms have the same # of protons
- - 92 elements occur naturally, 25 found in living things
- - 118 known elements
- - the 4 most important elements (>97% mass)

1) Carbon [C] 2) Oxygen [O] 3) Hydrogen [H] 4) Nitrogen [N]

- - trace elements

Atom defined: the smallest fundamental particles of matter that still retain the identity of an element.

Atomic Structure

Same for all atoms

Atoms have two basic regions

- 1) Nucleus
- 2) Orbitals (shells)

Composed of 3 smaller particles (subatomic particles) 1.

Protons