

IMPORTANT TERMS:

- Atom
- Atomic number
- Chemical formula
- Compound
- Element
- Isotope
- Molecule
- Neutron
- Nucleus
- Periodic table
- Plasma
- proton

EQUATIONS:

UNIT II: PROPERTIES OF MATTER

Chapter 17-20: Solids, Liquids, Gasses

I. Elements (17.1)

A. **atoms**– the building blocks of _____

B. **Element**– material made up of only one kind of _____

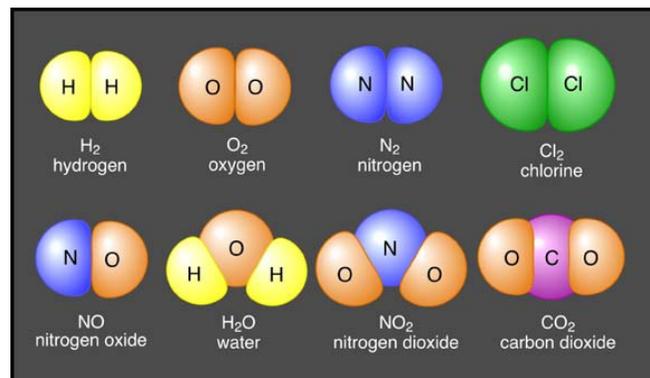
1. Earth formed from only about a _____ elements
2. Many elements are relatively _____.
3. Living things composed primarily of _____ **elements** (oxygen (O), carbon (C), hydrogen (H), nitrogen (N), and calcium (Ca))
4. lightest element is _____ (H)
 - a. Most _____ element in the universe (**90% of all atoms in known universe**)
 - b. _____ makes up most of the remaining 10% (second lightest element. Relatively rare on Earth however)
5. **Heavier elements** by hydrogen _____ reactions within stars.
6. Nearly all elements on Earth are remnants of stars that exploded before the solar system came into being

II. Molecules (17.5)

A. **molecule**– when two or more _____ combine to form larger particle.

B. Matter that is **gas** or **liquid** at room temperature is usually made of molecules

1. Matter made of molecules may contain all the same kind of molecule, or be a mixture of different kinds of molecules



2. **Metals** and **crystalline minerals** made of atoms that are _____ joined in molecules

III. Compounds (17.6)

A. **compound**– substance made of atoms of different _____ in a fixed _____

1. **chemical formula**– tells _____ of each kind of atom in compound

2. A compound may or may not be made of molecules

B. Compounds have different _____ from the elements of which they are made

IV. The Atomic Nucleus (17.7)

A. **nucleus**– center of atom containing _____ and _____

1. Almost all _____ of atom exists here

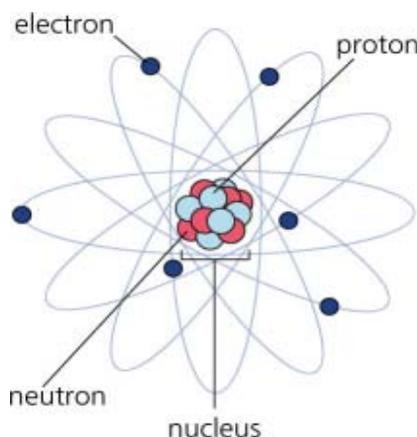
2. Nucleus occupies only _____ of the volume of an atom

B. Contains **protons** (+ charge) and **neutrons** (neutrally charged)

1. Atoms with _____ of protons belong to same element

2. Number of neutrons may vary for given element (called _____ of that element)

C. **Atomic number**– number of _____ found in nucleus. Used to _____ atoms



V. Electrons in the Atom (17.8)

A. **electrons**- (-) charged particle that orbits the nucleus of atom

1. **solids**– atoms and molecules _____ about fixed positions.

2. **liquids**– _____ vibration cause molecules to “shake apart” into nonfixed positions (taking shape of container)

3. **gasses**– when additional _____ added to cause molecules to break away from one another

C. All substances can be _____ from one phase to another

The general progression of phase changes.

