ORGANIC CHEMISTRY

Organic Chemistry is the study of **carbon** and most carbon compounds. Elemental carbon is found in nature as a solid. However, this solid can make many different forms, such as diamond and graphite. Carbon's properties make possible an incredible variety of compounds, many of which form the basis for life itself. In this unit you will be introduced to the wide variety of organic compounds and the types of reactions they undergo.

I. Bonding of Carbon Atoms

A. Carbon has a unique ability to form many different compounds

- This is based on the tendency of carbon atoms to _____ bond with other carbon atoms and form _____.
- One carbon atom can form a maximum of _____ covalent bonds

Un-bonded carbon (ground state)	C
Bonded carbon	C

B. Properties of Carbon Bonds

1. Covalently bonded to each other
2. Generally have _____ melting points and _____ boiling points
3. _____ conductors of heat and electricity
4. Most are _____ and tend to dissolve in non-polar solvents
5. _____ to react

C. The Bonding Behavior of Carbon

1. Carbon atoms share electrons to form _____

- a single line is often used to represent the pair of shared electrons

- When one pair of electrons (2 electrons) is shared between 2 carbon atoms, the bond is called a _____

- When carbons share two pairs of electrons (or four electrons) they form a _____

- Carbons sharing three pairs of electrons (6 electrons) form a _____