

Lesson 50: Bonding Key Terms

Chemistry with Lab

1. **Chemical bond** – Any of several forces, especially the ionic bond, covalent bond, and metallic bond, by which atoms or ions are bound in a molecule or crystal.
2. **Ionic bond** – A chemical bond between two ions with opposite charges, characteristic of salts.
3. **Covalent bond** – A chemical bond formed by the sharing of one or more electrons, especially pairs of electrons, between atoms.
4. **Metallic bond** – The chemical bond characteristic of metals, in which mobile valence electrons are shared among atoms in a usually stable crystalline structure.
5. **Hydrogen bond** – A chemical bond in which a hydrogen atom of one molecule is attracted to an electronegative atom, especially a nitrogen, oxygen, or fluorine atom, usually of another molecule.
6. **Delocalized** – electrons in a molecule or solid metal that are not associated with a single atom or *one* covalent bond.
7. **Crystal lattice** – A geometric arrangement of the points in space at which the atoms, molecules, or ions of a crystal occur.
8. **Luster** – A radiant brightness or glow, usually due to light reflected from a smooth surface.
9. **Malleable** – Capable of being shaped or formed, as by hammering or pressure.
10. **Ductile** – Easily drawn into wire or hammered thin.
11. **Volatile** – Evaporating readily at normal temperatures and pressures.
12. **Ion** – An atom or a group of atoms that has acquired a net electric charge by gaining or losing one or more electrons.
13. **Cation** – An ion or group of ions having a positive charge and characteristically moving toward the negative electrode in electrolysis.
14. **Anion** – A negatively charged ion, especially the ion that migrates to an anode in electrolysis.
15. **Intermolecular force** – The force between two molecules; it is that negative gradient of the potential energy between the interacting molecules, if energy is a function of the distance between the centers of the molecules.

Lesson 50: Bonding Key Terms (cont.)

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16. **London-dispersion force** – a weak intermolecular force arising from quantum induced instantaneous polarization multipoles in molecules.
17. **Polar** – Relating to or characterized by a dipole.
18. **Nonpolar** – Not characterized by a dipole.
19. **Electron dot diagram** – A structural formula in which electrons are represented by dots; two dots between atoms represent a covalent bond. Also known as electron-dot formula; Lewis formula.
20. **Lewis structure** – Can be synonymous with electron dot diagram; further depicts how electrons are shared in bonds between atoms within a molecule.