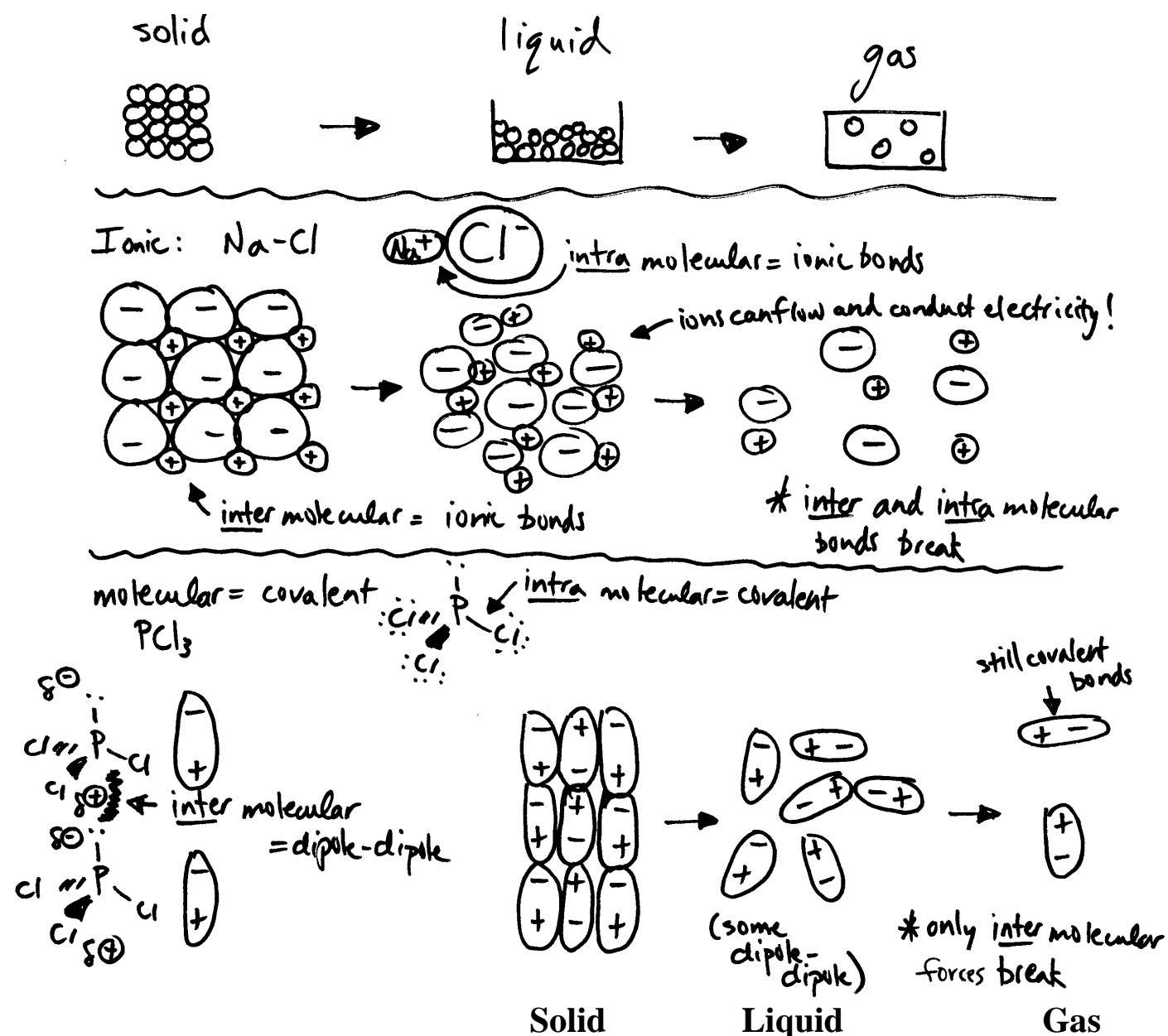


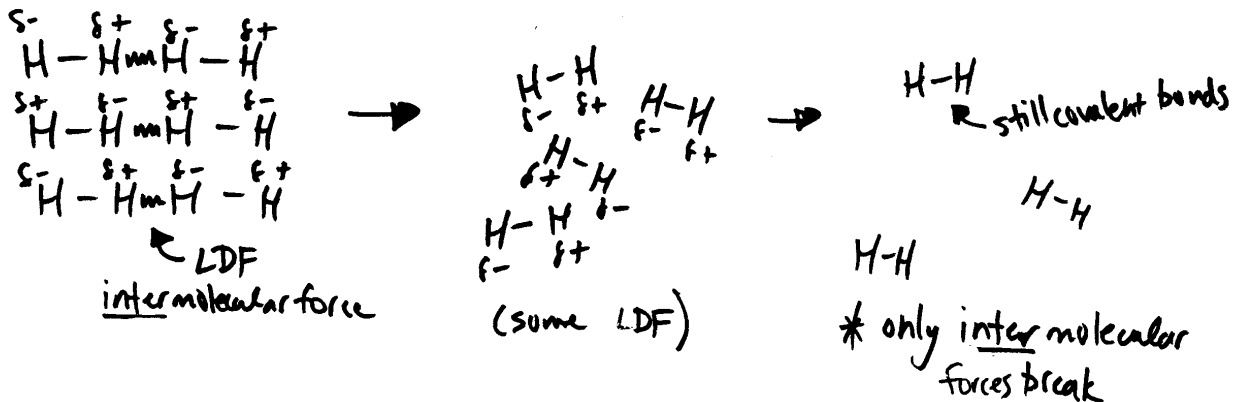
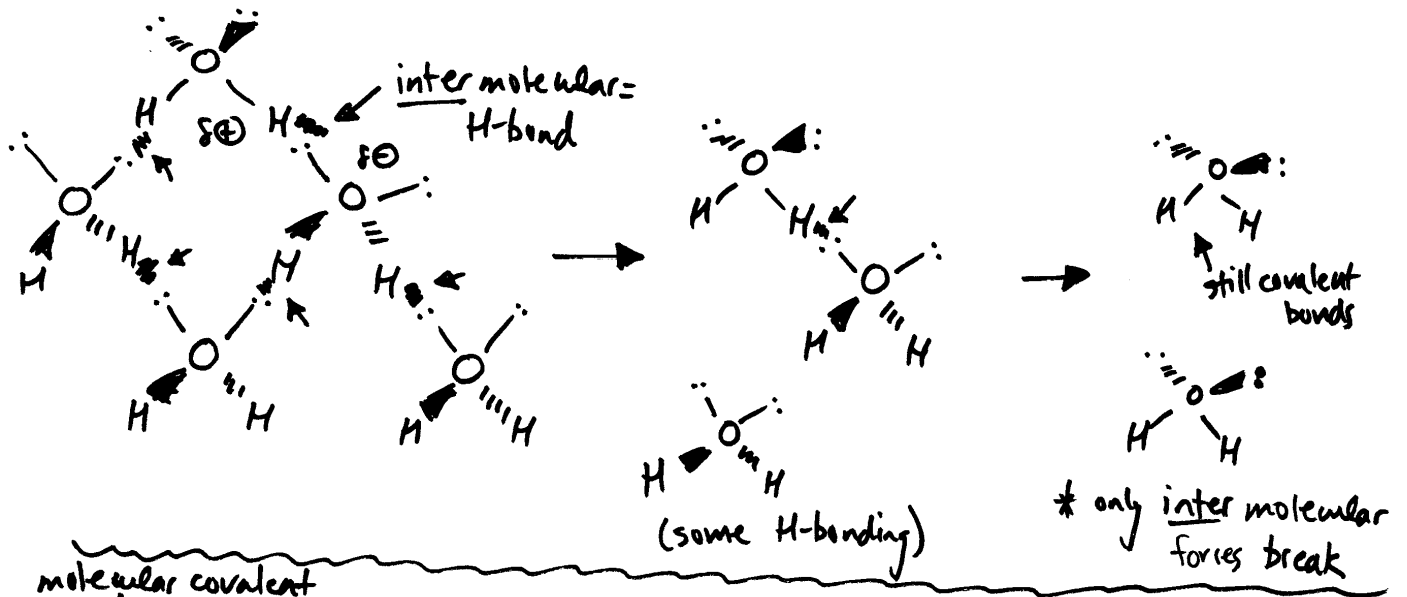
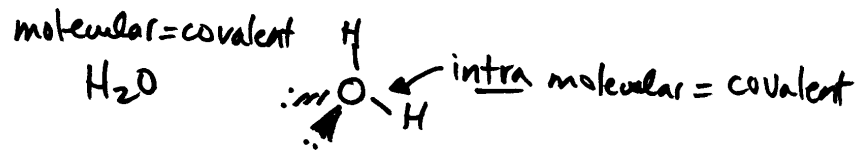
Unit 8 Solid to Gas: **Intramolecular** Forces Vs. **Intermolecular** Forces



Ionic: Ionic bonds are broken (both intramolecular and intermolecular). As the ions become free to move around in the liquid, electricity can be conducted.

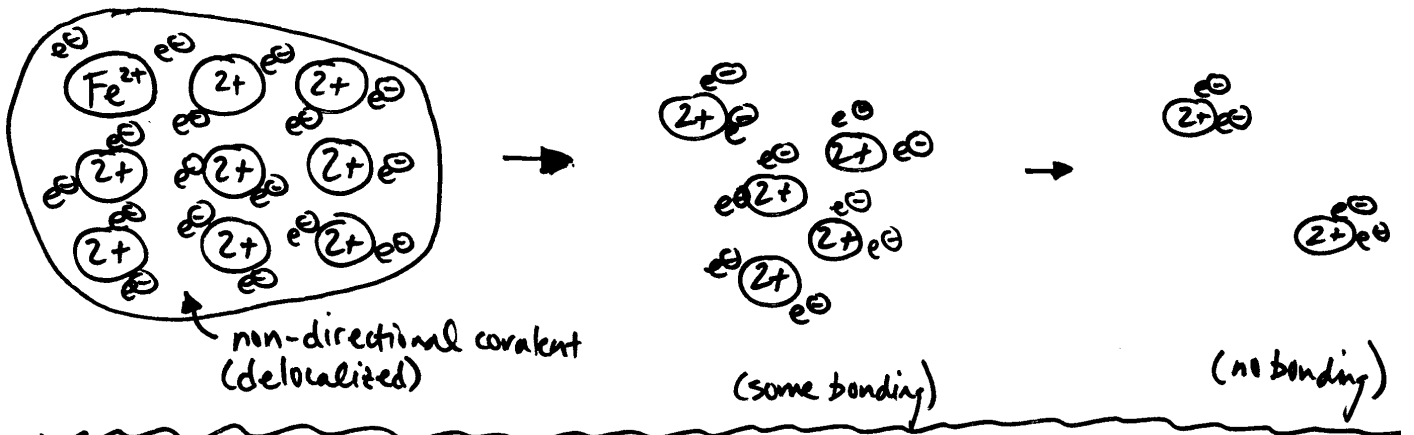
Molecular/Covalent: Only the **intermolecular forces between the molecules** are broken. The **intramolecular covalent bonds holding the molecule together** are still intact.

*Remember dipole-dipole, H-bond and LDF are Van der Waal **Forces**, which are **intermolecular** forces. They are forces and so, are much weaker than true bonds. H-bonds (5-30 kJ/mol) are stronger than dipole-dipole, but not nearly as strong as true bonds (O-H covalent bond = 467 kJ/mol)!

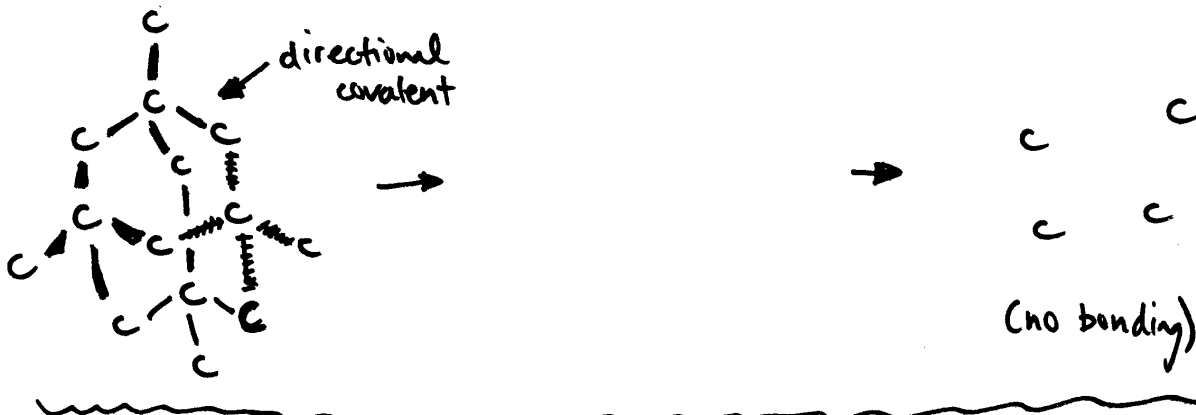


Molecular/Covalent: Only the intermolecular forces between the molecules are broken. The intramolecular covalent bonds holding the molecule together are still intact.

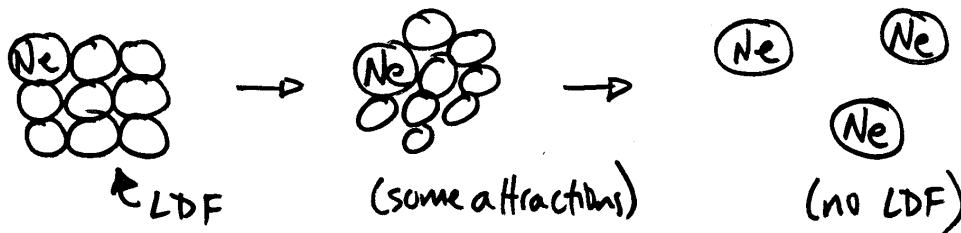
metallic: Fe (atomic)



network: C (atomic) diamond



Group VIII: Ne (atomic)



Metallic and Network: Both will have covalent bonding broken as the solid goes to gas. (Metallic: non-directional (delocalized) covalent & Network: directional covalent)

Group VIII: The LDF (London Dispersion Forces) between atoms will be broken as the atoms go from solid to gas.

(The forces between the atoms would be intermolecular, but the network system can be thought of as a giant covalent molecule, which could mean it has intramolecular forces breaking.)