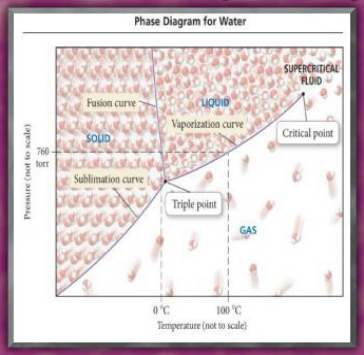
CHEM 1120- 13.2

[Trap Card]



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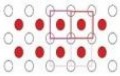
CHEM 1120- 13.3-4

[Spell Card]

Crystal Lattice

- The arrangement of the particles in a crystalline solid is called the crystal lattice
  - Arrangement will occur that maximizes intermolecular attractive forces
  - The smallest unit that shows the pattern of arrangement for all the particles is called the unit cell



X-rays bounce off crystal to form the position of the atoms; they can be cube like or pyramid like

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CHEM 1120- 13.5

[Spell Card]

- Molecular solids are solids whose composite particles are molecules
- Ionic solids are solids whose composite particles are ions
- Three types of atomic solids; solids whose composite particles are atoms
  - Nonbonding atomic solids are held together by dispersion forces
  - Metallic atomic solids are held together by metallic bonds
  - Network covalent atomic solids are held together by covalent bonds

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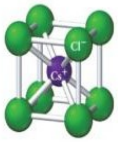
CHEM 1120- 13.6

[Spell Card]

Ionic solids

- Lattice sites are occupied by ions
  - This type of Solid is held together by attractions between oppositely charged ions
  - Every cation attracts all anions around it, and vice versa

Cesium chloride (CsCl)



Coordination # is 8 (1/8 of each Cl-)

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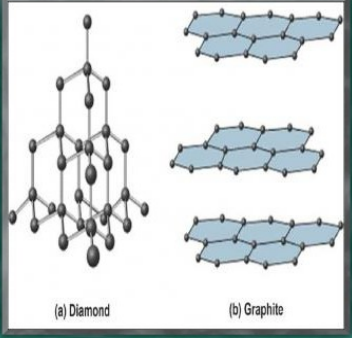
CHEM 1120- 13.7

[Spell Card]



Both are carbon atoms in covalent solids; SiO_2 is quartz

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