

Chem I Honors: Metallic Bonding Questions

1. A metallic bond is bond between many metal atoms. Explain how it forms.

Metals like to lose electrons, so they donate them to the "sea" of e^- . This is a region where the metals' e^- orbitals overlap, and e^- float freely around the metal cations in this region. The $\ominus e^-$ hold the metal cations together in a crystal lattice.

2. What is unique about the location of the electrons in a metallic crystal.

They are "delocalized" or free to move throughout the metallic crystal.

3. What are the properties of metal?

- Good conductors of heat & electricity
- malleable & ductile
- Solids at Room temp. (most)
- Shiny

4. How does the metallic bond cause the properties of metals?

The freely moving e^- cause the properties in #3.