

Mineral assembly

- Most minerals will deal with ionic bonds between cations and anions (or anionic subunits which are themselves mostly covalent but do not dissociate)
- Assembly of minerals can be viewed as the assembly of individual ions/subunits into a repeatable framework
- This repeatable framework is a crystal or crystalline material

Mineral Assembly

- Isotropic – same properties in every direction
- Anisotropic- different properties in different directions → most minerals are this type
- Assembly of ions from melts, water, or replacement reactions which form bonds
- The matrices the ions are in always contain many different ions – different conditions of formation for the same mineral creates differences...

Polymorphs

- Two minerals with the same chemical formula but different chemical structures
- What can cause these transitions??

- sphalerite-wurtzite
- pyrite-marcasite
- calcite-aragonite
- Quartz forms (10)
- diamond-graphite

