

Big Chem: Unit 16 Solids

PRINT Name _____ Period _____

Hints for Ch 16 Probs: Basic Crystal Systems and Unit Cells in Action.

1. From the on-line photo of the NaCl lattice, show why NaCl is the simplest formula.
2. Find the percentage of water in a crystal of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. *Hint: compare the MM for five water molecules with that of one $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and get %.* Ans: 36%
3. Use diamond and graphite to explain how bonding affects the properties of a crystal.

See Graphite and Diamond and Buckyballs.

4. Cite reasons why nonmetallic elements have low melting points.
Hint: Remember intermolecular forces (van der waals) vs. ionic forces.
5. How do the properties of a defective crystal differ from a perfect crystal?
6. How do amorphous substances differ from crystalline substances?
Hint: Amorphous means without definite shape (like The Boom).
7. What are Bucky Balls?
8. Compare these terms: a) Isotope, b) Allotrope, c) Isomer.
9. Name the seven basic crystal structures.
10. Compare the structure of ice with that of liquid water and tell why there is a difference.

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Turn in at the Beginning of the Period when due.