

Collaborative Learning Exercise 2 Crystal Compounds SOLUTIONS

Below are the unit cells for

- a.) Cu_3Au
- b.) CuAu
- c.) CaF_2

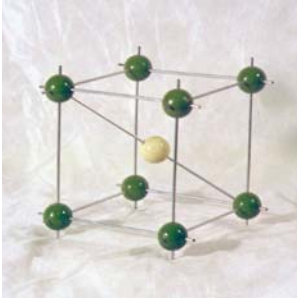
Determine which is the unit cell of each one. (Hint: Figure out the stoichiometry, number of atoms per unit cell, of each.)

1.) CuAu

lattice type: simple cubic

1 Cu atom & 1 Au atom per unit cell

Basis: 1 Cu atom & 1 Au atom

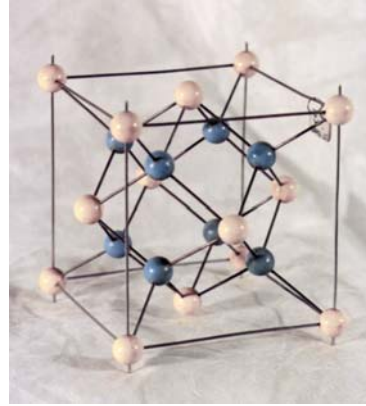


2. CaF_2

lattice type: FCC

4 Ca (on FCC lattice sites) and 8 F (inside) per unit cell

Basis: 1 Ca and 2 F



3.) Cu_3Au

lattice type: simple cubic

3 Cu atom (face centered) & 1 Au atom

(corners) per unit cell

Basis: 3 Cu atom & 1 Au atom

