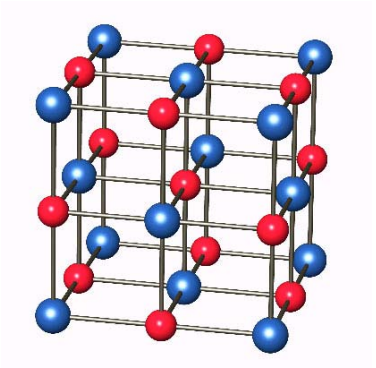
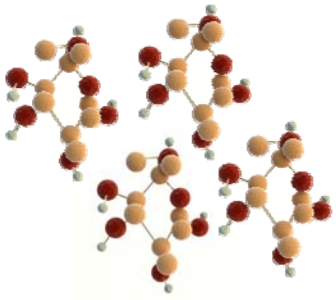
ICP Do Now: which one of the drawings below represents an ionic solid? A covalent solid? table salt (NaCl)? Sugar ($C_6H_{12}O_6$)? How can you tell?





On whiteboard: Draw solids of NaCl and sugar, then draw what you think they look like when they are dissolved in water

Jan 28-2:44 PM

Conducting electricity requires negative charges to move easily

Predict whether the following will allow you to conduct electricity:

- Metal (metallic) → yes
- Solid NaCl (ionic) → no
- Solid Sugar (covalent) → no
- Dissolved NaCl (ionic) → yes
- Dissolved Sugar (covalent) → no

Jan 28-2:48 PM

Melting/Boiling requires you to pull molecules/particles apart from each other

Predict which will melt faster- NaCl (ionic) or sugar (covalent)

Jan 28-2:50 PM

nitrite NO_2^{-1} ← charge

↑ # atoms

CO_3^{-2} ← charge

← # atoms

Jan 29-12:05 PM

Rules for Naming Ionic Compounds

1) Metal (+) first, nonmetal or (-) second
2) nonmetal or (-) ion ending changes to -ide, -ade, or -ate

+1 -1
NaCl= sodium chloride

+1 -3
K_3N= potassium nitride +1+1+1 -3

Ag_2O= silver oxide
+1 -2
+1

Jan 28-2:51 PM

Steps for writing formulas

1) Use the correct chemical symbols
2) Find the charges of the ions
3) Criss-cross
4) Check to make sure the amount of positive and negative charges adds up to 0

1. Sodium chloride +1 -1 = 0
Na +1 Cl +1 NaCl
2. Lithium sulfide Li_2S +1+1-2=0
Li +1 S -2
3. Aluminum oxide
Al +3 O -2 Al_2O_3
+3+3-2-2-2=0

Jan 28-2:55 PM

1. Give the name of the following simple binary ionic compounds.

a. Na2O Sodium oxide

b. K2S potassium sulfide

c. MgCl2 magnesium chloride

d. CaBr2 calcium bromide

e. BaI2 barium iodide

f. Al2S3 aluminum sulfide

g. CsBr cesium bromide

h. AgF silver fluoride

Jan 28-3:17 PM

2. Write the formula for the following binary ionic compounds.

a. lithium bromide Li^{+1} Br^{-1} LiBr

b. sodium iodide

c. silver sulfide

d. cesium oxide Cs^{+1} O^{-2} Cs_2O

d. beryllium iodide

f. barium hydride Ba^{+2} H^{-1} BaH_2

g. aluminum fluoride

h. potassium oxide

Jan 28-3:17 PM