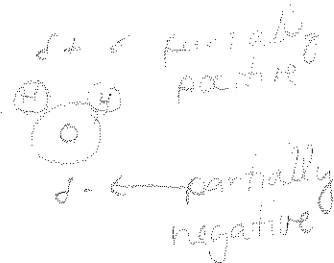


Ionic: Bulk Crystals and Dissolving

Water



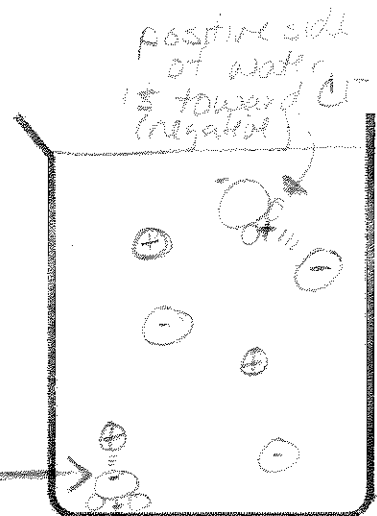
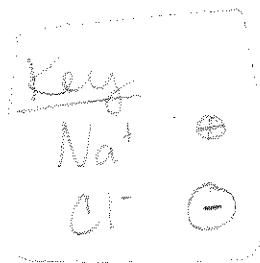
Write out the dissolving equation for the following and draw a picture. Include the correct ratio of atoms, their relative sizes, and include at least 1 water molecule.

NaCl salt



Na⁺
protons: 11p⁺
electrons: 10e⁻
energy levels: 2

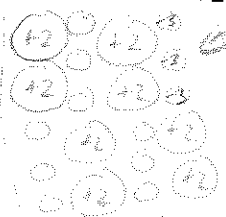
Cl⁻
17p⁺
18e⁻
3



negative side of water is toward Na⁺ (positive)

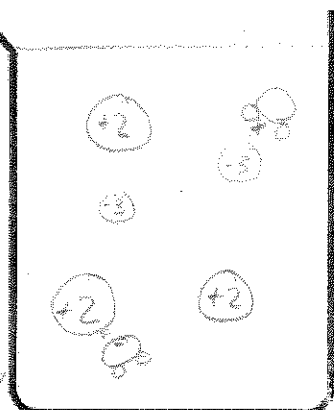
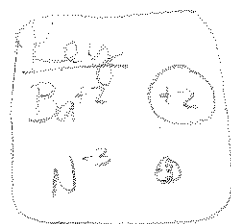
ratio: 1 Na⁺ : 1 Cl⁻

Ba₃N₂ salt



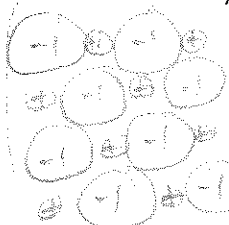
protons: 56p⁺
electrons: 54e⁻
E levels: 5

7p⁺
10e⁻
2



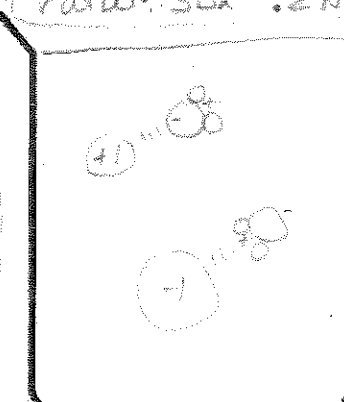
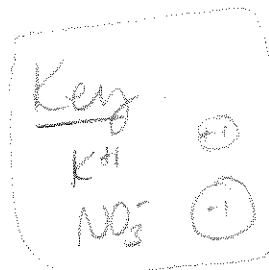
ratio: 3Ba⁺² : 2N⁻³

KNO₃ salt



protons: 19p⁺
electrons: 18e⁻
E levels: 3

7p⁺ 8p⁺
10e⁻ 10e⁻
2 2

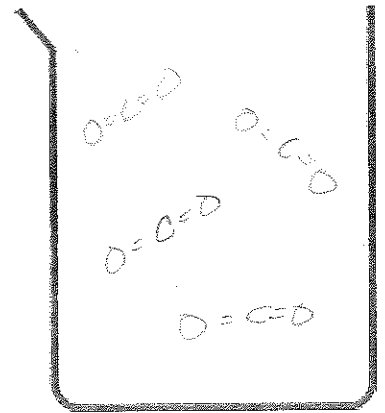


ratio: 1 K⁺ : 1 NO₃⁻

4) CO_2 (this is a covalent substance that looks like $\text{O}=\text{C}=\text{O}$)

CO_2 is not ionic
and does not
break into ions
Covalent substances
remain whole when
dissolved.

CO_2 is nonpolar covalent
water does not orient
around CO_2 because
there are no partial
charges in CO_2



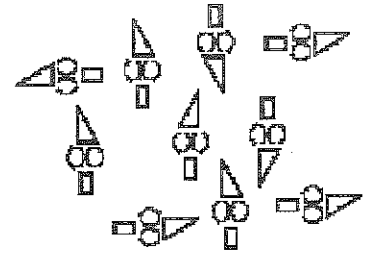
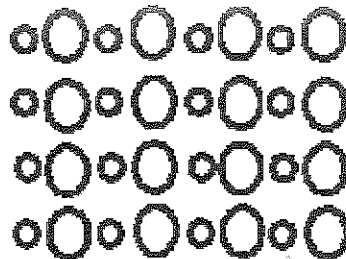
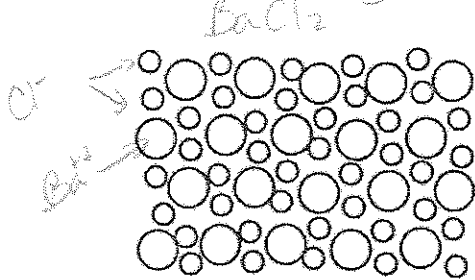
There are three models below. Answer the following questions.

5) For each drawing indicate if the substance is covalent or ionic. Write the correct formula for the substance.

Formula _____ (I/C)

Formula LiBr (I/C)

Molecular _____ (I/C)



6) One of the models is Barium Chloride.

- Label the correct picture BaCl_2
- Label the picture to identify Ba^{2+} and Cl^-

7) One of the pictures is a covalent substance. Label it Covalent.

8) One of the models is Lithium Bromide

- Label the picture LiBr
- Label the Li^+ ion and the Br^- ion

9)

- Create an ionic compound with a higher melting point than BaCl_2

AlP (write formula to the left)
smaller \rightarrow Al^{3+} $13e^-$ $15p^+$ \leftarrow larger
 $10e^-$ $18e^-$

- Create a model in the box below to model your compound. Make sure you have proportional sizes and quantities.

