Tonight HW: finish lab sheet  Friday – no school
Thursday quiz

## Purpose:

Use ACID in a lab to generate gas.

## WARMUP copy and solve

"If 243 mL of gas is at 44°C, what will its volume be at STP?"

$44^{\circ}C + 273 = 317$ kelvins

$0^{\circ}C + 273 = 273$ Kelvins

Lonely number × (——) = answer

↑ because cooling will shrink volume, put small # on top

$$243\,mL \times \left(\frac{273K}{317K}\right) = 209\,mL$$

**How do we show something dissolving?**

CAoMis 22

Stop in for help every day at lunch and Tues, Weds, & Thurs after school!

After-hours question? Email me at home: eagenest@madison.k12.wi.us

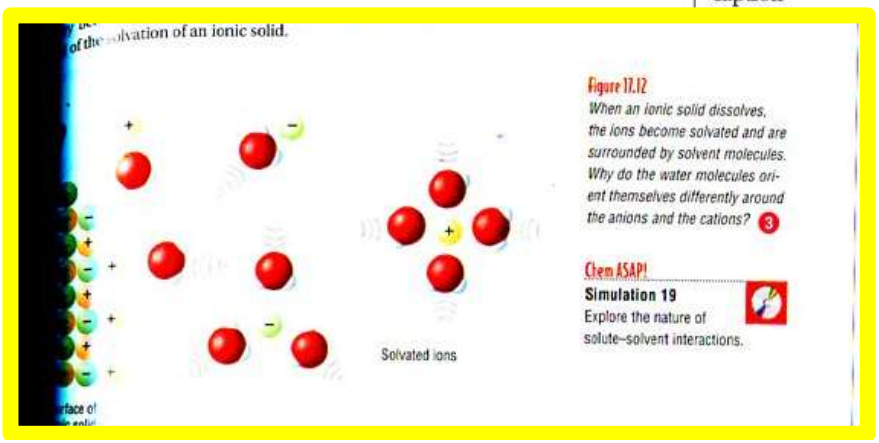
ANSWERS

Name

Period

1. From the textbook, copy the diagrams from page 483 in good detail, including the caption:

| | caption |
|---|---|




For each of the following, Underline compounds that are molecular, circle compounds that are ionic

3. $C_2H_3OH$ $SO_3$ $MgCl_2$ $CH_3OH_{(L)}$ $FeF_3$

**For each substance below write a dissociation equation (something like "$A_{(s)}$ -> $B_{(aq)}$ + $C_{(aq)}$") to describe that substance dissolving:**

(a) LiCl This is X ionic ☐molecular (don't forget to write solid, liquid, aqueous next to each symbol)

$LiCl \rightarrow Li^+ + Cl^-$

(b) $CH_3OH_{(L)}$ This is ☐ionic X molecular (don't forget to write solid, liquid, aqueous next to each symbol)

$CH_3OH_{(L)} \rightarrow CH_3OH_{(AQ)}$

(c) LiNO This is X ionic ☐molecular (don't forget to write solid, liquid, aqueous next to each symbol)

$LiNO \rightarrow Li^+_{(AQ)} + NO^-_{(AQ)}$

(d) $NaBr_{(s)}$ This is X ionic ☐molecular (don't forget to write solid, liquid, aqueous next to each symbol)

$NaBr_{(S)} \rightarrow Na^+_{(AQ)} + Br^-_{(AQ)}$

(e) $C_{12}H_{22}O_{11(s)}$ This is ☐ionic X molecular (don't forget to write solid, liquid, aqueous next to each symbol)

$C_{12}H_{22}O_{11(S)} \rightarrow C_{12}H_{12}O_{11(AQ)}$

4. What is a solution?

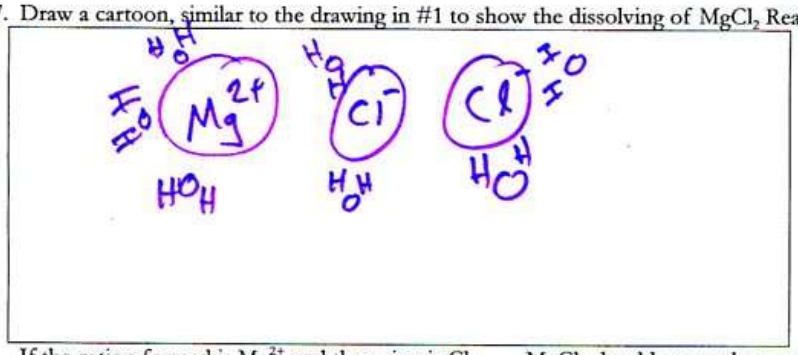
5. Write the correct formula that each compound would have. Remember, the total charge of any substance is **zero charge**

| | $O^{2-}$ | $OH^-$ | $PO_4^{3-}$ |
|---|---|---|---|
| $Mg^{2+}$ | $MgO$ | $Mg(OH)_2$ | $Mg_3(PO_4)_2$ |
| $K^+$ | $K_2O$ | $KOH$ | $K_3PO_4$ |
| $NH_4^+$ | $(NH_4)_2O$ | $NH_4OH$ | $(NH_4)_3PO_4$ |
| Iron(III) ion {what does the III mean?} | $Fe_2O_3$ | $Fe(OH)_3$ | $FePO_4$ |

6. For each description below, fill in one row on the table below

| A single Cation (show charge) | A single Anion (show charge) | Formula |
|---|---|---|
| $Mg^{2+}$ | $Cl^-$ | $MgCl_2$ |
| $H^+$ | $PO_4^{3-}$ | $H_3PO_4$ (a semi-harmless acid found in cola) |
| $Al^{3+}$ | $O^{-2}$ | $Al_2O_3$ ('rusty aluminum', a major component of clay) |

7. Draw a cartoon, similar to the drawing in #1 to show the dissolving of $MgCl_2$ Read the hints below:




If the cation formed is $Mg^{2+}$ and the anion is Cl-, $MgCl_2$ should create three particles when it dissolves. In your drawing above, make the positive ions say $Mg^{2+}$ and make each negative ion say Cl-.

**Circle one choice:** Compared to the number of $Mg^{2+}$ cations formed, the number of Cl- anions formed should be **( half as many / the same quantity / twice as many )**

Eevy
Amaya
Ryan
Keshawn
Joseph
Trinity
Alexandra
Chad
Quinn
Ian
Tenzin
Jiselle
~~Meryem~~

Fernanda 1
Aaliyah 2
Clare 3
Jainaba 4
Ethan 5
Alberto 6
Larry 7
Elvin 8
Wa 9
~~Ashley~~ 10 MERYEM
Shane 11
Emerson 12

Ashley Keshawn 13