

2C: Review:  
p.123...

Name \_\_\_\_\_  
MOD \_\_\_\_\_

DESK

Microscope

Review the following worksheets:

2C.1 Sources of Resources

2C.3 Practice with the Mole (These are two separate worksheets)

Determining Molar Masses

2C.4 Conservation Must Be Our Way

Review Questions:

1. List the three major physical regions of Earth **and** briefly explain what part of the earth each region takes up.

Atmosphere    Hydrosphere    Lithosphere

2. Which of these regions serves as the major "storehouse" of chemical resources used in manufacturing consumer products?

Lithosphere

3. What is an ore? a naturally occurring rock or mineral from which it is profitable to recover a metal or other material

4. a) What are the four "R's" of resources conservation and management?

Recycle

Reuse

Replace

Reduce/Rethink

- b) When ethanol is added to gasoline, which of the four "R's" is being practiced?

replace

- c) If I decide to give outgrown clothing to the Salvation Army, which of the four "R's" is being practiced?

Reuse

9. How many **grams** are in 3.3 moles of potassium sulfide,  $K_2S$ ?

$$\begin{array}{r}
 K = 2 \times 39.1 = 78.2 \\
 S = 1 \times 32.1 = 32.1 \\
 \hline
 110.3 \times 3.3 = 364 \text{ grams}
 \end{array}$$

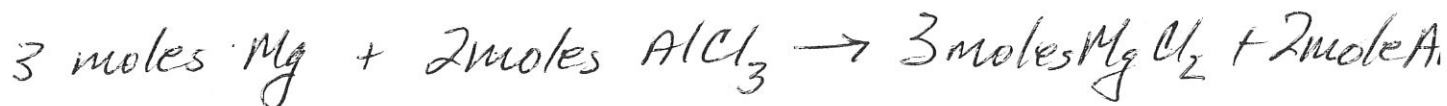
10. How many **grams** are there in 0.25 moles of  $H_2SO_4$ ?

$$\begin{array}{r}
 H = 2 \times 1.0 = 2.0 \\
 S = 1 \times 32.1 = 32.1 \\
 O = 4 \times 16.0 = 64.0 \\
 \hline
 98.1 \times 0.25 = 24.5 \text{ g}
 \end{array}$$

11. a) Balance the following equation:



b) How many moles of each reactant and product are specified by the balanced chemical equation?



c) Prove the Law of Conservation of Matter by determining the number of grams specified by the moles of each reactant and product.

|                      |                              |                                      |                        |
|----------------------|------------------------------|--------------------------------------|------------------------|
| $3 \text{ moles Mg}$ | $+ 2 \text{ moles AlCl}_3$   | $\rightarrow 3 \text{ moles MgCl}_2$ | $+ 2 \text{ moles Al}$ |
| $3 \times 24.3$      | $Al = 1 \times 27.0 = 27.0$  | $Mg = 1 \times 24.3 = 24.3$          | $2 \times 27.0 =$      |
|                      | $Cl = 3 \times 35.5 = 106.5$ | $Cl = 2 \times 35.5 = 71.0$          |                        |
|                      | $133.5$                      | $95.3$                               | $54.0 \text{ g}$       |
|                      | $\times 2$                   | $\times 3$                           |                        |
|                      | $267$                        | $285.9$                              |                        |
|                      |                              | $285.9 + 54 =$                       |                        |
| $72.9 \text{ g}$     |                              |                                      | $339.9$                |
| $72.9 + 267 =$       |                              |                                      |                        |
| $339.9$              |                              |                                      |                        |