Worksheet: Stoichiometry Problems With a Twist   Name_____
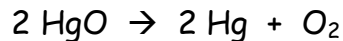
1. When mercury (II) oxide is heated, it decomposes into mercury and oxygen gas according to the following BALANCED equation.

$$2\ HgO\ \rightarrow\ 2\ Hg\ +\ O_2$$

   a. Given that the density of oxygen is 1.439 g/L, how many liters of oxygen gas can be produced if 2.0 moles of mercury (II) oxide are heated?

   b. How many molecules of oxygen gas are produced if 25.0 g of mercury (II) oxide are heated?

2. How many molecules of sodium nitrate are produced when 20.0 g of sodium azide, NaN_3, react according to the following BALANCED equation?

$$NaN_3\ +\ AgNO_3\ \rightarrow\ AgN_3\ +\ NaNO_3$$

$$C_5H_{12} + O_2 \rightarrow CO_2 + H_2O$$
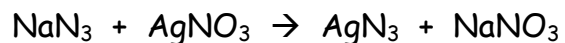
BALANCE THE EQUATION!!!!!!!!

Given that the density of carbon dioxide is approximately 1.99 g/L, what **volume**, in liters, of carbon dioxide will be produced if 85.0 g of pentane are burned?

How many **molecules** of water will be produced if 26.3 g of pentane are burned?