Wednesday, October 11, 2017

Warm Up

✓ Get whiteboards & markers, if not already out for you.

Do 1-2-3-4 in order. Use your full whiteboard space for one at a time. Do not continue to #2 until you get a thumbs up for #1, etc.

For 2 — 4, use the following balanced equation:

$$4\ HCl\ (g) + O_2\ (g) \rightarrow 2\ Cl_2\ (g) + 2\ H_2O\ (g)$$

1:

State the mass of 1.000 mole of sulfuric acid, H_2SO_4.

ICN 26-27 or Mole Map

2:

How many moles of O_2 gas are present (at STP) in 0.75 L of oxygen gas?

Mole Map (balloon → heart)

3:

Show the correct DA set-up and calculation for finding liters of chlorine gas, given 2.5 L of HCl.

Mole Map
(balloon → heart → next heart)

4:

Show the correct DA set-up and calculation for finding grams of water vapor, given 21.0 grams of oxygen used.

Mole Map
(mass → heart → next heart → mass of the next heart)

Do 5-6-7-8 in order. Use your full whiteboard space for one at a time. Do not continue to #6 until you get a thumbs up for #5, etc.

For 5 — 8, use the following balanced equation:

$$4\ NH_3\ (g) + 7\ O_2\ (g) \rightarrow 4\ NO_2\ (g) + 6\ H_2O\ (g)$$

5:

Show the correct DA set-up and calculation for finding how many moles of ammonia (NH_3) are in 5.05 g of ammonia.

ICN 26-27 or Mole Map

6:

Show the correct DA set-up and calculation for finding how many moles of oxygen are needed to react with 2.500 mol of NH_3.

Mole Map "bridge"

7:

If the O_2 and CO_2 are both gases at STP, show the correct DA set-up and calculation for finding how many liters of NH_3 (at STP) will react with 15.5 g O_2 gas to form NO_2 and water.

Mole Map: grams of A to balloon of B path

8:

Show the correct DA set-up and calculation for finding how many grams of NO_2 are formed if 40.0 g of NH_3 are ignited in excess (= abundant supply of) oxygen gas.

What about if 40.0 g of NH_3 are ignited in the presence of only 10.0 g of oxygen gas?

Mole Map