

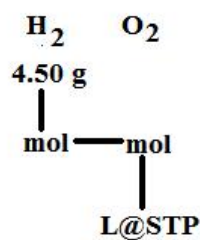
gram gram

mole ————— mole ————— kcal

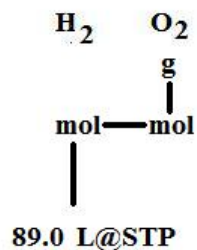
L@STP ————— L@STP



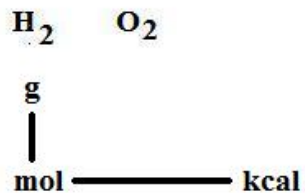
Example 1: 4.50 grams H₂ needs ??? L O₂ @ STP?



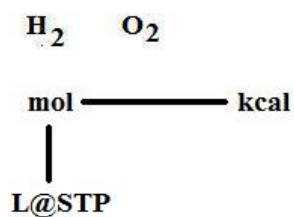
Example 2: 89.0 L H₂ @ STP reacts with ??? grams O₂?

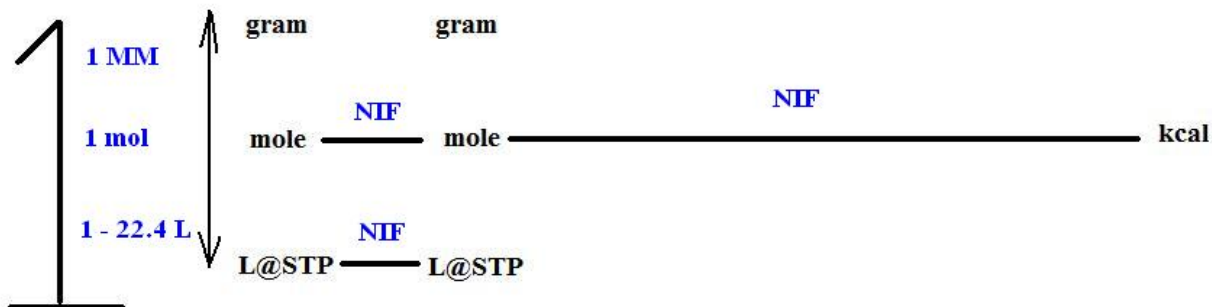
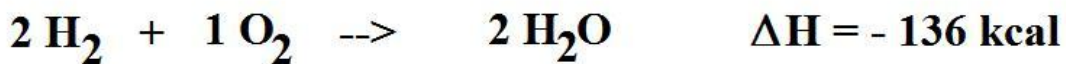


Example 3: 63.4 grams H₂ releases ??? kcal when burned?



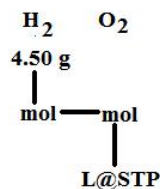
Example 4: if 300 kcal are released (-300), how many liters of H₂ at STP were reacted?





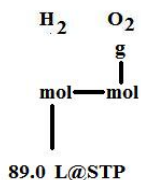
Example 1: 4.50 grams H₂ needs ??? L O₂ @ STP?

$$4.50 \text{ g H}_2 \times \frac{1 \text{ mol H}_2}{2.02 \text{ g H}_2} \times \frac{1 \text{ mol O}_2}{2 \text{ mol H}_2} \times \frac{22.4 \text{ L O}_2 \text{ STP}}{1 \text{ mol O}_2}$$



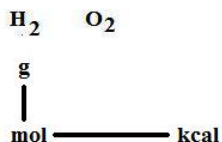
Example 2: 89.0 L H₂ @ STP reacts with ??? grams O₂? 89.0 L H₂ STP

$$89.0 \text{ L H}_2 \text{ STP} \times \frac{1 \text{ mol H}_2}{22.4 \text{ L@STP H}_2} \times \frac{1 \text{ mol O}_2}{2 \text{ mol H}_2} \times \frac{32.00 \text{ g O}_2}{1 \text{ mol O}_2}$$



Example 3: 63.4 grams H₂ releases ??? kcal when burned?

$$63.4 \text{ g H}_2 \times \frac{1 \text{ mol H}_2}{2.02 \text{ g H}_2} \times \frac{-136 \text{ kcal}}{2 \text{ mol H}_2}$$



Example 4: if 300 kcal are released (-300), how many liters of H₂ at STP were reacted?

$$-300 \text{ kcal} \times \frac{2 \text{ mol H}_2}{-136 \text{ kcal}} \times \frac{22.4 \text{ L H}_2 \text{ STP}}{1 \text{ mol H}_2}$$

