

Test 4 is this Friday

Study guide online now

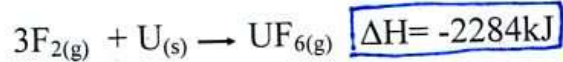
**Purpose:**

Describe the changes of energy using an LOL diagram.

**WARMUP complete this:**

Pass the pen.

Fill one of these in and then pass the pen to someone who hasn't gone yet.



Pass the pen. Fill one of these in and then pass the pen to someone who hasn't gone yet.  
Brainstorm some conversion factors for the above reaction.

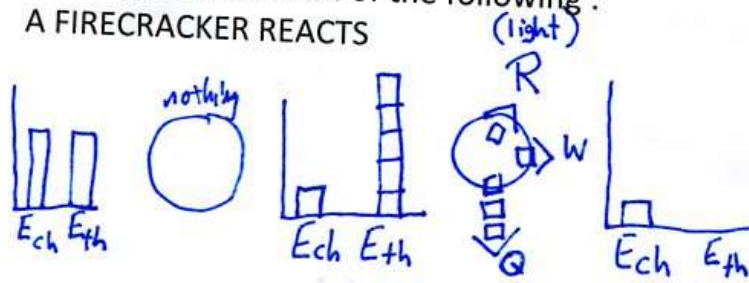
$\left(\frac{1 \text{ mole UF}_6}{22.4 \text{ liters}}\right)$	$\left(\frac{-2284 \text{ kJ}}{1 \text{ mole UF}_6}\right)$	$\left(\frac{1 \text{ mole U}}{1 \text{ mole UF}_6}\right)$
$\left(\frac{238.03 \text{ grams}}{1 \text{ mole U}}\right)$	$\left(\frac{1 \text{ mole F}_2}{22.4 \text{ liters}}\right)$	$\left(\frac{1 \text{ mole}}{3 \text{ F}_2}\right)$

Some common patterns of energy changes:

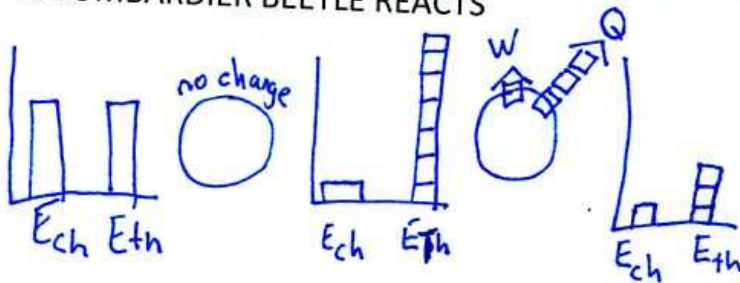
event	Symbol
1) the system makes a new chemical formula	Ech
2) the substance becomes colder or hotter	Eth
3) energy flows to/from the surroundings	Q, R, or W
4) solid $\rightarrow$ liquid liquid $\rightarrow$ gas	Eph

Write an LOL for each of the following:

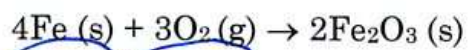
A FIRECRACKER REACTS



A BOMBARDIER BEETLE REACTS



**video** David Attenborough describes the Bombardier Beetle



$$\Delta H = -1652 \text{ kJ}$$

- a. Determine the amount of heat released when 1.00 mol  $\text{Fe}_2\text{O}_3$  is produced.

$$1.00 \text{ mol Fe}_2\text{O}_3 \times \left( \frac{-1652 \text{ kJ}}{2 \text{ Fe}_2\text{O}_3 \text{ moles}} \right) = -0.26 \text{ kJ}$$