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Day 24 Apr 21 Chemical reactions, bonding, and energy

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### 24.0.B.1 Discussion Chemical Energy

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Chemical Energy, Chem 444A, Fire and Ice, CB Spg 2015

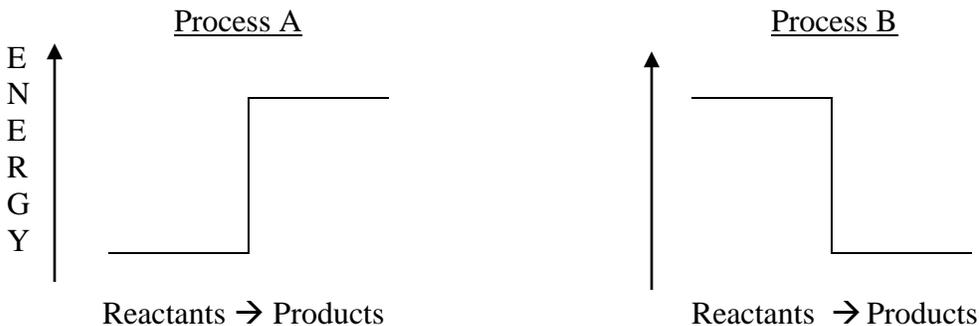
- Manager:** Whoever has been manager least often, you are the manager. If there is a tie, do one round of rock/paper/scissors. Winner is manager.
- Recorder:** Record group responses on a Recorder Report, or in some cases there will be a question sheet to use. Keep a separate copy for your own notes.
- Spokesperson:** May be asked to report out to the class or present in some fashion.
- Ambassador:** At several indicated times, you will visit another group to share what your group has been doing.

Your initial Task 1 is here. When you have completed that task, you will be given what you need for the next Task, and so on.

Task 1 – no more than 8 minutes

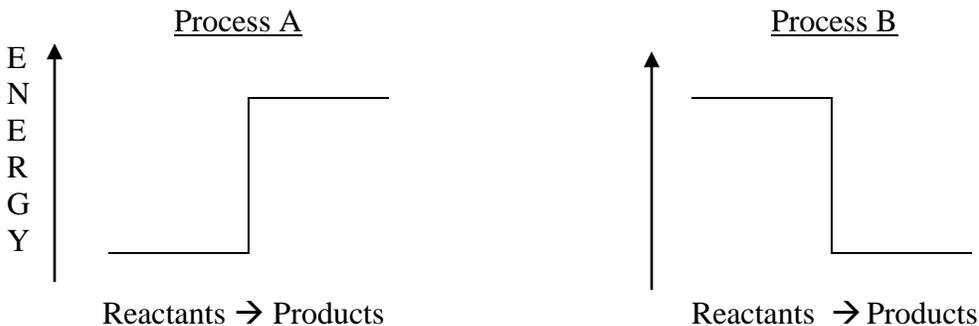
- 1.1 The posters from April 14 are on the wall. Remind yourself about what each group did.
- 1.2 People were using the term “chemical reaction” to describe what was going on. How do you know (based on evidence) that a chemical reaction has happened?
- 1.3 Devise a succinct definition of “chemical reaction” that everyone in your group can agree on. Share your result with the instructor.

Chemical reactions relate to energy in two ways, shown by these diagrams



Q1 One process can be described as “going uphill”. Which one and why does that make sense?	
Q2 What could the other process be described as?	
Q3 Which diagram could be described as “energy is absorbed”? Which could be described as “energy is released”? You learned new terms for these things. What are they?	
Q4 Which posters from Apr 14 were type A and which type B?	
Q5 If Process A happened in your hand, what would your hand feel? Explain your response.	
Q6 If Process B happened in your hand, what would your hand feel? Explain your response.	
Q7 From Tiffany’s day (Apr 16): which type of process (A or B) goes along with using coal, crude oil, biodiesel, natural gas, or hydrogen? Explain.	
Q8 What natural process did we talk about that was Type A?	
Send Ambassador clockwise to check Q5 to Q8 answers with that group.	

Chemical reactions relate to energy in two ways, shown by these diagrams



3.1 For either type A or type B, how is the amount of heat related to the quantities of reactants (look at poster evidence)?	
3.2 One experiment shows the Limiting Reagent effect: when the extent of reaction is limited by the starting material you have less of. Which poster shows that? Explain.	
3.3 Restate what is happening in Process A and Process B in terms of Potential Energy.	
Send ambassador counterclockwise to share what your group's answer to 3.3 was.	
Share 3.3 answer with instructor.	