

Knowledge Probe: Exothermic v. Endothermic



Name: _____

Write notes as you work together to gather scientific information for your experiment.

Article: What did you read?

Article: Endothermic vs. Exothermic Reactions - Khan Academy

1. What are chemical bonds?

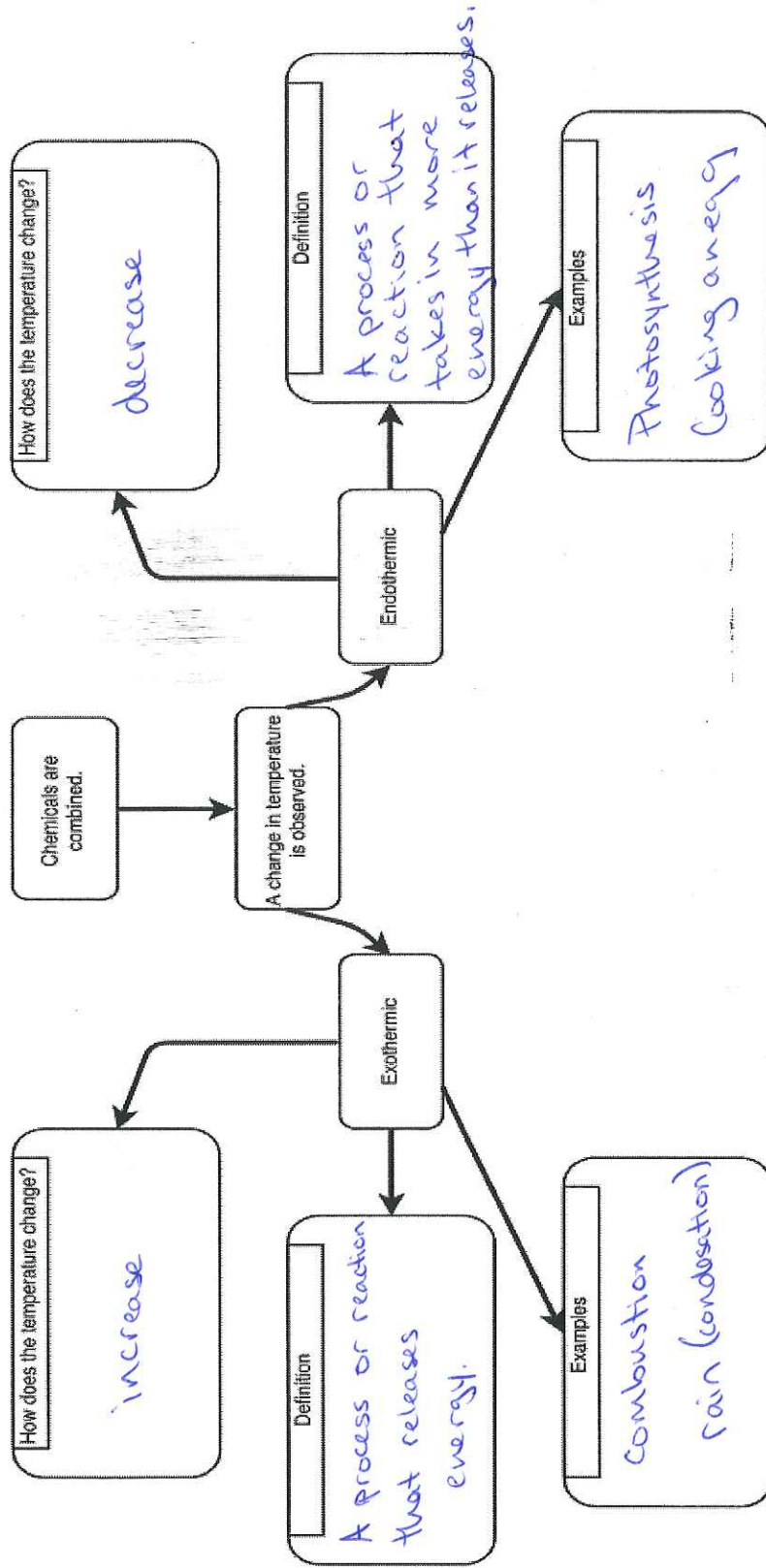
Chemical bonds hold atoms together in compounds & molecules.

2. Describe the exchange of energy (heat) that occurs when bonds are formed and when they are broken.

Heat (energy) is released when bonds are formed.

Energy (heat) is required to break bonds & therefore the energy is taken in.

3. Fill in this concept map.



Video: What did you see?

Video: What are Endothermic and Exothermic Reactions?

1. What are examples of exothermic reactions?
water + calcium oxide
2. What are examples of endothermic reactions?
sodium hydroxide + hydrochloric acid
sodium carbonate + ethanoic acid
electrolysis
3. How can you determine if the reaction is exothermic or endothermic?
Use a thermometer to determine the change in temperature.

Examples:

Reaction 1: <https://www.youtube.com/watch?v=GQkJI-Ng3O5>

1. Describe what happened.
The bottom of the beaker froze to the wood block.
2. Is this an endothermic or exothermic reaction? Why?
Endothermic because the system + surroundings got colder.

Reaction 2: https://www.youtube.com/watch?v=NTFBXJ3Zd_4

1. Describe what happened.
The sodium caught on fire + then exploded.
2. Is this an endothermic or exothermic reaction? Why?
Exothermic because fire produces heat.