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**Activity 20: Reaction Energy Diagrams**

***Learning Objectives***

*Draw reaction energy diagrams for exergonic and endergonic reactions*

*Compare reaction energy diagrams*

*Consider the effect of a catalyst to a reaction energy diagram*

**Estimated Completion Time** 20–30 Minutes

**ANSWERS TO QUESTIONS**

1. Diagram B

2. Diagram A

3. The following diagram shows the difference.



4. a. Diagram A b. Diagram A c. Negative. Positive

5. No, the energy of the reactants and the energy of the products are identical. Only the activation energy changes.

6. The two diagrams are different in that slow will have a high activation energy hill and fast will have a smaller activation energy hill. Also, in an exothermic reaction, the energy of the products is less than that of the reactants, and in an endothermic reaction, the energy of the products is greater than that of the reactants.

Reaction progress

Energy

**Fast, endothermic**

Reaction progress

Energy

**Slow, exothermic**

**Activity 20: Skill Development—Reaction Energy Diagrams**

1. Dashed trace is catalyzed. Start and finish of traces should be identical.

Reaction progress

Energy