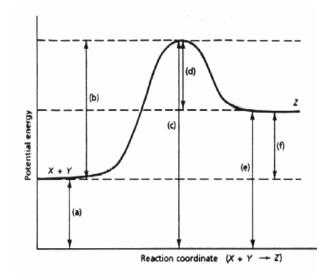
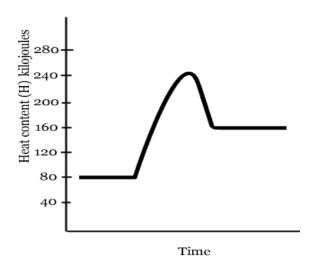
## **Potential Energy Diagram Worksheet**



- 1. Which of the letters a–f in the diagram represents the potential energy of the products? \_\_\_\_\_
- 2. Which letter indicates the potential energy of the activated complex? \_\_\_\_\_
- 3. Which letter indicates the potential energy of the reactants?
- 4. Which letter indicates the activation energy? \_\_\_\_\_
- 5. Which letter indicates the heat of reaction? \_\_\_\_\_
- 6. Is the reaction exothermic or endothermic?
- 7. Which letter indicates the activation energy of the reverse reaction?
- 8. Which letter indicates the heat of reaction of the reverse reaction?
- 9. Is the reverse reaction exothermic or endothermic? \_\_\_\_



- 1. The heat content of the reactants of the forward reaction is about \_\_\_\_\_ kilojoules.
- 2. The heat content of the products of the forward reaction is about kilojoules.
- 3. The heat content of the activated complex of the forward reaction is about \_\_\_\_\_ kilojoules.
- 4. The activation energy of the forward reaction is about \_\_\_\_\_ kilojoules.
- 5. The heat of reaction ( $\Delta H$ ) of the forward reaction is about \_\_\_\_\_ kilojoules.
- 6. The forward reaction is \_\_\_\_\_ (endothermic or exothermic).
- 7. The heat content of the reactants of the reverse reaction is about \_\_\_\_\_ kilojoules.
- 8. The heat content of the products of the reverse reaction is about kilojoules.
- 9. The heat content of the activated complex of the reverse reaction is about kilojoules.
- 10. The activation energy of the reverse reaction is about kilojoules.
- 11. The heat of reaction ( $\Delta H$ ) of the reverse reaction is about \_\_\_\_\_ kilojoules.
- 12. The reverse reaction is \_\_\_\_\_ (endothermic or exothermic).

Na	me Date Period
	Energy Ws #1: Reaction Rates
1.	Chemical reactions occur when reactants collide. For what reasons may a collision fail to produce a chemical reaction?
2.	If every collision between reactants lead to a reaction, what determines the rate at which the reaction occurs?
3.	What is the activation energy of a reaction, and how is this energy related to the activated complex of the reaction?
4.	What happens when a catalyst is used in a reaction?
5.	Name 4 things that will speed up or slow down a chemical reaction.
6.	Draw an energy diagram for a reaction. (label the axis)  Potential energy of reactants = 350 KJ/mole  Activation energy = 100 KJ/mole  Potential energy of products = 250 KJ/mole
7	
	Is the reaction in # 6 exothermic or endothermic? Explain.
8.	How could you lower the activation energy for the reaction in #6?