

Name: _____ per: _____

Worksheet- Reaction Rates

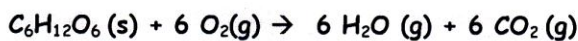
Use this reaction for the questions below: $C_6H_{12}O_6 (s) + 6 O_2(g) \rightarrow 6 H_2O (g) + 6 CO_2 (g)$

1. What happens to the concentrations of:
 - a. $C_6H_{12}O_6$ & O_2 as the reaction proceeds \rightarrow ?
 - b. H_2O + CO_2 as the reaction proceeds \rightarrow ?

2. According to the collision theory, what 3 circumstances are needed for $C_6H_{12}O_6$ & O_2 to react?

3. What is the activation energy for a chemical reaction?

4. Use the equation & the collision theory to explain:

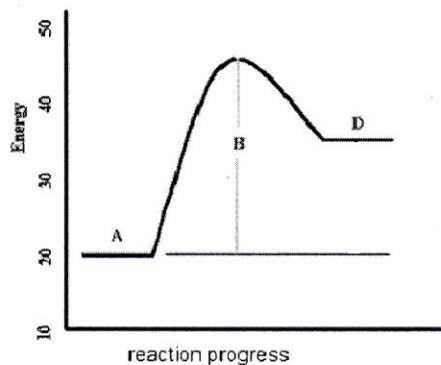


Change in condition:	Does this <u>increase or decrease</u> the rate of reaction?	Explain why
a. <u>Increasing the temperature</u>	Ex: Increases (speeds up)	Ex: Molecules move faster & collide more = Increased rxn rate
b. <u>Increasing the concentration</u> of $C_6H_{12}O_6$		
c. <u>Decreasing the concentration</u> of O_2		
d. <u>Increase the surface area</u> by chewing up food in your mouth		
e. <u>Decreasing the temperature</u>		
f. <u>Increasing the pressure</u> in the container		
g. <u>Decreasing the concentration</u> of H_2O		
h. <u>Increasing the volume</u> of the container the reaction occurs in		
i. <u>Increasing the concentration</u> of CO_2		
j. <u>Using a catalyst</u> (like salivary amylase)		

5. On the accompanying energy diagram, label the following terms:

a. reactants b. products c. activation energy

6. On the graph to the right, draw and label what this diagram would look like if a catalyst was added to the reaction.



7. Graph reading

- a. How much energy (#) do the reactants have?
- b. How much energy (#) do the products have?
- c. How much energy (#) is required to activate this un-catalyzed reaction?
- d. Is this reaction endothermic or exothermic? How do you know?