**Name: Period: Seat#:**

**Worksheet #2**

**Note:** Some of the links you will visit contain animations that may take some time to load. So, be patient. ☺   
 I don’t know if the links will work on cell phones or not. Short and brief answers are acceptable.

**Task A**  *(Link checked 7/15/21)*

[www.chemguide.co.uk/physical/basicrates/introduction.html](http://www.chemguide.co.uk/physical/basicrates/introduction.html)   
Read the information describing the collision theory. Answer the questions that follow.

1. Define the Collision Theory in your own words.
2. It is pretty obvious that if you have a situation involving two reactants they can only react together if they come into contact with each other. They first have to collide, and then they *may* react. Why "*may* react"? What are the *two* criteria that must be met to create an EFFECTIVE COLLISION?
3. What is activation energy?

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**Task B**  *(Link checked 7/15/21)*Watch the videos.

<https://youtu.be/J0bx2BuxT-I>

<https://youtu.be/WLqRBc4oxDk>   
<https://youtu.be/dLXJV4A6KPE>

1. What is ozone?
2. What is the importance of the ozone layer?
3. How is ozone destroyed?
4. In reaction CFCl3 + UV Light 🡪 CFCl2 + Cl, there is only one reactant (CFCl3) and no collision. So, why did a reaction take place?

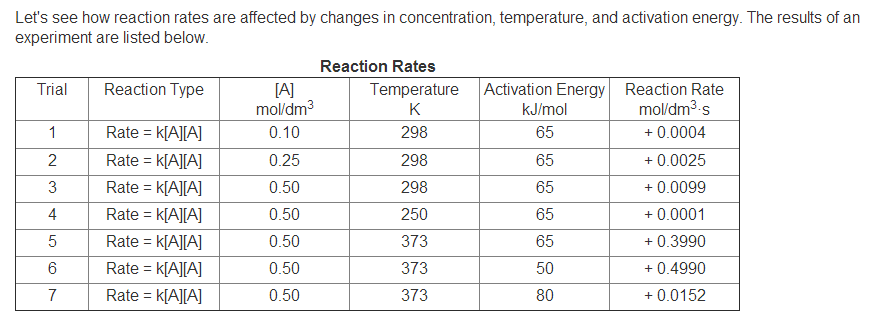
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**Task C**  *(Link checked 7/15/21)  
It is ok that the Flash Animations don’t work anymore. You don’t need them. Just watch the videos,read the text, and look at the pictures.*[www.kentchemistry.com/links/Kinetics/FactorsAffecting.htm](http://www.kentchemistry.com/links/Kinetics/FactorsAffecting.htm)

1. What is a catalyst?
2. List 2 things that a catalyst does in a reaction? Explain each of these actions in detail.
3. What determines whether a substance can be considered a catalyst or not?
4. Also review these websites and Find and insert 2 reaction coordinate graphs. One exothermic reaction with and without a catalyst (label all parts) and an endothermic reaction with and without a catalyst.

**Task D** Review the data from an experiment below and answer the questions:



**Data Analysis**

1. Compare the reaction rates for Trials 2 and 3. When the concentration of A doubles, the reaction rate increases by what factor?
2. Compare the reaction rates for Trials 1 and 3. When the concentration of A increases by a factor of 5, the reaction rate increases by what factor?
3. Compare Trials 3-5. What effect does temperature have on reaction rate?
4. Compare Trials 5-7. What effect does activation energy have on reaction rate?
5. Which trial could represent how reaction rate is affected by the presence of a catalyst? Explain.
6. Inhibitors act like catalysts, but they slow down reactions rather than speeding them up. Which trial could represent how reaction rate is affected by the presence of an inhibitor? Explain.

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