Rate Note Instructions

1. Read through the Reaction Rate Package

2. Write out the "General Rate Equation" from section #5 Look at it and remember! It is the cental item in all discussion about rates.

3. List the six factors that affect a reaction rate and indicate which "factor" in the general rate equation is affected. Make summary points.

4. Draw the following sketches:

a) potential energy curve for an exothermic reaction with a high activation energy

b) potential energy curve for the same reaction as in a), but with the addition of a good catalyst

c) potential energy curve for an endothermic reaction

d) kinetic energy distribution at room temperature in which only a small portion of the particles have sufficient energy to form an activated complex

e) kinetic energy distribution for the same reaction as in d) (i.e. activation energy is the same) except at a much higher temperature

f) kinetic energy distribution for the same reaction as in d), at the same temperature but with the use of a good catalyst

5. What is the difference between a reaction and a reaction mechanism? When can a reaction and a reaction mechanism be the same thing? When is a reaction and a reaction mechanism clearly not the same thing. What is a rate determining step?