FLINN SCIENTIFIC

Name_____

Laboratory Report

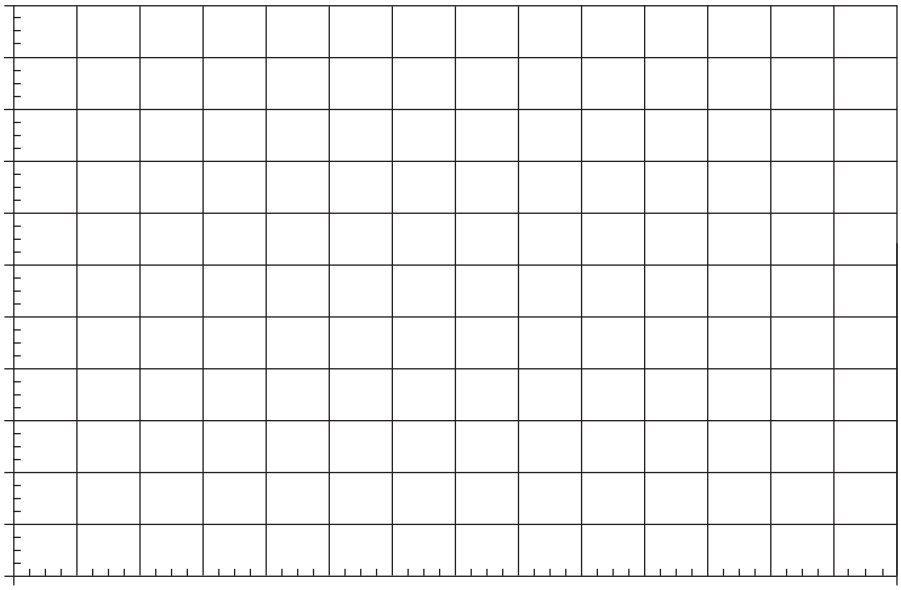
Part A. Effect of Enzyme Concentration

Time (sec)	Absorbance at 500 nm		
	Trial A-1	Trial A-2	Trial A-3
20			
40			
60			
80			
100			
120			
140			
160			
180			
200			
220			
240			
260			
280			
300			

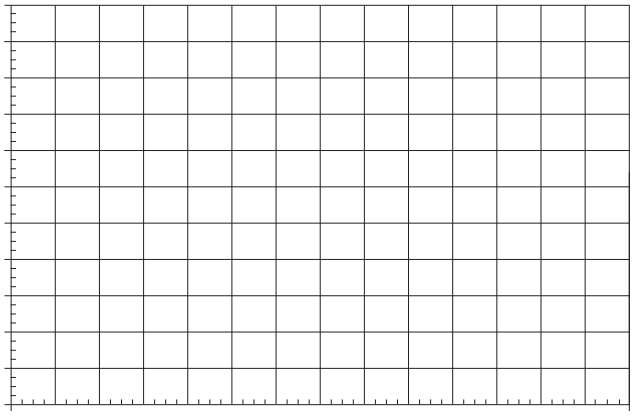
Part B. Effect of Substrate Concentration

Time (sec)	Absorbance at 500 nm			
	Trial B-1	Trial B-2	Trial B-3	Trial B-4
20				
40				
60				
80				
100				
120				
140				
160				
180				
200				
220				
240				
260				
280				
300				

1. **Analyze the data for Part A:** Using different colors and/or shapes for the data points in each trial, graph absorbance versus time on the following graph. Draw a best-fit straight line through the data points for each separate trial. Add a legend to identify the data corresponding to each trial.

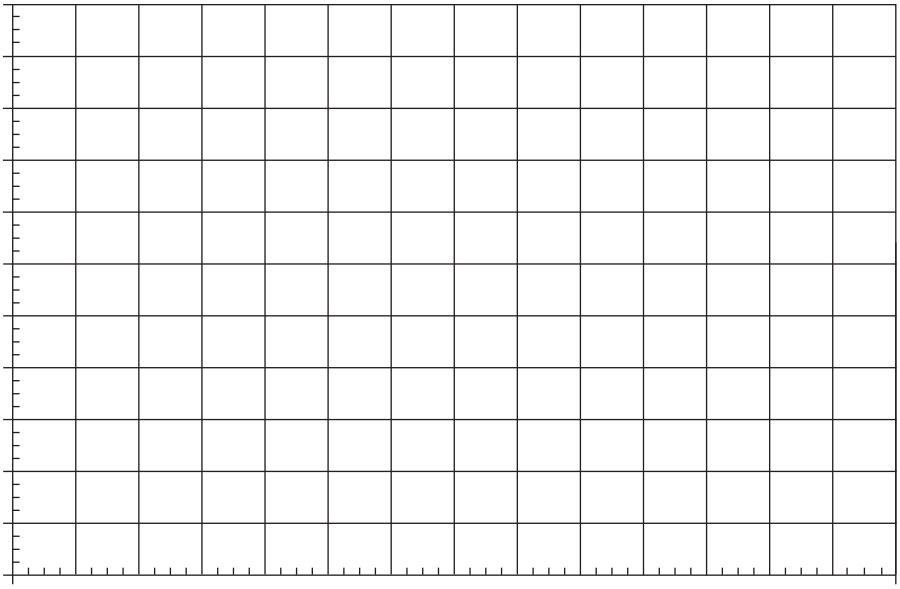


2. Determine the slope (ΔAbsorbance/ΔTime) for each best-fit straight line in the above graph. This is the rate of reaction for each trial. Plot the rate of reaction versus the amount (volume) of enzyme.

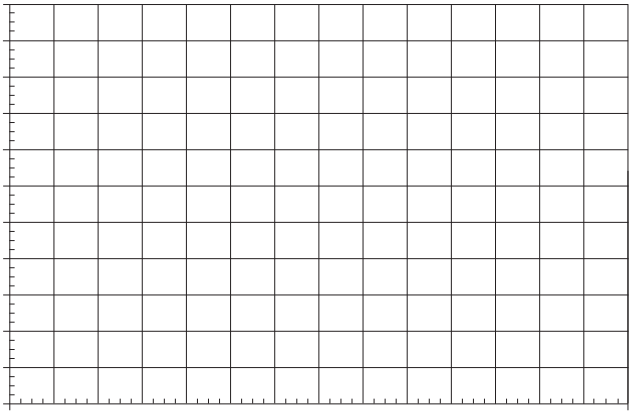


3. Explain how the above graph for the effect of enzyme concentration on the reaction rate supports a dynamic theory for biological reactions.

4. **Analyze the data for Part B:** Using different colors and/or shapes for the data points in each trial, graph absorbance versus time on the following graph. Draw a best-fit straight line through the data points for each separate trial. Add a legend to identify the data corresponding to each trial.



5. Determine the slope (ΔAbsorbance/ΔTime) for each best-fit straight line in the above graph. This is the rate of reaction for each trial. Plot the rate of reaction versus the amount (volume) of substrate.



6. Explain the shape of the curve for the effect of substrate concentration on reaction rate in terms of enzyme–substrate binding.