

Sudsy Kinetics Demonstration Worksheet

Part 1. Data Table

	Cylinder #1	Cylinder #2	Cylinder #3
Concentration of H ₂ O ₂			
Chemicals added			
Observations			

Part 2. Data Table

Chemicals used	
Color of foam	
Glowing splint test	

Part 3. Data Table

	Cylinder #1	Cylinder #2	Cylinder #3
Concentration of H ₂ O ₂			
Volume of water added			
Observations			

Discussion Questions

1. Based on what you observed in Part 1, what conclusions can you make about the relationship between concentration and rate of reaction?
2. Consider the reactants in Part 2.
 - a. What is responsible for the initial brown color of the foam?
 - b. What is responsible for the wood splint re-igniting?
3. Write a chemical equation for each of the two steps in this reaction. In the first, hydrogen peroxide reacts with iodide ion from the sodium iodide. In the second, hydrogen peroxide reacts with the products of the first reaction.
4. Write the chemical equation for the overall decomposition of hydrogen peroxide. Include heat energy in the equation. Is this reaction endothermic or exothermic? What evidence do you have to support this?
5. Explain why the reactions in Part 3 produced the same amount of foam but had different reaction times. *Hint:* Keep in mind the concentration of hydrogen peroxide before water was added to the second cylinder.