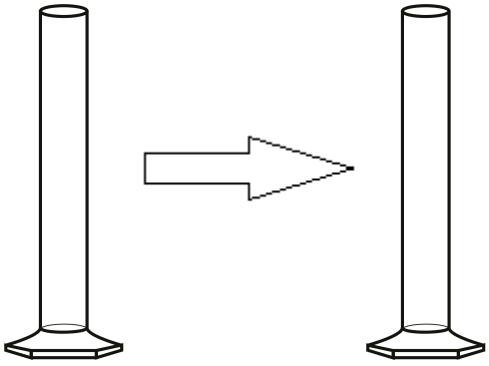
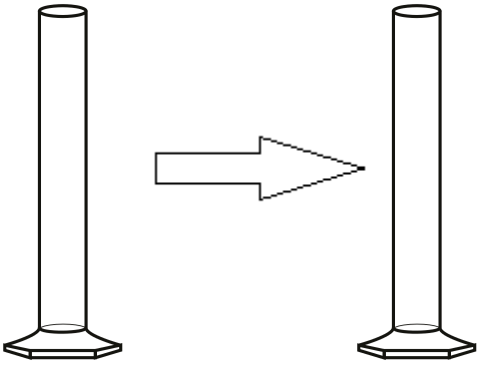
Effect of catalyst: Name: _____ Period:___

1. Write down the chemical equation for the decomposition of hydrogen peroxide:

2. Define catalyst:

3. Catalase is a biological catalyst that rapidly decomposes hydrogen peroxide. Catalase is found in humans and yeasts. Why is it important for living organisms?

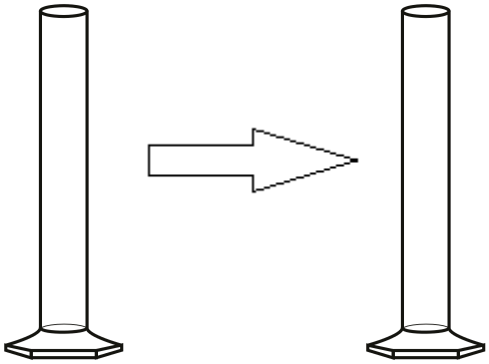
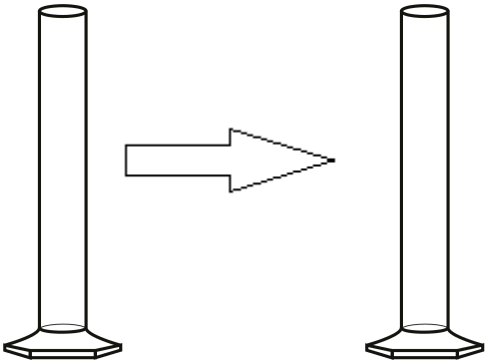
	Without catalyst (water)	**With catalyst (yeast)**
Drawings *be sure to draw the oxygen trapped in the soap (foam)	 Before After	 Before After
What did we put in it?	30mL 3% H_2O_2, soap, 30 mLwater	30mL 3% H_2O_2, soap, 30 mLyeast

4. Which one had a faster reaction rate? How do you know?

5. Draw a graph to help explain your answer to #5. Be sure to label the graph with catalyst and without catalyst.

6. What was the **independent variable** (what did we change in each of the graduated cylinders)?	
7. What was the **dependent variable** (what did we measure)?	
8. What were some **controlled** variables? (what did we keep the same)?	

Effect of concentration (with a chemical catalyst):

	Higher Concentration (30%)	**Lower Concentration (3%)**
Drawings *be sure to draw the oxygen trapped in the soap (foam)	 Before After	 Before After
What did we put in it?	30mL 30% H_2O_2, soap, 30 mLKI	30mL 3% H_2O_2, soap, 30 mLKI

9. Which one had a faster reaction rate? How do you know?

10. Is the reaction endothermic or exothermic? How do you know?

11. Rewrite the equation from question #1 but add “heat” to the appropriate side.

12. Using collision theory, explain your answer you question #10. Be sure to use the words **molecules**, **collide (or collision), reactants,** and **products** in your answer.

13. What was the **independent variable** (what did we change in each of the graduated cylinders)?