Name: ______________________

Catalyst in Motion

Background
In this demonstration you will observe the effect of that a catalyst has on a decomposition chemical reaction. A catalyst will be used to make the reaction occur faster than it would otherwise. As you know, heat can either be released or absorbed during a chemical reaction. Based on your observations you will also determine if this reaction is exothermic or endothermic.

Pre-lab Questions
These questions will be discussed as a class prior to observing the demonstration.

1. Using your chemistry knowledge, predict the 2 products of this decomposition chemical reaction:

   \[ \text{H}_2\text{O}_2 \rightarrow \]

2. In this demonstration, yeast will be used as the catalyst. What is a catalyst?

3. What is the difference between an exothermic and endothermic reaction? What data could you collect in order to classify the reaction as exothermic or endothermic?

Safety
- Students should wear proper safety gear during chemistry demonstrations. Safety goggles and lab apron are required.

Observations

<table>
<thead>
<tr>
<th>Actions</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>What happened when the yeast was added to the hydrogen peroxide mixture?</td>
<td></td>
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<tr>
<td>What types (states of matter) are the 2 products in this reaction? Use observations to support your claim.</td>
<td></td>
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<tr>
<td>Was there a temperature change during this reaction?</td>
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</table>
**Analysis**

1. How did the yeast affect the decomposition of hydrogen peroxide?

2. Is this reaction exothermic or endothermic? How do you know?

**Conclusion**

Why are catalysts used in the real-world? Using the internet, conduct independent research to find an *interesting* example of how a catalyst can be beneficial in the real-world. Cite the source that you use.