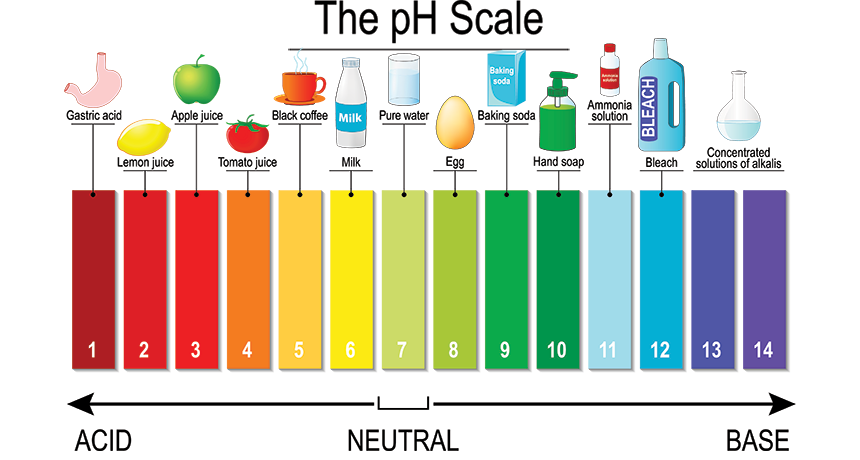
Hypothesis: an educated guess about the outcome of the experiment.

Our experiment: testing how well the enzyme **catalase** works in liver with the following conditions:

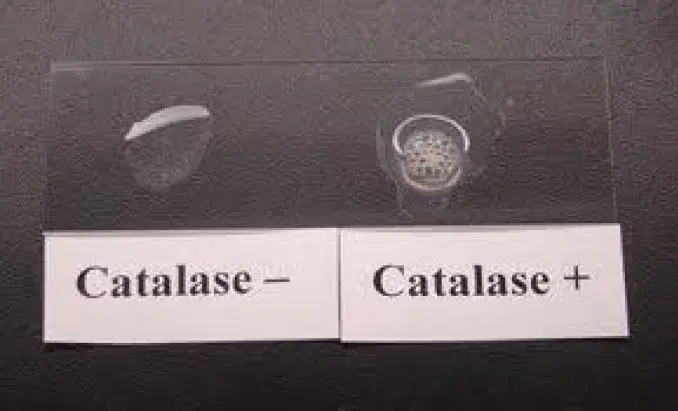
1. Control ( no treatment to the liver)



1. Heat (cooked) liver
2. Acid-soaked liver



1. Blended (liver smoothie)



**How will we test this?**

***When we add hydrogen peroxide***

***to liver that contains active***

***catalase, it will form oxygen (a gas)***

***and water (a liquid) and bubble.***

***We can see and monitor these***

***bubbles to test how well the enzyme is working!***

We will record how long the liver bubbles after hydrogen peroxide is added to the liver chunks. We will time how long bubbles persist and have a rating, on a scale from 0 (no bubbles) to 5 ( SO MANY BUBBLES) recorded for each condition to test how heat, acid, and blending affect catalase activity in a liver sample.

*Hypotheses:Circle one of the underlined words in each sentence to fill in your own initial hypotheses.*

1. The control (untreated) liver sample will / will not bubble
2. The heated liver sample (cooked liver) will bubble more / less than the control (untreated) liver sample.

**Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. The acid-soaked liver sample will bubble more / less than the control (untreated) liver sample.

**Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. The liver smoothie (blended liver) will bubble more / less than the control (untreated) liver sample.

**Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |
| --- | --- | --- |
| **Treatments** | **Bubbling Time (seconds)** | **Bubble Rating** |
| Untreated |  |  |
| Heated |  |  |
| Acidic |  |  |
| Liver smoothie |  |  |
| No hydrogen peroxide added\* | 0 seconds | 0 |

* **By not adding any hydrogen peroxide to a liver slice, we have made what is called a “negative control.” This will be our true 0 because no bubbles can form without adding the hydrogen peroxide to the sample.**