



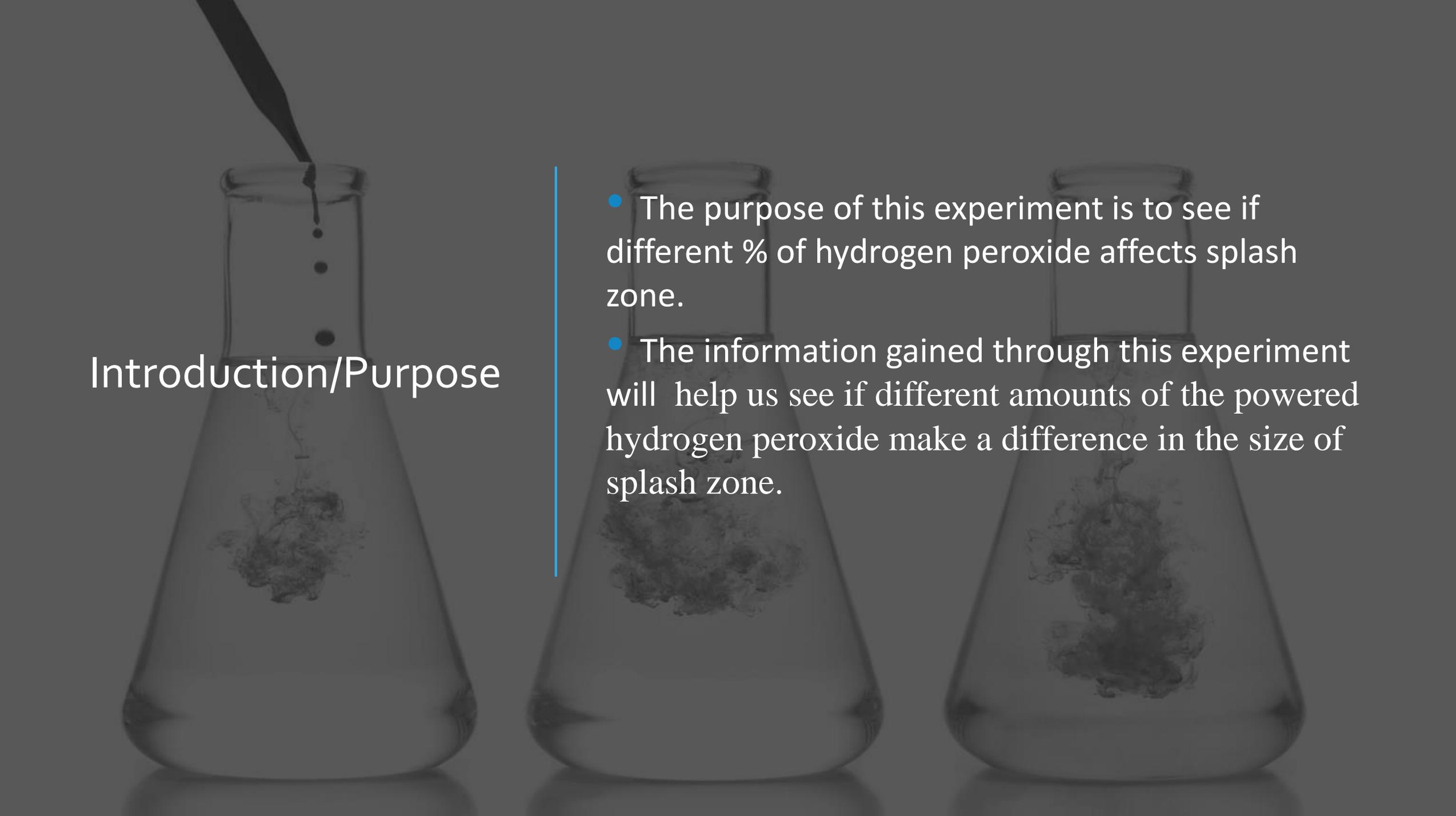
Elephant Toothpaste

Abstract

In this experiment we measured the slash zone of elephant toothpaste using 3 percent and 6 percent solution.

Research Question

- Research Question: How does the concentration of hydrogen peroxide affect the area elephant toothpaste splash zones?
- Independent Variable: concentration of hydrogen peroxide
- Dependent Variable: the area of the splash zones



Introduction/Purpose

- The purpose of this experiment is to see if different % of hydrogen peroxide affects splash zone.
- The information gained through this experiment will help us see if different amounts of the powered hydrogen peroxide make a difference in the size of splash zone.

Hypothesis

- If the concentration of hydrogen peroxide is varied, then the splash zone will also differ because there will be a different amount of chemical reaction.

Materials

Hydrogen peroxide 6% and 3%

Food color

Mesuring cup

Active dry yeast

String

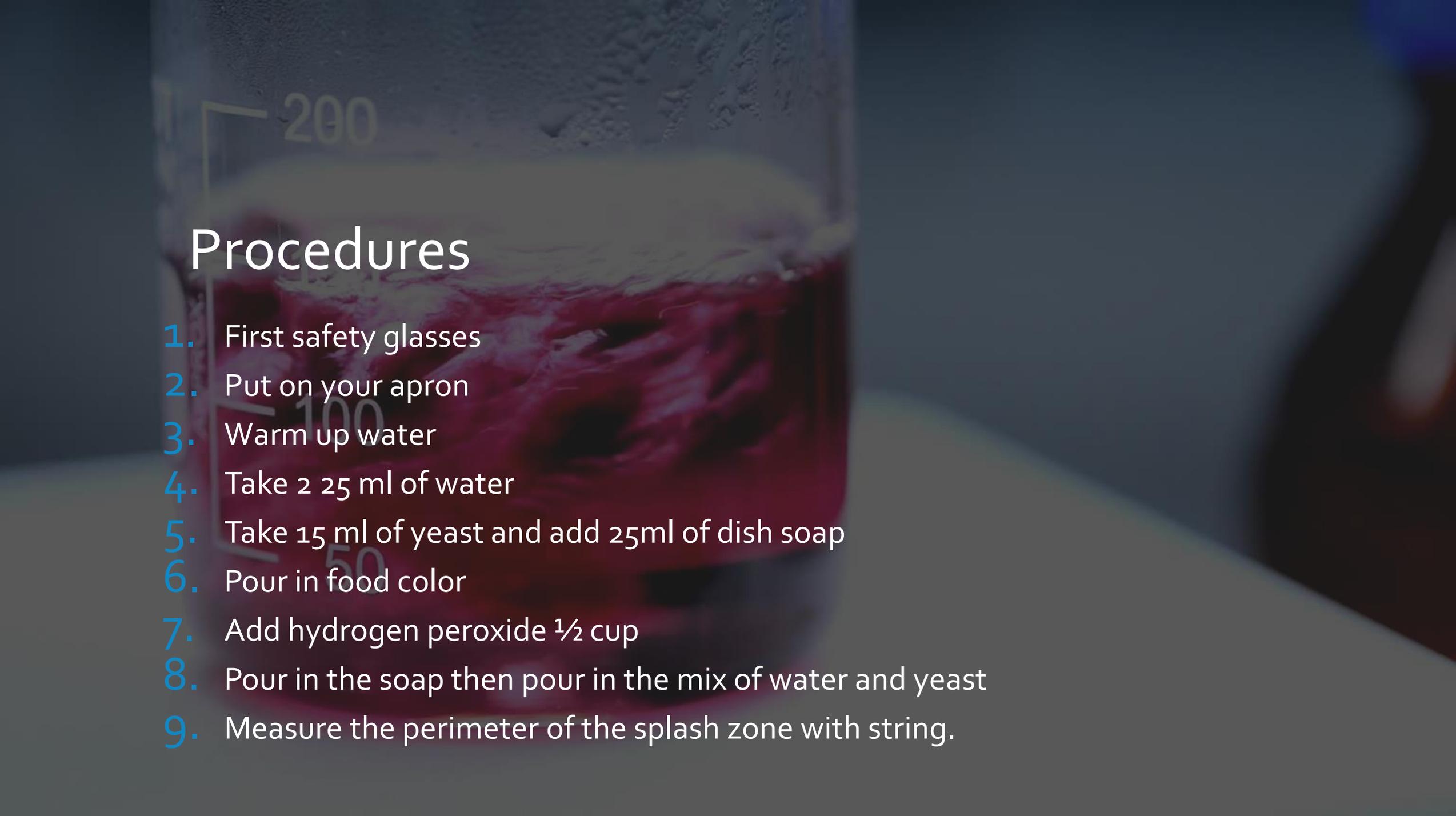
Scotch tape

Black sharpie

Measuring tape

250 ML beaker

Dawn dish soap



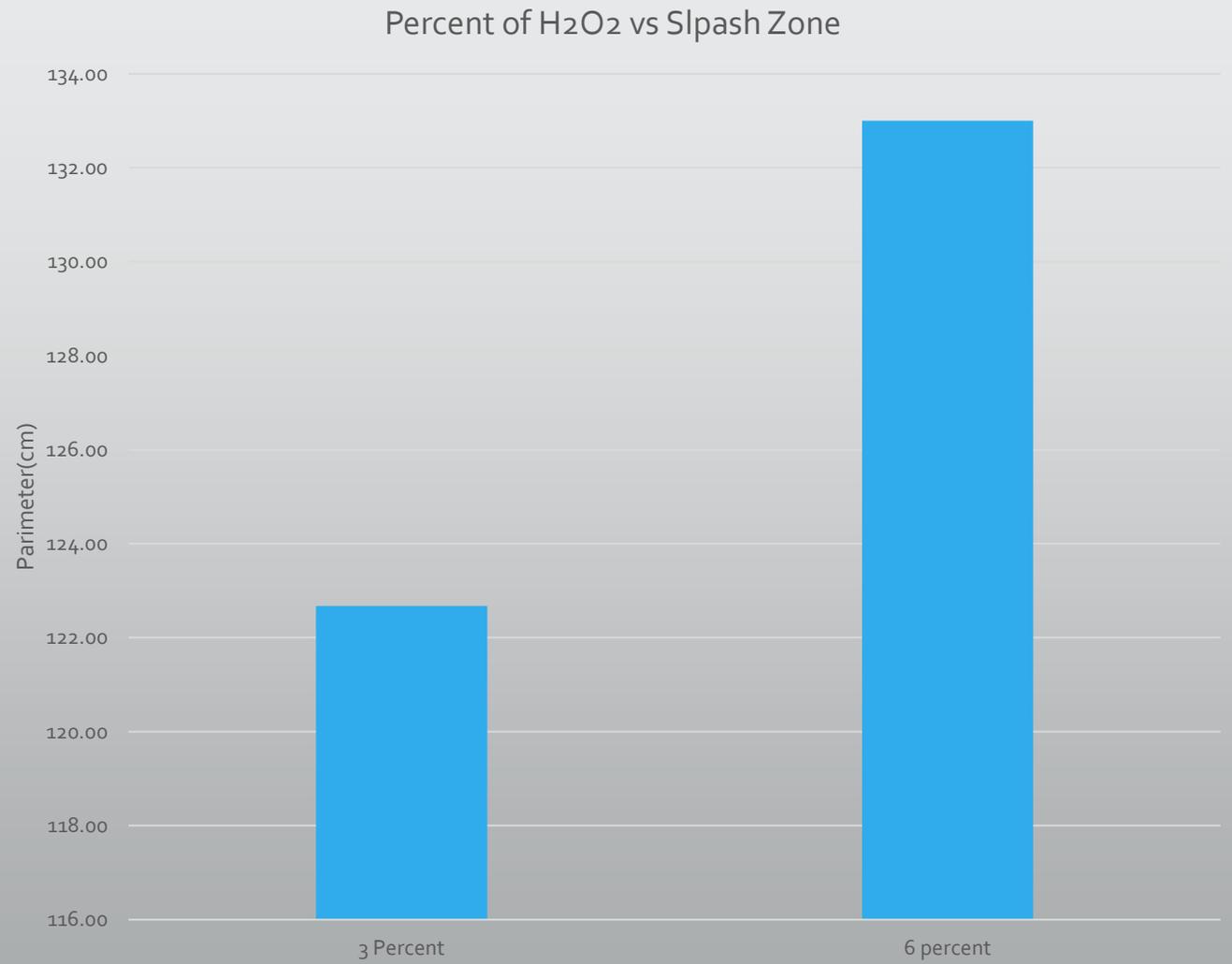
Procedures

1. First safety glasses
2. Put on your apron
3. Warm up water
4. Take 2 25 ml of water
5. Take 15 ml of yeast and add 25ml of dish soap
6. Pour in food color
7. Add hydrogen peroxide $\frac{1}{2}$ cup
8. Pour in the soap then pour in the mix of water and yeast
9. Measure the perimeter of the splash zone with string.

Data Table

	Trial 1 (cm)	Trial 2 (cm)	Trial 3 (cm)	Average (cm)
3 Percent	140	114	114	122.67
6 percent	133	132	134	133.00

Graph



Results

- The 6 percent solution had a splash zone with a greater perimeter. The perimeter was 11 cm longer using 6 percent compared to 3 percent



Conclusion

- Our hypothesis was proven. Splash zone was greater with the 6 percent H₂O₂.
- If we did this experiment again, we would try to make measurements more exact.
- In this experiment, we learned that elephant toothpaste is caused by an exothermic reaction and that the reaction is increased depending on the percentage of the hydrogen peroxide used.