Ms. Kangro Name(s):

ELEPHANT TOOTHPASTE LAB

You will be observing the following reaction during this lab:

$$2H_2O_2 \rightarrow O_2 + 2H_2O$$

hydrogen peroxide oxygen water

Materials needed:

- hydrogen peroxide H_2O_2 – 2 different concentrations (6M and 10M)
- clean/empty water bottle
- 25 ml graduated cylinder
- liquid soap
- food coloring
- potassium iodide solution (KI) 2M
- eye protection

CAUTION: This lab may spit hydrogen peroxide (H_2O_2) into the air. WEAR EYE PROTECTION

Student Directions:

1. Fill the graduated cylinder with 5 ml of hydrogen peroxide H_2O_2 (lowest concentration)
2. Place 2 drops of food coloring into cylinder
3. Add 5 ml of liquid soap into cylinder
4. Add 3 ml of potassium iodide (KI) into cylinder
5. Swirl contents to mix potassium iodide
6. Start timer
7. Record observations
8. Repeat 1-10 with medium and high concentrations of hydrogen peroxide (H_2O_2)
9. Repeat 1-10 with medium concentration, but omit adding potassium iodide
10. Complete instructions and questions on back of this page

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OBSERVATIONS: Create a table to record your observations

ANALYSIS:

(1) What kind of reaction are you observing in this lab? How do you know?

(2) How did changing the concentration impact the rate of the reaction? Explain why.

(3) What was the purpose of potassium iodide in this lab? How did presence of potassium iodide impact the rate, and why?