#1:The Blue Lagoon





Materials:

- 50 ml Blue Solution (Cu_2Cl)
- Aluminum Foil

DO: Choose 1 quantitative measure that you can take throughout this experiment (examples might include temperature, total mass, the mass of aluminum foil, the mass of solution, etc)

In a 250 mL beaker, add a small piece of aluminum to 50 mL of blue (Cu_2Cl) solution.

RECORD your qualitative and quantitative observations every minute for 5 minutes

ANSWER:

1. Write one testable question based on your observations.
2. Sketch a model of what you observed. Include sketch, color, labels, descriptors, and arrows to show change.

CLEAN UP:
The solution can be disposed of in the assigned class disposal beaker. Rinse out all glassware and return to the teacher.

#2:A Solution of a Different Color





Materials:

- 1 ml- Universal indicator
- 50 ml- 1M HCl
- 15 ml -Sodium Carbonate solution
- 1-3 scoops -GUK

DO:

- ❏ In a 100 ml graduated cylinder add 50 ml of 0.1M HCl with Universal Indicator solution.
- ❏ Tip the graduated cylinder to a 45° angle and slowly add 15 ml of sodium carbonate solution one pipette at a time.
- ❏ **Record** your observations
- ❏ Pour the solution into a small beaker.
- ❏ Add 1 -3 scoops of GUK to the beaker.
- ❏ **Record** your observations

ANSWER:

1. Make a claim as to why you think a change occurs when sodium carbonate was added to the solution.

2. What evidence do you have to prove this claim? What additional evidence might you want to collect to support your claim?

3. Engineers use scientific knowledge to help them design solutions to problems. GUK is a chemical with some unusual properties. Think of a community problem or a global problem that might benefit from a product that utilizes the unique characteristics of GUK. Discuss your vision of how GUK could be used to solve this problem. Include words and a drawing of how GUK could be used.

CLEAN UP: The contents of the beaker can be disposed of in the *GARBAGE CAN* not the sink. Rinse all materials.

#3:POP THE TOP



Materials:

- 200 ml Acetic Acid CH3COOH.
- Sodium bicarbonate, NaHCO3,
- Collection bin
- Canister

DO:

Fill the canister halfway with acetic acid.
Fill the cap with sodium bicarbonate, a white powder. Working quickly, plop the cap on top of the canister, seal it, and let go.

Based on your first trial, write a question that you can ask and answer experimentally with the materials you have been given (see the teacher if you have ideas that require other materials). Run the reaction 3 times, changing only one variable to help answer your question.

RECORD:

Experimental Question:

Independent Variable

Dependent Variable

Data Table with 3 trials

ANSWER:

1. Based on your data, what claims can you make about the reaction?

2. If you could continue this experiment, what would you do to advance your understanding of this reaction?

CLEAN UP:
All used materials can be rinsed down the sink. Return all unused materials to your teacher. Thoroughly wipe down the tables.