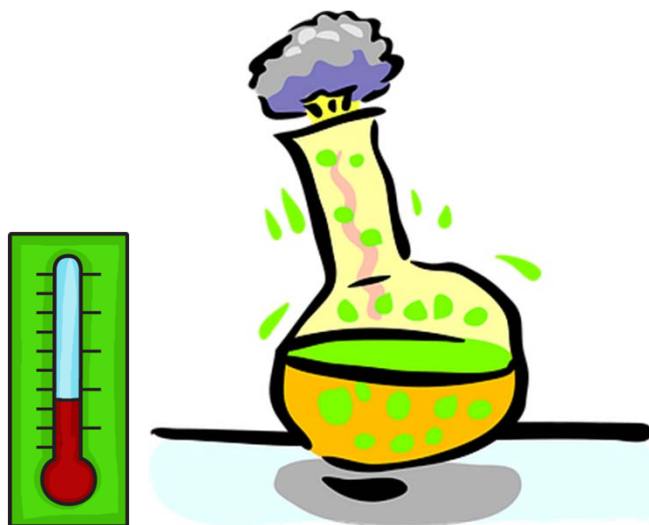


Physical or Chemical Change Lab

Physical and Chemical Changes are Different:

What's needed:

Baking soda
Vinegar
Two clear cups
Spoon
Thermometer
Stopwatch or timer
Safety goggles



What to do:

1. Put on your safety goggles.
2. Place a spoonful of baking soda into one of the clear cups.
3. Pour an equal amount of vinegar into the other clear cup.
4. Measure the temperature of both cups using the thermometer and record it in a table.
5. Observe the two cups and record your observations in a table.
6. Slowly pour the vinegar into the cup with baking soda and immediately start the stopwatch or timer.
7. Observe the mixture and record your observations in a table.
8. Measure the temperature of the mixture using the thermometer and record it in a table.
9. Repeat steps 4-8, but this time, place the vinegar in the cup with baking soda.

Compare the results of both trials and answer the following questions:

- What happened to the baking soda and vinegar when they were combined?
- Was there a change in temperature? If so, what happened?
- Did the mixture change in color or texture? If so, how?
- Was this a physical or chemical change? Explain your answer

Conclusion:

Teacher Notes:

Based on the observations and data, students should conclude that when baking soda and vinegar are combined, they undergo a chemical change in state.

The mixture becomes fizzy and bubbles are produced, indicating the formation of a new substance.

The temperature of the mixture may also increase due to an exothermic reaction.

This is different from a physical change in state, such as melting or boiling, where the substance remains the same but changes its form.