

Mass - Is It Created or Destroyed During Chemical Change?

Purpose

Alternate investigation to show conservation of mass.

Procedure

1. Measure _____ ml of vinegar using a graduated cylinder and pour into a 591 ml (20 oz) pop bottle.
2. Measure _____ g of baking soda and place into a large balloon.
3. Cap bottle with balloon before adding soda to vinegar and determine the mass of the balloon/bottle reaction chamber on a balance.
4. Predict what will happen when mixing occurs.
5. Raise balloon to mix soda and vinegar. Leave bottle on balance to observe any changes in mass.
6. Measure circumference of balloon when inflated.

Reasons for error: reactants \longrightarrow products
vinegar and baking soda \longrightarrow salt and water and carbon dioxide gas

Questions

1. Did the mass change?
2. What happened to the balloon?
3. Signs of a chemical reaction?

Extension: Use different temperatures of vinegar and predicts and record your results. Measure temperature with a thermometer.