
Drinking Acid

Introduction

Most of us think the main difference between our regular cola and its diet version is whether it has an artificial sweetener or high fructose corn syrup. We need to understand that colas also have varying amounts of acidic substances. They can contain citric acid, carbonic acid, phosphoric acid and caffeine. Of these phosphoric acid and is considered a major contributor to a beverage's acidity.

Problem Statement

Is there a difference between the acidity of a regular cola and its diet counterpart?

Hypothesis

Formulate your hypothesis based on the problem statement.



Equipment

CASIO* EA100 Data Analyzer
pH probe or meter
Colas - diet and regular
*CASIO Graphing Calculator
Clear plastic cups or beakers
Marker or labels

Procedure

1. Prepare the EA100 Data Analyzer and probe using the quick reference cards.
2. Set up colas in marked containers.
3. Test each cola with the pH probe and record your findings for each cola diet and regular. Organize your data in chart form as you work.

Note: You may substitute the use of the pH meter in place of the pH probe.

Results

1. Which cola had the highest acidity rating?

2. How did it compare to its counterpart?

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3. Which cola had the lowest acidity rating?

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4. How did it compare to its counterpart?

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Conclusion

Relate your conclusions to your original hypothesis. Draw a table showing the pH ratings of the acidity level in each cola and its counterpart. Draw a bar graph reflecting your findings.

*Optional Activity: Data can be transformed to CASIO Graphing Calculator, graphed and printed using the computer.