

## Core Skills Analysis

### Chemistry

- Understanding the acid-base reaction: Students observe the effects of acid (in Coca Cola) on a substance resembling enamel.
- Exploration of carbonation: Students learn how carbonation can affect pH levels and reactions with other substances.
- Role of phosphoric acid: Students investigate how the phosphoric acid present in Coca Cola affects dental health.
- Impact of sugar: Observation of how high sugar content interacts with teeth over time, potentially leading to decay.

### Biology

- Introduction to tooth anatomy: Students observe the structure of a tooth and understand its components.
- Understanding dental erosion: Students gain awareness of how acidic substances contribute to tooth erosion.
- Bacterial activity: Discussion on how bacteria feed on sugar, leading to plaque formation and cavities.
- Connection to overall health: Awareness of how dental health relates to overall human health.

### Health Education

- Impact of diet on oral health: Students learn about the effects of sugary drinks on their teeth.
- Preventive measures: Discussion on the importance of dental hygiene and potential preventative steps against erosion.
- Awareness of consequences: Understanding the long-term effects of consuming acidic drinks on oral health.
- Healthy alternatives: Exploration of healthier drink choices for maintaining good dental health.

### Tips

Further exploration could involve conducting experiments with other beverages to compare effects on teeth, studying the benefits of fluoride treatments, or discussing the long-term trends in dental health decline related to sugary consumption. Improvement can be made by incorporating a dental professional's insights and real-life case studies to bolster learning.

### Book Recommendations

- [The Science of Sugar](#) by Lisa Graham: An engaging exploration of sugar's effects on the human body, with a focus on dental health.
- [Decoding Dental Health](#) by Dr. Marcia Green: A comprehensive guide that discusses the importance of dental hygiene and the science behind tooth care.
- [Acids and Bases: A Chemistry Perspective](#) by Prof. John Tyre: A fundamental text that outlines acids, bases, and their real-world applications, including impacts on health.