

MANCHESTER COLLEGE

LESSON PLAN by: Lauren Bailey

Lesson Title: How Can You See Which Soda Has More Sugar? Length: 35 Minutes

Grade Intended: Sixth Source: Me & Activities For Teaching Science as Inquiry (Page 208)

**Academic Standard:**

- Science 6.2.5 – Organize information in simple tables and graphs and identify relationships they reveal. Use tables and graphs as examples of evidence for explanations when writing essay or writing about lab work, fieldwork, etc.

**Performance Object:** Given an experiment, the students will explain using a chart why regular soda weighs more than diet soda with 100% accuracy.

**Assessment:** The students will turn in a chart with their observations from the experiment. I will also formatively assess the discussions we have about the experiment.

**Advanced Preparation by the Teacher:**

- Three pairs of 12 ounce cans of soft drinks, unopened, assorted flavors and brands (each pair containing one diet and one regular) for each group of students
- Large, clear containers of water for each group of students
- Chart and pencils for each student
- Provide an ounce scale for each group of students.

**Procedure:**

**Introduction/Motivation (Engage Section):**

- Place a can of regular can of cola and a can of diet cola in an aquarium filled with water. (Visual-Spatial Intelligence)
- Have a discussion with students. (Verbal-Linguistic Intelligence) Ask students, “Why do you think the can of diet cola floated while the can of regular cola sank?” (Synthesis Question) and “What could you create a test to figure out why the diet cola is lighter?” (Evaluation Question).

**Step-by-Step Plan (Encourage Section):**

- Talk to students about what information they should have in their chart. Write down ideas on the board that students have about other observations they might see in the experiment. (Visual-Spatial Intelligence)
- Allow students to experiment with their testing (Kinesthetic Intelligence) in groups (Interpersonal Intelligence).
- Lead class in a discussion. Ask students, “What did your records tell you?” (Knowledge Question) and “Why do you think a can of diet cola is lighter than a can of regular cola of the same brand and flavor?” (Analysis Question). (Verbal-Linguistic Intelligence)
- Help students examine the labels (especially the ingredients).
- Help students conduct other experiments with the cans.

**Closure (Engage Section):**

- Lead class in a discussion. Ask students, “What does it mean for the consumer that there is more sugar in a can of regular cola?” (Comprehension Question) and “Will this effect what types of cola you drink?”. (Application Question) (Verbal-Linguistic Intelligence)

**Adaptations:** I will create a chart for these students to fill in their information. I will also allow these students to use an electronic scale.

**Enrichment:** These students can research the effects of different types of sugars on the body including sucrose, lactose, fructose, and glucose. They can figure out what sources these sugars come from, what the body does with these sugars, how much the body needs of these sugars, and what the body does with too much or too little of these sugars.

**Self-Reflection:**