Grade 6 Sink or Float Lesson, Rotation 1

In this investigation students will compare and contrast a regular and a diet coke. They will conduct a science investigation using methods to create a hypothesis, procedures, identify variables, collect data, and make conclusions. Students will explore density of a material.

Pre Visit Activities

Students should have completed:
Workbook pages: 1 - 25
Vocabulary: science methods, variables, theory, law, bias,

Day 1 Lesson: Sink or Float? Time: 90 minutes

Mr. Crosslin will lead the grade level in a guided investigation using the AV set up and classroom visits. Student worksheets provided.

I will have 12 set ups for students to work in groups of 2 or 3.

Materials Mr. Crosslin will provide for each student team: 1 diet coke, 1 regular coke, 1 two liter plastic bottle, and worksheet
Materials students/teacher provides for each student: paper towels, water source
Students write up from Sink or Float: What Did I Learn? What Did I Discover?

Day 2 Follow Up Lesson: Time: 90 minutes

Mr. Crosslin will introduce an investigation using the AV set up from the science series. Teachers will lead the investigation with students in groups. The science kit has materials for five groups. Mr. Crosslin will introduce, make class visits and assist - not lead.
Students will work in five groups.

Making a Hypothesis

Quick Lab: Chapter 1, page20 materials found in Bins
Student worksheet page 66 of the "Teacher Program Guide" teacher will duplicate

Tool Use

Teachers will get all materials out of the "Materials Kit"
Students will:

Explore the tools – and make measurements
Complete workbook pages 98 – 103 on Lesson 3 (Chapter 3) Measuring Matter

Post Visit Activities

Students will compare, contrast, draw pictures, write, discus, and analyze how day 1 and day 2 investigations were alike and different. They will also complete other labs.
They will also complete the following:
Workbook pages: complete chapters 1 - 4
Suggested Reading:
Other:

Grade 6 has three large Bins – Activity Preparation Guide (for Quick Labs) found on the outside of Equipment Kit. Please take time before my first visit to look over the science supplies in your large Bins. I plan to use many of the Quick Labs from the units. Please locate a black and white

handout titled “Activity Preparation Guide” to be used with Quick Labs. The activities associated with the Bins are designed for group work: 5 groups of 6 students. I will be referencing the Activity Preparation Guide and the materials in the Bins during my lessons.

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What is Science? Project: _____

WWW.INDIANAEXPEDITIONS.ORG

Name: _____ Date: _____ Grade: _____

"Scientific Method" is a word used to describe one way scientists solve problems about the world. They make observations, ask questions, make hypotheses, test and evaluate ideas and draw conclusions. Scientists may follow different paths in an investigation to generate evidence to support ideas.

1. **Ask a Question – about something you observe:**

2. **State Your Hypothesis – a possible answer to your question that can be tested:**

If **then,**

because **.**

3. **Control Variables (many):**

Dependent Variables (what is measured):

Experimental Independent Variable (one thing changed):

4. **Materials:**

5. **Procedure – test your hypothesis with trials:**

6. **Results – interpret and analysis data:**

Class Data: Coke Type	Floating	Float & Sink?	Sinking
Diet			
Regular			

7. State Your Conclusion:

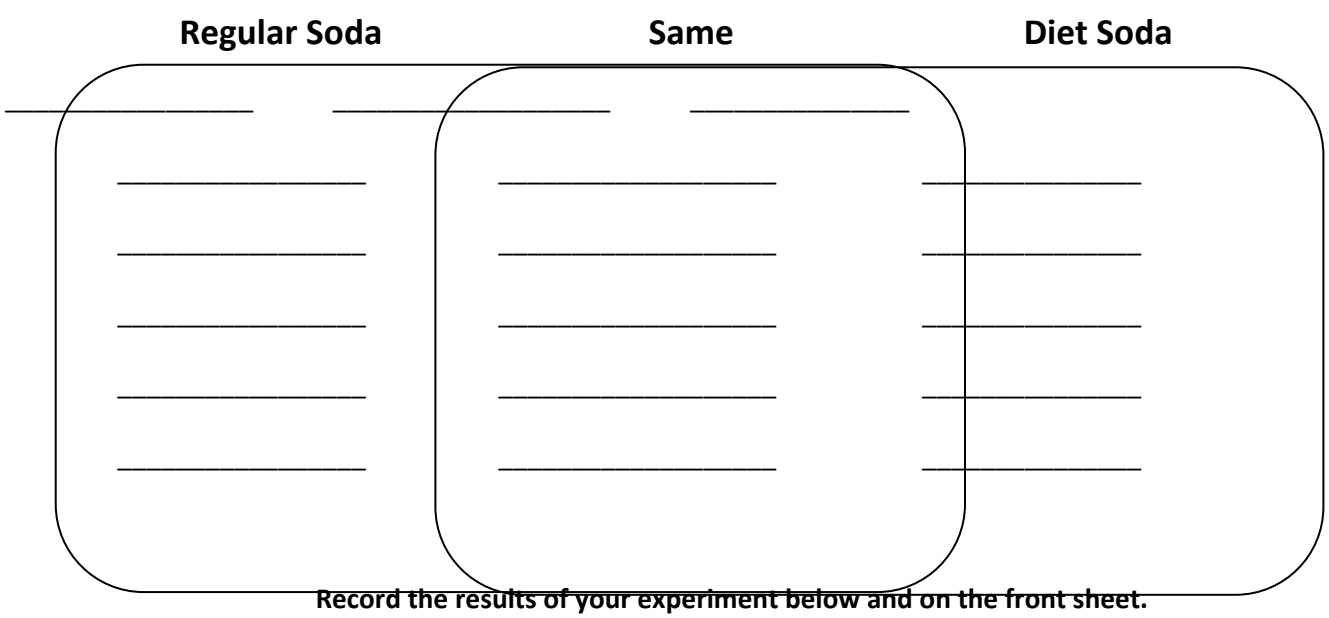
My data does – does not support my hypothesis.

Investigation Sheet Sink or Float Property of Matter: Density

Follow class instructions to investigate density – a property of matter. Complete the "Science Methods" worksheet on the other side as you work with your team.

PROCEDURE and RESULTS

Observations: **Venn Diagram**



Record the results of your experiment below and on the front sheet.

Type of Soda	Trial One		Trial Two		Trial Three		Trial Four		Trial Five	
Diet Soda	Sink	Float	Sink	Float	Sink	Float	Sink	Float	Sink	Float
Regular Soda	Sink	Float	Sink	Float	Sink	Float	Sink	Float	Sink	Float

What is the density?
Density = Mass/Volume (grams/milliliters) g/ml

Mass of diet coke = _____ g

Volume of diet coke = _____ ml

Mass of regular coke = _____ g

Volume of regular coke = _____ ml

Conclusion: Interpret (explain) the results of your experiment and state your conclusion. Did you data support your hypothesis? Be sure to include the following words in your explanation: dense or density, data, regular soda, diet soda.

Name _____ Date _____ Class _____

Quick Lab — 20 min

Making a Hypothesis

Posing questions and making hypotheses are often the first steps in scientific inquiry. In this activity, you will develop questions and hypotheses based on a set of provided materials.

INQUIRY FOCUS **Pose Questions, Develop Hypotheses**

Materials

bar magnet

horseshoe magnet

10 paper clips

index card

aluminum foil

5 pennies

Procedure

1. Observe the set of materials. Think of two testable questions about any of these materials based on your observations. Record your questions in the data table.
2. For each question you recorded for Step 1, develop a hypothesis. Record your hypotheses in the data table.
3. Use the materials to test each of your hypotheses. Determine whether your results support or do not support your hypothesis. Write "Supported" or "Not Supported" in the data table to indicate your results.

Scientific Inquiry		
Questions	**Hypotheses**	**Results**
1.	1.	1.
2.	2.	2.

Think It Over

1. Choose one of your hypotheses and explain how your observations and question led to that hypothesis.

2 Identify a possible problem that might have occurred or an actual problem that did occur when you tested your hypotheses.