

Root Beer Floats

Grade 2: Matter and Energy

<h1>Lesson Plan</h1>	Assessment	Observation
	Cross-curricular	Mathematics

Big Ideas

- We will explore the various states of the different ingredients.
- We will explore the various changes in these states.

Specific Expectations

- Investigate, through experimentation, interactions that occur as a result of mixing and/or dissolving liquids and solids, liquids and liquids, and solids and solids.
- Describe some ways in which solids and liquids can be combined to make useful substances.

Description
 In this lesson, we will explore the changing states of ice cream and root beer when combined. We will observe the properties and make predictions about what will happen to the two states of matter when combined.

Materials

- Root beer
- Vanilla ice cream
- Tall transparent plastic cups
- Ice cream scoop or spoon
- Measuring cup

Safety Notes

- Ensure there aren't any allergies to any of the food ingredients.

Introduction

- Begin by reviewing what liquids are. *Liquids do not have a definite shape, they take the shape of the container that they are in.*
- Review what solids are. *Solids keep their own shape and stay where they are put. They do not flow freely.*
- Review what gases are. *Gases do not have a definite shape or volume. They fill the entire volume of a container. Although you cannot always see gases, they surround us.*
- Observe the materials: root beer and vanilla ice cream.
- As a group or individually, describe the properties. Record the observations on the “Properties” handout.
- Classify the materials as liquids, solids, or gases.
- Have the students individually predict what will happen when the root beer is combined with ice cream.
- Students will record their predictions on the “Predictions” handout.

Action

- Place one scoop of ice cream in the plastic cup.
- Measure out one cup of root beer and pour it over the ice cream.
- Observe the changes in state. Questions to discuss: *What did you notice? What happened when the root beer and ice cream combined? Did the matter change states?*

Consolidation/Extension

- **Results:** When the carbonated root beer comes into contact with the ice cream, carbon dioxide bubbles are released. The root beer also helps to free air bubbles trapped in the ice cream. The air bubbles are a trapped gas. When the two ingredients are combined, the bubbles expand and create the thick foam layer at the top of the cup.
- Review the observations and results recorded by the students. Review the types of matter in the final product.
- Solid: ice cream, Liquid: root beer, Gas: air bubbles (foam)
- Enjoy the tasty treat!