Title: Root Beer Floats: States of Matter

Subject: Science

Grade-level: 4th Grade

Lesson Description:

The focus of this lesson is to make root beer floats and learn about the states of matter.

TEKS you will cover: (5) Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:(A) measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float;

Project Goal: You the student will discover the differences between a solid, a liquid and a gas. You will also learn the differences between a chemical and physical change.

Learning Objectives: You the student will follow the directions for the root beer float recipe and successfully measure ingredients. You will discover what chemical and physical changes occur when ice cream is added to root beer.

Prerequisites: You will need to know how to access the class website and how to navigate the website. You will need to know how to complete worksheets online.

Required Materials/Online Resources: You will need a measuring cup, root beer, vanilla ice cream, ice cream scoop, plastic cups, access to internet, access to class website, States of Matter worksheet.

Vocabulary:

- Matter: anything that takes up space and has mass
- Solid: matter with a definite shape and volume
- Liquid: matter that has a definite volume, but no definite shape
- Gas: matter that does not have a definite shape or volume
- Physical Change: although some extensive properties (like shape, phase, etc.) of the material may change, the material itself is the same before and after the change. The change can be “undone”

- Chemical Change: the substances present at the beginning of the change are not present at the end; the new substances are formed. The change cannot be “undone”

Step-by-Step Process:

1. Go on the class website and locate the video and instructional materials for the video.
2. Look at the materials needed for the lesson and collect them before you watch the video.
3. Watch the video, stopping to pause the video whenever necessary.
4. The video will start by introducing what the lesson will consist of, the overview and goals for the lesson.
5. The video will then discuss and explain the vocabulary for the lesson.
6. Follow the video and make a root beer float.
7. Observe what happens when you make the root beer float.
8. Complete the worksheet for this lesson.
9. Take a picture of your root beer float and upload it.
10. Submit your worksheet.

Assessment: You the student will complete the worksheet found on the class website and submit it. The worksheet can be found of the page of this lesson. You will also take a picture of your root beer float and upload it.

Additional Notes/Points: This is for an online class and is an instructional video.