

Dancing Raisins

Introduction

Items placed in water will sink, float...or dance?? Test items in your kitchen to discover the different ways they move in liquid.

Think About This

Do items sink or float the same way in all liquids?

Materials

-  1 can or bottle (about 12 ounces) of a clear, carbonated liquid, such as:
 - Sprite, club soda, carbonated water, etc.
- Water
- 2-3 tablespoons of small food items to test, such as:
 - Raisins or craisins
 - Popcorn kernels
 - White rice
 - Chocolate chips
 - Peanuts
 - Cereal
- 2 Clear glasses, jars, or cups
- Observation sheet
 - Can be printed or drawn on a separate piece of paper
- Pencil

Do Ahead of Time:

- Gather all materials.
- Print out the observation sheet (3rd page) or draw one on a separate sheet of paper.

Directions

- 1** On the observation sheet, draw your hypothesis, or best guess, about what will happen when you add different foods to these liquids.
- 2** When you are ready to test, pour the liquids into the clear jars or glasses. Add water into one glass until it is about 1/2 to 3/4 full. Add the carbonated liquid into a second glass until it is about 1/2 to 3/4 full.
- 3** Add about 1 tablespoon of the first food item you are testing to the water and add 1 tablespoon to the carbonated liquid.
- 4** Observe what happens in each glass. Check it again a few minutes later. Draw what you saw on the observation sheet.
- 5** Repeat steps 3-4 for the additional food items being tested.

Activity Sheet

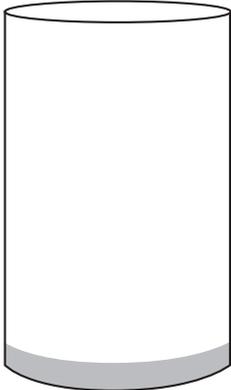
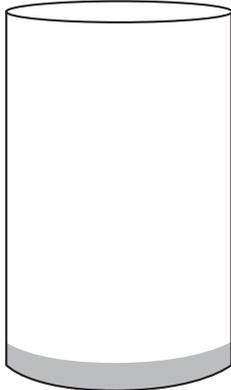
Make a hypothesis, or a guess, about what will happen when you add different foods to these liquids.

- 1** Write in what food is being added to the type of liquid being used.
- 2** Draw what you think will happen.
- 3** Draw what you observed after adding the food to the liquid.

Dancing Raisins Continued

(Example)

When I add Popcorn to Water :

I think it will....	What I observed:
	

Questions to Ponder

- Think about how the foods reacted in the water compared to the carbonated liquid. Why do you think they reacted differently?
- Come back to your glasses after 15 to 30 minutes. What do you see?
- Which food danced the most? What do you think caused that?

What's Happening?

Many foods, such as raisins, sink when placed in water because they are more dense than the water is. Carbonated beverages contain dissolved carbon dioxide gas, which begins to escape when the container is opened and poured. Most gasses are less dense than water, so they float.

When the raisins are added to the carbonated drink, they sink to the bottom of the glass because they are more dense than the liquid. However, the bubbles of carbon dioxide begin to attach to the raisins. The little bubbles of gas act like floatation devices that you might use in a pool, and eventually lift the raisins to the top of the glass. Whether something sinks or floats is called its buoyancy. When enough bubbles attach to the raisin, the raisin's buoyancy is increased, and it begins to float. At the top of the glass, the bubbles pop, the raisin's buoyancy decreases, and the raisin sinks again. Over time, this process repeats and we see the raisins lift and fall repeatedly.

Eventually, all of the carbon dioxide bubbles will rise and pop and the foods will no longer "dance" like they did before. If you've ever had a soda or carbonated water that sat out for too long, you might have noticed that it tastes different. When a carbonated drink has released its carbon dioxide, it will no longer fizz in the same way and we describe it as being "flat".

Take it Further

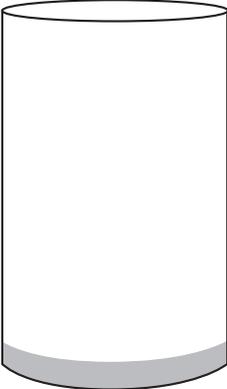
Try the same experiment with other liquids in your kitchen, such as oil or vinegar.

Prove that it's the bubbles that matter. Use a spoon to take the raisins out of the carbonated liquid, stir up the liquid for about one minute to get rid of most of the carbon dioxide bubbles, then add the raisins back in.

Dancing Raisins Observation Sheet

When I add _____ to _____:

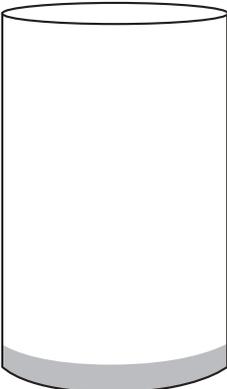
When I add _____ to _____:

I think it will....	What I observed:
	

I think it will....	What I observed:
	

When I add _____ to _____:

When I add _____ to _____:

I think it will....	What I observed:
	

I think it will....	What I observed:
	