

**ACTIVITY DESCRIPTION:** Children will experiment with flotation to discover if fruits and vegetables can ‘dance’ and float in certain liquids.

**KEY OUTCOME(S):** Use previously learned vocabulary along with critical thinking and problem-solving skills.

**QUICK OVERVIEW:**

1. Discuss floating and sinking, as well as the effect the type of liquid has on these actions.
2. Model planning out how to test to see if we can make pieces of fruit and vegetables ‘dance’ (i.e., bob up and down) in cups of water and pop.
3. In pairs, invite the children to create their own experimental plans.
4. Ask the pairs to conduct their tests according to their plans.
5. Encourage the children to share feedback and adjust their experiment to get their fruits and vegetables to dance.
6. Recap what the children learned and how they were able to use the feedback.

**TARGETED VOCABULARY WORDS:** float, sink, ‘dance’ (i.e., bob up and down), fruit, vegetable (and the specific names of your chosen fruits and vegetables), liquid, water, pop, bubbles, experiment, plan, test, brainstorm, feedback



**GROUP SIZE:** Pairs



**PREP-TIME:** 10-20 mins.



**DURATION OF ACTIVITY:** 30-40 mins.



**MATERIALS:**

- **You find:** Cups (clear cups, if possible); Any clear pop (soda); Two types of fruit (e.g., grapes, blueberries); Two types of vegetables (e.g., corn kernels, peas)
- NOTE: You can use any type of fresh, frozen, or canned fruits or vegetables, but if you choose a large fruit or vegetable (e.g., pineapple, broccoli), cut them up into small pieces. Also, be mindful of food sensitivities.






**PREPARATION:**

1. Gather the cups (two per pair), clear pop (250 ml per pair), and water (250 ml per pair).  
NOTE: A two-litre bottle is enough for 8 pairs (i.e., 16 children). To prevent spills, and to maintain the pop’s fizziness, wait to open and pour the pop until mentioned later in the activity.
2. Gather and prepare the fruits and vegetables (at least two pieces of each type of fruit and vegetable per pair; one piece of each type for both the pop cup and water cup). Cover and store them (i.e., fridge or cool place).

WHAT DO WE WONDER?	<p>“I wonder if all fruits and vegetables will do the same thing when they are dropped in water or clear pop. I wonder if they will sink or float. I wonder if they can ‘dance’, or bob up and down. I wonder what will happen if we try this with _____, _____, _____, or _____ (name your chosen fruits and vegetables).”</p>
WHAT DO WE KNOW?	<ol style="list-style-type: none"> <li>1. “What does it mean to float? To sink?” (Floating means to stay at the top of a liquid. Sinking means to go down below the surface of a liquid.)</li> <li>2. “If an object sinks in water, does that mean it will sink in <u>any</u> liquid?” Without saying the correct answer, explain that they will find out today by doing an experiment.</li> <li>3. “What is an experiment?” (To test or try different things to find out more information about something.)</li> <li>4. Show the water and pop. “Do you know what these are? What is the same about water and pop? What is different?” Discuss and compare these briefly (e.g., what they are, what they taste like, which one is healthier).</li> <li>5. “What do the bubbles do in the pop?” (The bubbles float to the top.)</li> <li>6. “I wonder what the bubbles will make the fruits and vegetables do. What do you think?” (‘Dance’: bob up and down.)</li> <li>7. Name your chosen fruits and vegetables. “Do you think these fruits and vegetables will sink or float? Do you think if a _____ sinks in the water it will also sink in the clear pop?”</li> </ol>

<b>IDEATE AND PLAN</b>	<ol style="list-style-type: none"> <li>1. Display the materials (i.e., water, pop, cups, prepared fruits and vegetables). “We’re going to see if we can make fruits and vegetables ‘dance’, or bob up and down, with these items. Let’s brainstorm how we could do this!”</li> <li>2. “‘Brainstorming’ is when we think of ideas to solve the problem or the challenge we are working on. It helps to think with friends because ideas from friends can help us think of more and new ideas.”</li> <li>3. “Now we’ll use our ideas to create a plan in our heads or drawn out on paper. When we plan, we will need to think about how to do our experiment using these materials.”</li> <li>4. “First, watch me make a plan. I want to do an experiment to see if I can get my fruits and vegetables to float. Can you help me think of how I could do this?” With the children’s help, model creating a plan (e.g., drop the fruits and vegetables into the two different liquids; swirl the fruit and vegetable pieces around in the cups).</li> <li>5. “Now it’s your turn, with your partner, to think of a plan to try to make your fruits and vegetables ‘dance’. Don’t forget to look at the materials to help you make your plan.”</li> <li>6. As the children create their plans, finish preparing the materials by filling half of the cups with water and filling the remaining cups with pop. When ready, hand out the cups and the prepared fruit and vegetable pieces.</li> </ol>
<b>CREATE!</b>	Ask the children to experiment with the provided materials to see if they can make the fruits and vegetables dance in any of the liquids. Remind them to experiment using the plan they created. Encourage the pairs to discuss what they notice and to compare the differences between what happens when the fruits or vegetables are dropped in water versus when they are dropped in the pop.
<b>HOW CAN WE TEST AND MODIFY?</b>	<ol style="list-style-type: none"> <li>1. “In what ways are you testing each fruit and vegetable to see if they can ‘dance’?” (We can drop them in the water and the pop and watch to see what happens.)</li> <li>2. “What can you try if your fruits or vegetables don’t ‘dance’? What if they just float, or sink?” (We can change what we are doing to see if we can get the fruits and vegetables to move up and down.)</li> <li>3. Model <i>effective feedback</i>: “Sometimes when we’re stuck, we ask friends for feedback or ideas to help us. Does a pair need feedback?” Select a pair and ask: “What do you need help with?” Select others to give feedback.</li> <li>4. Ask some or all of the following questions as the children test and modify their experiment: “Are you stuck?”; “What else could you try?”; “Did all of your fruits and vegetables sink in the water?”; “What happened in the pop?”; “Did they all ‘dance’ in the pop right away?”; “Can you change something to make them ‘dance’?”; “Did any ‘dance’ in the water?”; “Why did they ‘dance’ in the pop?”; “Did some float, but not ‘dance’?”</li> </ol>
<b>WHAT DID WE LEARN?</b>	<ul style="list-style-type: none"> <li>• “What did you discover, or learn, while trying to make your fruits and vegetables ‘dance’?”</li> <li>• “Did you change what you were doing to make a fruit or vegetable ‘dance’ that wasn’t dancing at first? How?”</li> <li>• “Did you get feedback or advice to help with your experiment? How did the feedback help you?”</li> <li>• “How would today’s experiment help us when we test and try new things in the future?” (We can remember that it is okay if our first test does not work because we can make changes and test and try again.)</li> </ul>
<b>LET’S DO MORE!</b>	<p><b>Incorporating Domain C skills (Cognitive Skills):</b>  <u>Numeracy</u>: Ask the pairs to randomly select a number card (e.g., 1-5) for each fruit and vegetable to determine how many of each they will drop into the liquids.</p> <p><b>Incorporating Domain E skills (Physical Development):</b>  <u>Fine Motor</u>: Use small tongs to pick up and drop the fruits and vegetables into the liquids.</p>

## SUGGESTIONS FOR DIFFERENTIATED LEARNING

	<p>To modify this activity:</p> <ul style="list-style-type: none"> <li>• Provide more types of fruits and vegetables for the children to test.</li> <li>• Provide children with more clear liquids to test (e.g., corn syrup and vegetable oil). Also allow them to mix the clear liquids to see how fruits and vegetables react in the mixtures.</li> </ul>
	The current activity is designed for children at this skill level. No modifications are required.
	<p>To modify this activity:</p> <ul style="list-style-type: none"> <li>• Give pairs one fruit or vegetable to experiment with at a time. Experiment with water first, then pop.</li> </ul>

**EXECUTIVE FUNCTIONING TIP:**

Support children as they practice inhibiting a number of impulses during the experiment (e.g., to not throw all their fruit and vegetable pieces in at once, to not drink either of the liquids, to not put their hands in the liquids, to not eat their fruit and vegetable pieces without being told to first).

**TEACHER TIP(S):**

If you wish, ask the pairs to record what is happening during the testing and any experimental modifications (e.g., on a KWL chart or your own preferred charting method).

**COMPLEMENTARY EARLY LITERACY BOOKS:**

- Gail Gibbons – *The Vegetables We Eat*
- Theo LeSieg (Dr. Seuss) – *Ten Apples Up On Top!*
- Robert McCluskey – *Blueberries for Sal*
- April Pulley Sayre – *Go, Go, Grapes!: A Fruit Chant*
- April Pulley Sayre – *Rah, Rah, Radishes!: A Vegetable Chant*

**OBSERVABLE EYE-TA SKILLS:**

- A5: Understand relational concepts.
- A6: Understand positional concepts.
- D3: Understand teachers' instructions and questions.

**MY OBSERVATIONS:****PROGRESS MONITORING:**

TEACHER FEEDBACK: CLICK [HERE](#) TO TELL US WHAT YOU THINK OF THIS ACTIVITY