

Simple STEM Activity

Sink – Float – Repeat

Purpose:	The purpose of this activity is to observe and explain what is happening in this unusual system in motion where objects sink, float, and repeat this motion.
Standard:	<p>SKP1. Obtain, evaluate, and communicate information to describe objects in terms of the materials they are made of and their physical attributes.</p> <p>c. Plan and carry out an investigation to predict and observe whether objects, based on their physical attributes, will sink or float.</p> <p>S2P1. Obtain, evaluate, and communicate information about the properties of matter and changes that occur in objects.</p> <p>a. Ask questions to describe and classify different objects according to their physical properties.</p> <p>S8P1. Obtain, evaluate, and communicate information about the structure and properties of matter.</p> <p>a. Develop and use a model to compare and contrast pure substances (elements and compounds) and mixtures.</p>
Materials:	Clear glass or plastic cup, clear carbonated drink (Sprite, 7-Up, sparkling water), raisins or popcorn kernels.
Procedures:	<ol style="list-style-type: none"> 1. Pour drink into glass. 2. Add raisins or popcorn 3. If needed, cut raisins in half and place back in drink. 4. Observe closely. 5. Explain the motion of the raisins.
Science Behind It:	<p>The primary value of this simple demonstration is to let kids closely observe and then try to explain what is happening in this unusual system in motion.</p> <p>Objects sink when they are denser than the liquid that surrounds them. However, an object that sinks initially can be enticed to float if its density is decreased sufficiently. When objects are added to carbonated drinks, the objects may initially be denser than the surrounding liquid. As carbon dioxide bubbles collect around the object, the density of the object decreases. As a result, it starts to rise through the now less dense liquid until it reaches the top. Once it reaches the top, the gas bubbles are released, the object becomes heavier and sinks again to the bottom. The cycle continues until the carbonation lessens.</p>
Questions to Ask:	<ol style="list-style-type: none"> 1. What did you observe about the gas bubbles on the raisins? 2. Explain the up & down motion of the raisin using your observations. 3. Can you brainstorm a way to use gases to help you float in an emergency?