



Candy Sink or Float

Why do Starburst chews sink, but Kit-Kat bars float? Investigate buoyancy as you play a very sweet game of sink or float with Halloween candy!

TEKS:

SCI 4.5 A: The student is expected to measure, compare, and contrast physical properties of matter, including mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float.

SCI 5.5 A: The student is expected to classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy.

Materials:

- Assorted candy
- Bowl or bin
- Paper
- Pencil or pen
- Water

Experiment/How-To:

1. Collect as many different types of candy as you can find around your house.
2. Grab a piece of paper and a pencil or pen. Write a list of each type of candy that you collected on this piece of paper.
3. Unwrap any candies that have wrappers. Make sure that you remember which one is which!
4. Next to each candy, predict whether it will sink or float when placed into a bowl of water. As you make your predictions, take some time to observe what the candy looks like and notice how each candy feels in your hand.

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5. Fill a bowl or bin about halfway with water.
6. One by one, gently place each candy into the water. Mark on your paper whether each candy sinks or floats. How many did you predict correctly?

STEM Connection:

What makes something sink or float? When an object is placed in water, it pushes some water out of the way to make room for itself. Then, two forces act on this object: the force of gravity pulling the object down, and the buoyant force of water pushing the object up. The downward force is equal to the weight of the object, while the upward force is equal to the weight of the water that the object pushes out of its way. If the downward force is less than the upward force, the object will float!

As you played “Candy Sink or Float?” you may have noticed that heavier candies tended to sink, while lighter candies floated. Almost all candy is made up of lots of sugar. However, the form that this sugar is in, as well as delicious add-ins, causes certain candies to float while others sink. Candies with whipped sugar ingredients like marshmallow and nougat have lots of air in them, making them lighter than the amount of water they replace and causing them to float. Candies that are made from solid chocolate or that have heavier fillings like caramel or peanut butter are heavier than the water they displace, causing them to sink. Did any candies in the sink or float game surprise you? If so, try cutting them in half and examining what they are made of inside. You may even be required to do a taste-test to figure out what the candy is made of!

Career:

Physicists study the natural world, from the tiniest subatomic particles to the largest galaxies. They do experiments to discover the laws of nature. They study what things are made of (matter) and how things behave. They also learn about energy, studying how it changes from one form to another.

Resources:

<http://www.readingconfetti.com/2013/10/sink-or-float-candy-science.html>

<https://www.rchsd.org/health-articles/candy-experiment-sink-or-float/>

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