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Gummy Bear Science

Stem Activities

Ages: 6-8

Greater than 30 minutes

Grownup needed

What happens when you place gummy bears in different solutions? Will they grow larger or smaller? Through this fascinating gummy bear science experiment, we'll explore how molecules move and how they affect the size and shape of the sweets.

Materials Needed

Salt
Sugar
Cup of water
Three containers
Gummy bears
Tablespoon
Two cups

Step-by-step tutorial

Step 1

Pour 90ml of warm water into a cup.

Step 2

Add three tablespoons of salt and stir until no more salt dissolves - you now have a saturated salt solution.

Step 3

Use the same method to make a saturated sugar solution.

Step 4

Pour the prepared water, saturated salt solution, and saturated sugar solution into three separate bowls.

Step 5

Place gummy bears into each bowl containing different solutions.

Step 6

Leave for 24 hours and observe what happens to the gummy bears in different solutions.

Step 7

The gummy bears' sizes have all changed after soaking.

The Science Behind It:

When you put a gummy bear in plain water, you'll see it gradually grow larger as water flows into it. Why does this happen? Water moves to balance dissolved substances. There are more substances inside the gummy bear, so water enters the bear trying to maintain the same ratio of sugar molecules to water molecules between the two. You'll notice the bear in salt water has shrunk - why? Because salt molecules are much smaller than sugar molecules, more salt dissolves in the water. This means there are more dissolved substances in the water than in the bear. So water flows out of the bear, trying to balance the difference. What about the sugar water? Like salt water, there are many dissolved substances in the water, but we see water flowing into the bear rather than out. This tells us there's more sugar inside the bear than in the surrounding water.