



Curiosity Guide #510

Diffusion and Osmosis

Accompanies Curious Crew, Season 5, Episode 10 (#510)

Growing Jellies

Investigation #6

Description

Will the marbles get bigger or smaller? Find out!

Materials

- Jelly marbles, like Orbeez from Walmart
- 2 clear containers
- Distilled water
- Salt
- Tap water
- Measuring spoon
- Spoon

Procedure

- 1) Fill one clear container with distilled water.
- 2) Fill a second container with tap water. Add 5 teaspoons of salt.
Stir the salt mixture.
- 3) Set aside 2 or 3 jelly marbles for comparison.
- 4) Place 2 or 3 of the jellies inside each container.
- 5) Let sit for a while.
- 6) Spoon the jellies out of the water and the saltwater baths.
- 7) Compare the sizes of these jellies to the jelly marbles that are the original size.
- 8) What do you notice?

My Results

Explanation

Diffusion is the movement of particles from a higher to lower concentration. In the tap water example, water is passing through the semipermeable membranes of the jellies, and this kind of diffusion is called *osmosis*. The jellies are able to hold a lot of water and get quite large because one of their ingredients is a super-absorbent polymer. The conditions in the salt water work in reverse. Much of the water will exit the jellies, again passing through the membrane through osmosis. This is also how you can shrink a jelly back to a smaller size after playing with it.

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