

Naked Egg Osmosis

Osmosis is a system in which water spreads from areas where water is concentrated to areas where water is not, passing through a semi-permeable membrane. While it happens in nature, people can also use osmosis to move water and clean it of pollutants— like removing salt so the water becomes drinkable.

Try This!

An egg is a GREAT way to observe osmosis because it is large enough to watch with the naked eye, and you can see through its membrane!

1. First, the shell of the egg will need to be removed without damaging the membrane inside. Place the egg in a bowl and fill the bowl with vinegar until the egg is just covered.
2. Place the bowl in a refrigerator and leave it alone for three days! Vinegar takes time to dissolve the shell and leave the egg “naked”. The shell is dissolved when the egg no longer has bubbles on it, and appears larger than it started as the membrane expands.
3. Osmosis is occurring as the vinegar solution passes into the egg.
4. For osmosis to pass water *out* of the egg, CAREFULLY remove the egg from the bowl, and replace the vinegar in the bowl with corn syrup. Replace the egg into the bowl and let the bowl sit in the refrigerator for another 24 hours. How does the egg’s appearance change?
5. Continue the osmosis by replacing the corn syrup in the bowl with water. Do you think the water will pass out of the egg into the bowl, or that the water in the bowl will pass into the egg?

Materials

A Bowl
Vinegar
Corn Syrup
Raw Egg

