JR-SCIENTISTS

POTATO OSMOSIS

In this activity you will learn how you can make water move with something called osmosis!

SUPPLIES

Potato
Knife
2 Tall glasses
Distilled water (or regular)
Salt
Tablespoon

INSTRUCTIONS

STEP 1: Cut your potato into four equal pieces about 4 inches long and 1 inch wide.

STEP 2: Fill your glasses half way with distilled water, or regular water if no distilled is available.

STEP 3: Now mix 3 TBSP of salt into one of the glasses and stir.

STEP 4: Place two pieces of potato into each glass and wait. Compare the potatoes after 30 minutes and then again after 12 hours.

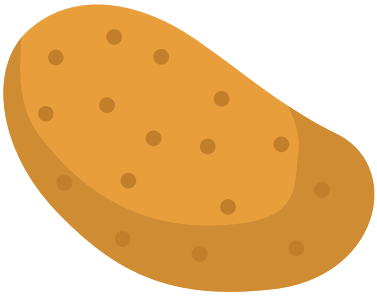
THE SCIENCE

The process of moving water across a membrane is called osmosis. A membrane is a thin sheet of tissue or layer of cells acting as a wall. Plants use osmosis to 'drink' water. The plants create an environment of high salt concentration in their roots that are in the soil. Because the water outside the root cells has less salt than in the roots, water starts moving into the cells. The water then travels up the roots to the rest of the plant.

Osmosis works in both directions. If you put a plant into water with a higher salt concentration than the concentration inside its cells, water will move out of the plant . If this happens then the plant shrinks and will eventually die.

Potato Osmosis Observations

Use this worksheet to process and evaluate your work.



RECORD

What predictions can you make about what might happen?

What do you notice after 30 minutes? After 12 hours?

How did the length and diameter or width of the potato strips change in each cup?

Try this activity work with other vegetables or fruit. Results?

What did you learn?