Making a Plant Wilt

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Main idea: Show how salts (some of which are in fertilizers) can cause damage to plants.

Objective: By adding saltwater to plant, it will cause plant to wilt. (This will take about an hour. You may want to combine this with another activity.)

Materials:

q water
q table salt
q measuring cup
q teaspoon
q clock
q large pan if a sink is not available
q 2 potted plants at least 6 inches tall. (You can use houseplants or plant beans or other easy-to-
Motivator questions:

q In spring, look at the grass along the edge of a road or sidewalk that has been salted to melt ice and snow during the winter. Why do the plants appear wilted or damaged? Often times, there is bare ground where grass used to be. Why is that?

q Why do you think salt will cause a plant to wilt?

Activity:

1. Put 2 ounces of water into a measuring cup.

2. Add 1 ½ teaspoons salt to water and stir until completely dissolved.

3. Slowly pour the saltwater onto the soil of plant.

4. Pour 2 ounces of plain water onto the other plant.

5. Check plants every 10 minutes for the next hour. The plant in the saltwater should begin to wilt.
6. Once the plant wilts, add about 3 ounces clean water to the soil of the wilted plant. Be sure the plant is over the pan or a sink to catch extra water, which will leach the salt out of the soil.

**Learning check:**

q Ask: What happens if too much fertilizer is used?

**Background:**

Water moves from an area with few particles to an area with many particles. The soil with saltwater had more particles than the cells of the plant. Water left this plant to go to the soil.

When plant cells lose water they become floppy, like a balloon losing air, and the plant wilts. Overuse or prolonged use of fertilizers may cause the same conditions in the soil of gardens and farms. Salt from road runoff in the spring or during a thaw can cause salt to remain in roadside soil.