



Unit 2, Station 3, Activity 1 – Filter Plants¹

In this activity, you will conduct a demonstration to observe how plants can help remove pollutants from water. You will also be able to determine whether the following statement is true or false: Clear water is always clean, unpolluted water.

Your team will need:

- 2 stalks of fresh celery with leaves
- 2 plastic water cups
- Masking tape
- Red food coloring
- White vinegar
- 2 measuring cups
- Paring knife or plastic knife
- Ruler (cm) or meter stick
- Paper towel
- Piece of notebook paper

Directions

1. Rinse off the celery and trim the bottom end off each stalk. No stalk should be longer than 25 cm.
2. Use masking tape to label the cups “A” and “B.”
3. In cup A put: $\frac{3}{4}$ cup water, 3-4 drops red food coloring, and $\frac{1}{4}$ cup vinegar. Add a trimmed celery stalk.
4. In cup B put: 1 cup water, 3-4 drops red food coloring, and a trimmed celery stalk.

5. Let the cups sit for at least 4 hours—overnight, if possible.

6. What do you think will happen to the celery’s color, taste, smell, and texture? Will results in the two cups differ? Write your predictions in your Zone Notes.

7. Once the celery has soaked for at least 4 hours, begin your observations, starting with cup B. First, make a chart like the one below in your Zone Notes.

- a. Remove the celery from cup B and dry it with a paper towel. This will be celery B.
- b. Place the stalk lengthwise on a piece of notebook paper, lining up the bottom end of the stalk with the bottom of the paper. Use the ruler to measure along the celery stalk, making a mark on the paper next to the stalk at every 1 cm.
- c. Beginning at the bottom end, slice the celery stalk at every 1 cm mark until the red color is no longer visible in the stalk. Mark this spot on the paper. Measure the distance from the bottom of the paper to the spot. This is how far the color traveled. Record the distance in your chart.
- d. Have one volunteer from your team smell the celery and then take a taste of it where there is no red color in the stalk. Take note of the celery stalk’s texture. Record these observations in your chart.

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Filter Plants—Observations	Celery A	Celery B
How far up the stalk did the color travel?		
How does the celery smell?		
How does the celery taste?		
What is the celery stalk’s texture? Firm and crisp? Limp?		

¹ Adapted from “In the Water: In the Plants,” *4-H Wetland Wonders* (Oregon State University Extension Service)