

Name \_\_\_\_\_ Date \_\_\_\_\_

## CELERY SCIENTIST

You already know that plants need water and they take water in through their roots. But what about plants that live in a tidal salt marsh where the water they get has salt in it? Is salt water good for plants?

Today you are a scientist and you are going to conduct an experiment to see what happens if we put a plant in salt water.

We will perform our experiment on celery, a plant that grows in fresh (not salty) water.

### For this experiment you will need:

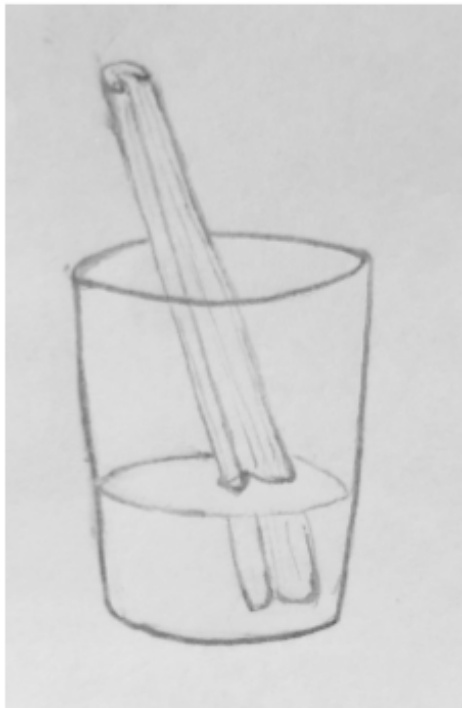
- Two cups or mugs, large enough to hold 8 ounces (one measuring cup) of water and one piece of celery
- Two tablespoons of salt
- One stalk of celery
- One sheet of paper

### Instructions:

1. Have a grownup help you prepare your celery by cutting off any leaves and cutting off the wide base at the bottom. Then cut your celery in half so you have two equal pieces.
2. Test both of your cups or mugs before you add water. To do this you should put a piece of celery in the cup or mug to make sure that the celery fits and it doesn't make the cup tip over. If it does tip over, find a different cup that works better.
3. Now that you have the perfect containers, put one cup (8 ounces) of water from your sink into each one.



4. Draw a line down the middle of a blank piece of paper. On one side write "Salt water" on the other side write "Fresh water."
5. Put one cup on the saltwater side and the other on the freshwater side.
6. Mix two tablespoons of salt into the water in the cup on the saltwater side. Make sure you stir it so it dissolves. Don't add any salt to the cup with fresh water.
7. Place one piece of celery in each cup. Once its all set up, it should look a lot like the picture at the bottom of the page.
8. Place the cups in a spot where they can stay overnight. Make sure you don't mix up the saltwater cup with the freshwater cup. You'll have to check tomorrow for the results of your experiment!





## Results:

After one day, check your experiment.

Do you notice any differences between the two pieces of celery?

What looks different?

**Students should mention: The celery in salt water is wilted and mushy. The celery in the fresh water stayed firm as it was.**

Did the celery in the fresh water get soft and weak? (Circle one):    Yes    **No**

Did the celery in the salt water get soft and weak? (Circle one):    **Yes**    No

Why do you think this happened?

**Various possible answers here. This question is to get students thinking about what effect salt water has on plants not used to it. Great answers will mention that if a plant is not adapted to salt water it will hurt the plant.**

## Discussion:

Celery is a plant that is accustomed to fresh water and it does not do well in salt water. But in a tidal salt marsh there are many plants that do very well in salt water because they have developed special adaptations that help them survive in spite of the salt. One plant, the salt marsh cordgrass, gets rid of salt by pushing it out through glands on its leaves!