

The Celery Experiment and How Plants Absorb Water from Their Roots



A great way to introduce basic science concepts is through fun and visual experiments such as this Celery Experiment. It requires just a few items and is a fun way to learn about how a plant absorbs water. This process is called Osmosis. You will learn about how plants absorb water using coloured water and celery stalks.

Materials Needed:

Clear glass jars, cups or small clear vase

Fresh Celery stalks with leaves. Preferably the lighter leafier stalks near the center.

Water

Food Colouring

Steps:

1. Separate and select stalks of celery with leaves. Cut about a quarter-inch off the bottom. The lighter stalks near the center will show the most color.
2. Put about 8 ounces of water into a glass jar or vase.
3. Drop 3-4 drops of food colouring into the jar.

4. Place stalks into the water and using the stalk, stir very gently until food colouring is dispersed evenly.
5. Make a prediction about what will happen. Write it down.
6. Make 2-3 observations and write them down. Check at intervals. You will see slight results after 3 hours, significant results overnight and again at 48 hours.



7. Cut the bottom of the celery and you can see where the water was transported up into the celery stem.



Tips and Suggestions:

- If you plan to do only one colour, consider selecting blue. Blue gives the most vibrant results. Blue was significantly brighter than purple, green and orange.
- Use the lightest, innermost stalks for this experiment. The darker green does not show the colours as well and is less healthy in comparison with the lighter green stalks.
- Be sure to trim the bottom of the stalks with a knife or shears (adult step). Examine the bottom after 24 hours to see where the water is being drawn up into the stem. Blue showed this the most clearly of all the colours.