

What Happens To Water In A Plant? - Science Experiment

Information

Last week, we learned about what happens when a plant doesn't have light. This week, we are looking at water. If a plant doesn't have water, it won't start to grow at all! You could try to grow some seeds without watering them if you want to see for yourself.

Water has a very important job in a plant – it helps the leaves to do their photosynthesis to produce the plant's food. Today, we are going to look at the journey of the water through the plant. The stem of the plant has a really important role to play in transporting (moving) the water, and we are going to use sticks of celery to show how it works.

Method

You may want to do the experiment at home yourself instead of looking at the photos 😊

You will need: 3 cups, 3 sticks of celery (with leaves still on), 3 different colours of food colouring.

1. Half fill each of the cups with water.
2. Add a different colour of food colouring into each cup and mix thoroughly.
3. Add a stick of celery into each cup.
4. Leave it and keep making observations to see what happens. There will be small changes after a few hours and much more obvious changes over a day or two!



Step 1 - Prediction

In your purple books, write the title 'Prediction' and draw a 'before' diagram of your three sticks of celery in their cups. Remember to put labels on your diagram!

The celery is like the **stem** of the plant. Its job is to transport water from the roots at the bottom, to the leaves all the way at the top of the plant. Thinking about this, now draw an 'after' picture of what you think the celery will look like after a few hours. You can write some sentences to go with this if you want to:

I think that the water will...

The celery will...

I think this because...

Miss Daniel says:

“NO SPOILERS!! Do not scroll down until you have made your prediction!!”

Step 2 - Results

These pictures show you what the sticks of celery look like after 2 days:

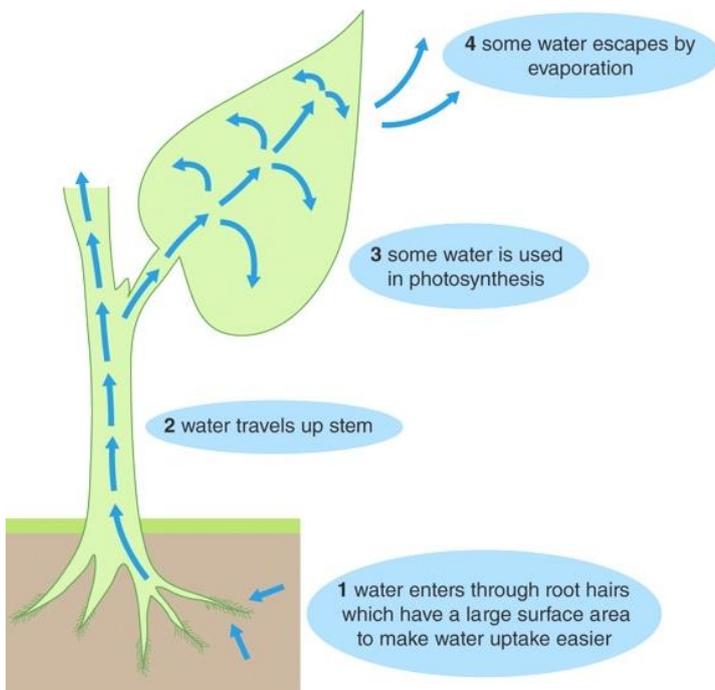


In your purple books, write the title 'Results' and describe what you can see has happened! Look really closely – is there just one 'tube' carrying the water or is there more? What happens to the water when it gets to the leaves?

The water in the celery has...
I know this because...

I can see lots of...
Their job is to...

Step 3 - Conclusion



The job of the stem is to carry the water from the roots to all the different parts of the plant, especially the leaves. There are lots of different tubes inside the celery stem that act like straws and suck the water up.

The water needs to be carried to the whole of the leaf, so when the main tube gets to the leaf, it then breaks off into lots of smaller tubes called **capillaries** to take the water to different parts of the leaf.

The water is then used up during photosynthesis. The leaves use water and carbon dioxide (from the air) to make their food - a sugary substance called glucose. Photosynthesis also makes oxygen which is the air we need to breathe to survive!

Carbon Dioxide + Water → Glucose (sugary food) + Oxygen

In your purple books, write the title 'Conclusion' and write about what you have found out. *What happens to the water in a plant? Where does it go? How does it get there? What is it used for?* You may want to use these sentence starters to help:

I have found out that...

The main tube breaks...

Water comes in through...

Water is taken to...

It travels up...

The water is used for...