

#ExperimentsAtHome



Experiment shared by:
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GROW A RAINBOW (BIOLOGY) #CHASETHERAINBOW An investigation to show capillary action in action!

You will need:

- Kitchen roll/paper towel
- Felt-tip pens (think carefully about what type as not all will work!)
- Two small bowls of water
- Paperclip
- Thread



Instructions:

1. Cut the kitchen roll into the shape of a rainbow.



2. At each end, use the felt-tip pens to colour a rainbow. Remember the order of the colours: red, orange, yellow, green, blue, indigo, violet.



3. Attach the paperclip to the top of the rainbow and tie a piece of thread to it. This will allow you to hold your rainbow.



Q: What do you think is going to happen when you add the water?

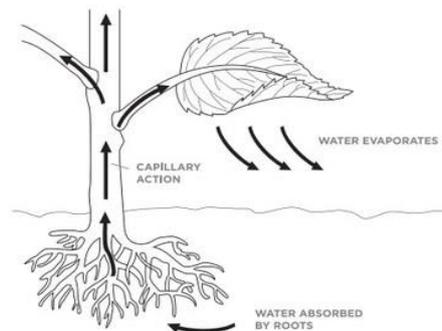
1. Add the same amount of water to the two bowls so it just covers the bottom of the rainbow.
2. Hold the rainbow steady and watch it grow.

Q: Is one colour going to move quicker?

Q: How long will it take to complete?

How it works!

You are watching a scientific process called the capillary action. This action happens when a liquid moves up through a hollow tube or into a spongy, solid material. Plants use this process to take water from the soil into their leaves.



[BBC Teach Plant Series videoclips](#) offers information about the function of each part of a plant and an explanation of how the water is sucked up through the roots.

This [YouTube video](#) offers a more technical explanation of capillary action. In this experiment the fibres in kitchen roll have lots of little holes. Water is absorbed through the kitchen roll because when the first water molecule adheres to it and begins to move upward, it pulls the next water molecule up with it, like a chain. It happens when three forces work together: **cohesion, adhesion and surface tension**.

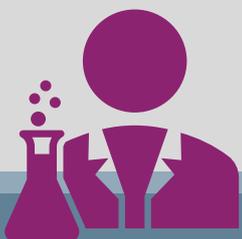
There are lots of other experiments you can do to show capillary action in action! Try leaving a celery stick or a plant with a white flower in coloured water and see what happens.

Share your results!

We'd love to see photos and videos of you doing the experiment. Please share on Twitter with hashtag #ExperimentsAtHome and tag in @STEM_HUBNMSEY

Thank you!

PLEASE ASK FOR ADULT PERMISSION AND/OR SUPERVISION WHEN REQUIRED.



We hope you have fun!