

Water and Plants		Kindergarten Earth and Space	
Lesson Plan		Safety Notes	Be careful with food colouring as it can cause stains.
Description			
<p>What is water and why is it important? Students will learn about the properties of water, how water can move and why this is important for plants. Students will learn this through hands-on activities they can do at home.</p>			
Materials			
<ul style="list-style-type: none"> ● 3-5 clear cups ● water ● 2-3 colours of food colouring ● white paper towel (2 sheets) ● celery stalk ● crayons ● scissors 			
Science Background			
<p>All living things need water. Most animals have recognizable mouths that they can drink water through. But what about plants?</p> <p>Ask your student if they know how plants drink water? Plants suck up water through their roots and move them through their body using capillary action. Capillary action is when a liquid is able to move up a narrow space using surface tension against the force of gravity.</p>			
Activity Procedure			
Walking Water:			
<ol style="list-style-type: none"> 1. Set up 3-5 clear cups in a row 2. Fill the first cup $\frac{3}{4}$ of the way with water then fill every other cup with the same amount of water 3. Add food colouring to each cup with water. Try to put colours that will mix nicely with each other 4. Take a piece of paper towel and cut long ways down the middle then fold each piece in half once long ways 5. Arch the piece of paper towel so that one end is in a cup with water and one is in a cup without water so you make a chain like below 6. Ask your student what they think will happen 			

7. By the time your last paper towel is in you should notice water starting to move up the other paper towels
8. Observe the chain for a few minutes to see what is happening
9. Do they need to modify their prediction from before now that they have more information?



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Capillary Action and Plants:

1. Take one of the cups from the previous experiment with a dark colour in it
2. Place a stalk of celery in the cup
3. Let sit for a few days
4. Observe the celery stalk and see if it changes

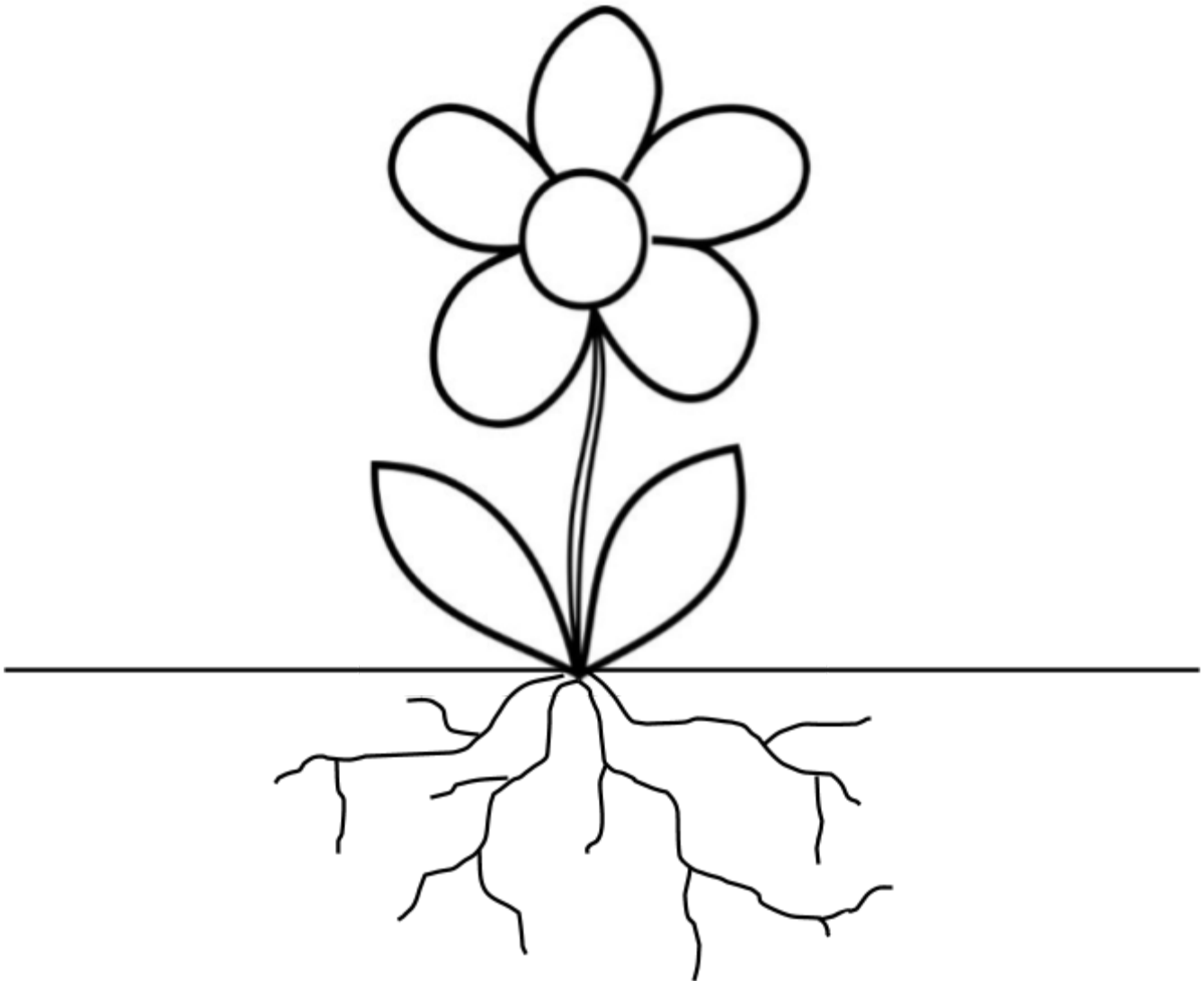
Debrief

In the walking water activity we can see capillary motion in action. The paper towel is made up of fibres with tiny spaces between them. The water can move through these tiny spaces and climb up the paper towel and into the next cup.

Plants do something similar to move water from their roots to all the different parts of the plant. You can see this in the celery experiment after a few days when there are coloured lines in the celery. These are capillaries called xylem that the celery uses to move water from its base up the celery stalk.

How Do Plants Use Water

Draw a blue line to show how the water goes from the soil into the different parts of the plant. Then colour in the picture.



Answer Key: Draw a line showing water going from the soil into the roots and up towards the rest of the plant structures.