

BUILD A WATERSHED

Wildlife Champions at Home Science Experiment

2-ESS2-2: Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-3: Obtain information to identify where water is found on Earth and that it can be solid or liquid.

What is a watershed?

A watershed is the collective body of water in a large area of land. A watershed includes both the water and the land around the water. All of the water in a watershed is connected through a system of streams, creeks, lakes and rivers that eventually flow to a large bay, sound or ocean. Groundwater (water located underground) is also part of the watershed. Some watersheds are small while others can include thousands of square miles of land and water. All of the water in a watershed starts off as rain or snow. Rainwater and snowmelt can either soak into the ground or gather above the surface to form small streams and creeks. These creeks flow downhill and eventually merge with other creeks to become larger rivers. These rivers continue to flow downhill until they reach their final destination. If the land becomes flat or uphill, a river might create a lake. If the land continues to move downhill, a river can make it all the way to the ocean! As the water in a watershed flows across the land it carries good things like minerals and nutrients through the ecosystem as well as harmful things like litter, chemicals and other pollutants. Want to see for yourself how a watershed works? Let's build one and find out!

Directions

Create a watershed using the following materials to see how the land and water are connected.

Materials: Two pieces of paper, one spray bottle filled with water, one washable marker (preferably blue), tape, plastic wrap or tarp (optional)



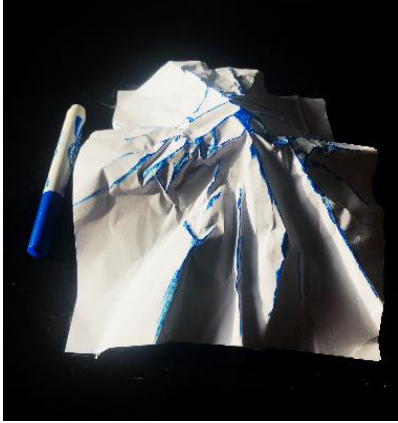
Step 1. Cover a flat workspace with a tarp / plastic wrap *or* work outside (we're going to get a little wet).

Step 2. Place two pieces of paper on top of one another. Make a fist with one of your hands. With your other hand, place the stacked papers on top of your fist knuckles. Crumple the paper around your fist so that your hand is completely covered.



Step 3. Remove your fist and crumple the paper more in the same direction. When you are done crumpling, your paper should be able to open up and look like a mountain.

Step 4. Keeping them stacked together, open your crumpled pieces of paper most of the way until it looks like a mountain with a peak on top. Once you've made your mountain, tape the edges down to your workspace so that your mountain doesn't move around.



Step 5. Find all of the tall creases/folded parts of your mountain. These are the peaks and ridgelines. Use your marker to gently color these creases. Color them really dark using a lot of ink. Careful not to squish them!

Step 6. It's time to make it rain! Hold a spray bottle of water about one foot above your mountain. Spray your mountain five times, then STOP. Watch the water start to flow down your mountain. Watch for one minute, then spray your mountain five more times. Watch how the watershed on your mountain changes! Keep giving your mountain rain showers until water reaches the bottom of your mountain.

Step 7. Let your mountain watershed dry, then show it off to your family!

Reflection

1. How did the "rain" cause water to flow down your mountain?
2. Can you find any rivers or lakes on your mountain?
3. If a hiker left a piece of litter at the top of a mountain, do you think it would stay there forever? Why?
4. How does the cleanliness of water in a watershed affect humans, plants and animals living in the area?
5. Do you think it is important for the water to stay clean? Why?

Helpful Links

Credit: Mystery Science

<https://mysteryscience.com/water/mystery-1/mapping-earth-s-surface-features/112>

<https://www.youtube.com/watch?v=QOrVotzBNto>