

WEEKDAY WONDERS



Content developed by the
Tennessee Aquarium
Education Department



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Diversity in Ecosystems: Day 2

This week, Weekday Wonders will help young scientists explore the variety of living things in our world. To do this, they will consider where animals live in different habitats, including oceans, rivers, streams, and forests. Young scientists will also have a chance to consider what lives in their own backyards and to learn the difference between a habitat and an ecosystem.

These curated activities are listed in a suggested sequence but may be done in the order that works best for you and your young scientists. Learn more about this series in the [Introduction to Weekday Wonders](#).



Question of the Day

Where do animals live in rivers and streams?



Daily Nature Journal

Have your young scientists complete their daily nature journal using the [Guide to Nature Journaling](#). Ask them to see if there are aspects of the environment that are changing as time passes. What has stayed the same?



Where Does the Water Go?

Gather the materials your young scientists will need for this activity that will let them explore where water goes.

- 2 pieces of plain scrap computer or construction paper
- Baking sheet or casserole pan
- Water
- Water-based markers (best options: blue, red, brown, and black)
- Spray bottle (optional)

Ask your young scientists what they think happens to rain water after it falls. Tell them that they are going to learn more about it with this activity.

Guide them to crumple up one piece of paper. They should then open it back up but not flatten it out too much. It should stay somewhat crumpled with small mountains and valleys.

Have your young scientist imagine this is a section of land. Use a washable blue marker to color along the highest points at the top of the peaks. Carefully place the paper in a tray or baking dish.

Your scientists should create a brief rainstorm by dripping or spraying water over the land. The water should make a gentle mist or trickle. Have your scientists make observations of what happens to the blue ink after every rainstorm. They may wish to make notes in their nature journals.

Discuss the following questions with them.

- a) Does the “rainfall” run straight down the mountain, or does it take various paths?
- b) Does the “rainfall” gather in one spot or more than one spot?
- c) What do they think the places water gathers represent? They should begin to understand that the places water collect show rivers, streams, lakes, and ponds.

Have your young scientists try the investigation again, adding in the ways people use land. On a fresh sheet of paper, they should draw and color a small town. Have them use BROWN for farms, RED for landfills & factories, and BLACK for houses, schools, and streets.

Ask scientists to crumple and unfold the paper in the same way they did the first one, then use a blue marker to trace the highest points. Place the paper in a tray and repeat the rainstorms over the town.

Again, have your young scientists record their findings in their nature journal. Discuss what happens to the colors and to the water. What do they think the impact is when a small town is nearby? A large city?



Where Does Your Water Go?

The last activity had young scientists looking at what happens to rainfall. Now have them imagine they are a raindrop falling over your home. Ask them to draw a map in their nature journals to show how they would get from where you live to the ocean. You may wish to provide them with a printed or online map to help them trace the streams and rivers they would travel as they flowed to the ocean. Make sure they include labels to show where they would flow. Younger scientists might focus on the names of streams and rivers, while older scientists can add in the surrounding states and nearby cities. Ask them to keep track of how many states they would flow through.



Animals at Home

Have your young scientists draw a picture of a cross section of a stream or river. They should include the following in their pictures.

- Trees, shrubs, and grasses at the edge of the bank
- The surface of the water with logs, boats, or other items floating at the top of the water
- Large and small rocks sitting on the bottom of the water
- The sand, mud, or other substance to make up the bottom of the stream or river bed

Have your scientist find pictures of animals that live in and around fresh water, such as streams and rivers. They should include:

Mosquito

Leech

Dragonfly

Crayfish

Lake Sturgeon

Darter

River Otter

Catfish

Brook Trout

Painted Turtle

Have your scientist either draw the animals based on the pictures they find or print and cut out the animals. Then have them place the animals in their drawings where they think the animal might be found. For example, a mosquito might be above the surface of the water, while a large fish might be swimming in the middle of the water depth.



Brook Trout and River Otters

Share the following information with your young scientists.

Brook Trout are one of the many types of animals that make their homes in streams and rivers. They are generally found in larger streams and rivers but travel to smaller streams to lay eggs. Once the baby fish hatch, they begin to grow larger and need to make their way to the larger streams. They have to be careful not to get caught by playful river otters as they move.

In this movement activity, young scientists will have an opportunity to move like the River Otters and the Brook Trout. If you have more than one scientist, choose one to be the River Otter. The others will be Brook Trout. Determine a space where the Brook Trout hatch and a space to represent a larger stream. On the count of 3, the Brook Trout have to try to move all the way to the larger stream without getting caught by the River Otter. If they are caught, they must be the River Otter in the next round.

If you are only working with one young scientist, there are variations on this game.

1. Choose a stuffed animal to serve as the River Otter and another to serve as the Brook Trout. Use a spinner, die, or drawing numbers to determine how many feet each animal can move in a turn. You can have scientists measure and mark feet with sidewalk chalk or tape before beginning. Have your scientist roll, spin, or draw for the Brook Trout first and then for the River Otter. The goal is to keep the two from being on the same “space” at any time.

2. Hide several objects that can serve as Brook Trout. Tell your young scientist that they will be a River Otter trying to catch Brook Trout. Time them as they work to find all the objects you hid. See how fast they can catch the Brook Trout each time!