

WEEKDAY WONDERS



Content developed by the
Tennessee Aquarium
Education Department



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Changing Ecosystems: Day 5

Weekday Wonders helps young scientists explore changes in ecosystems this week. They begin by thinking about what changes in their neighborhood. The scientists will dig deeper into how the places that animals live change, focusing on both land and water. Then they will consider how often ecosystems change, finishing the week learning about why diverse ecosystems are healthier ecosystems.

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

Why is a diverse ecosystem healthier than one that has only a few living things?



Daily Nature Journal

Have your young scientist go outside to complete a nature journaling entry. If you need additional help to support them, go to the [Guide to Nature Journaling](#) to learn more.

Your scientist should also add to the Week-long Drawing that he or she started in [Monday's Weekday Wonders activities](#).



Forest Food Webs

Your young scientist may have explored food webs during the first week of Weekday Wonders. Now they are going to have a chance to make small food webs. Have your scientist write the following animals on small pieces of paper.

- Hawk
- Shrew
- Grasshopper

Then have your scientist arrange the small pieces of paper on a larger piece in a way that shows that hawks eat snakes. Add the shrew to show that hawks and snakes eat shrews. Ask your scientist to draw lines from the animal that gets eaten to the animal that eats it to show how animals are getting energy from their food.

Now ask your scientist what would happen if the shrews became extinct because of a disease or other problem. If you take out the shrew card, they should see that the hawks would not have anything to eat and would also die.

Now have your scientist try again. This time they should have the following on small pieces of paper.

- Hawk
- Snake
- Frog
- Shrew
- Grasshopper
- Earthworms

Your scientist should arrange the cards to meet the following “rules.” They should also draw arrows to show the way the energy flows.

- Hawks can eat shrews, snakes, and frogs.
- Snakes eat frogs, shrews, and earthworms.
- Frogs eat grasshoppers and earthworms.
- Shrews eat grasshoppers and earthworms.

Now ask your scientist what would happen if shrews became extinct. Would all animals still have food?

Discuss the idea that the second food web has more animals, so it has more biodiversity. Ask your scientist why an ecosystem that has a lot of biodiversity is healthier. He or she should be able to explain that even if one animal has a problem or becomes extinct, the other animals can continue to survive.



Ecosystem Relay

Animals get energy when they eat food. In this activity, your scientist is going to construct a food chain in the correct order. Start by writing the names of the following living things on pieces of paper with the numbers next to them.

1. Seaweed
2. Crab
3. Squid
4. Penguin
5. Orca (Whale)

Hide the papers around the house or outside. Have your young scientist run around to try to find the animals. Your scientist should look for “1. Seaweed” first. If they find another card, they must leave the card where it is and continue to hunt for seaweed. Once they have found the seaweed, your scientist should take the card and place it on the ground to start a food chain. Then he or she must look for the “2.

Crab" card. If they find other cards, they must leave them in place, only taking the card of the next number and adding it to the food chain. Give them a set amount of time, such as 2 or 3 minutes to try to complete the food chain. If your scientist cannot find all the cards in that time, their ecosystem will become unstable.



Week-long Drawing Reflection

Have your young scientist look back at the Week-long Drawing. Ask him or her to write about how many living things are in the area where you live. Was your scientist surprised by the number? Ask your scientist to write about or draw any living things that he or she is particularly interested in. For an extra challenge, you can ask your young scientist to create a food web based on the living things found near where you live.