

About This Module

Overview	Celebrate the beauty of the natural world by exploring Earth’s incredible environments. Youth will investigate habitats while completing hands-on, minds-on activities. This week will culminate with youth creating posters that encourage people to be conservation stewards.
Guiding Questions*	<ul style="list-style-type: none"> • What is a habitat? • What are examples of habitats, and what kinds of animals live in each type? • What are some of the environmental issues impacting habitats and the animals that live in them? • How can we help protect animal habitats?
Session 1	<p>What’s a Habitat?</p> <p>Youth will explore habitats and participate in a nature walk to investigate a habitat in their community.</p>
Session 2	<p>Living on Land</p> <p>Youth will learn about terrestrial habitats and animals that live on land. They will participate in a debate to contemplate how human-wildlife conflict can impact habitats.</p>
Session 3	<p>Living in Water</p> <p>Youth will learn about aquatic habitats and animals that live in the water. They will complete an oil spill simulation activity to learn more about how pollution impacts aquatic environments.</p>
Session 4	<p>Living in Trees</p> <p>Youth will learn about arboreal habitats and animals that live in trees. They will learn about the consequences of deforestation while creating bird nests.</p>
Session 5	<p>Protecting Habitats</p> <p>Youth will create “Protect Our Habitats” posters to culminate their week-long investigation of habitats.</p>

*Guiding questions are not specifically asked in the sessions themselves; they’re meant to guide your preparation and facilitation of the unit. Keep these questions in mind so you can help youth make connections and capture key takeaways relating to the topic.

Key Terms

Word/phrase	Definition
Habitat	A place where plants and animals live.
Adaptation	Something an animal has or does that helps it live.
Terrestrial habitat	A place on land where plants and animals live.
Aquatic habitat	Bodies of water where plants and animals live.
Arboreal habitat	The places in trees where animals live and feed.
Pollution	Any material that causes harm to a habitat.
Climate change	A change in weather patterns over a long period of time.
Deforestation	The clearing and cutting down of trees and forests.
Human-wildlife conflict	Encounters between humans and wildlife that lead to negative consequences for either or both parties.

Supplies

Session 1	Handouts
	Basic Needs Cards
	What I Notice
	Supplies Needed
	Scissors
	Pencil (1 per participant)
	Clipboard (1 per participant)
	Optional: Binoculars or magnifying glasses (1 per participant) Optional: Tablet or phone with internet connection (1 per participant)
Session 2	Handouts
	Human-Wildlife Conflict Debate Roles
	Optional: Printout of Slides 2, 3, 4 and 5 from the “Habitats” deck
	Supplies Needed
	Blank sheet of paper (1 per small group)
	Pencil (1 per small group) Optional: Computer or projector
Session 3	Handouts
	Optional: Printout of Slides 2, 7, 8 and 9 from the “Habitats” deck
	Supplies Needed
	Computer or projector
	Water
	Container or pan (1 per small group)
	Vegetable oil (1/2 cup per small group)
	Dawn dish soap (1/2 cup per small group)
	Spoon (1 per small group)
	Sponge (1 per small group)
	Cotton balls (8-10 per small group)
	Paper towels (several sheets per small group) Optional: Craft feathers (1 per small group)

<h2>Supplies</h2>	
Session 4	Handouts
	Optional: Printout of Slides 2, 11, 12, 13 and 14 from the “Habitats” deck
	Supplies Needed
	Optional: Computer or projector
Session 5	Handouts
	Optional: Printout of Slides 2 and 16 from the “Habitats” deck
	Supplies Needed
	Long ropes (2)
	Flipchart paper (1 sheet)
	Poster or flipchart paper (1 per pair of youth)
	Markers, colored pencils and/or crayons
	Optional: Computer or projector

Background Information

A *habitat* is a place where organisms (plants and animals) live. A habitat can be as large as a forest or as small as a puddle. An organism acquires their basic needs – food, water, air and shelter or space – within their habitats.

Organisms are adapted to their habitats. An **adaptation** is a physical feature or behavior an organism has that allows it to survive in its habitat. For example, owls have feathers, which gives them the ability to fly. Owls also regurgitate **owl pellets**, which are leftover food particles that their bodies cannot digest. These are examples of behavioral adaptations.

While there are many ways to categorize and study habitats, this module will highlight **terrestrial**, **aquatic** and **arboreal** habitats. Terrestrial habitats are on land. They include places like grasslands, mountains and forests. Aquatic habitats are in water and include oceans, lakes, rivers and wetlands. Animals can also live in trees, which we call arboreal habitats. While trees are technically on land, arboreal species spend most of their time in trees.

How can I help protect habitats?

Climate change, **deforestation**, **human-wildlife conflict** and **pollution** are examples of issues that are diminishing habitats and depleting species around the globe. Ways we can support healthy environments include properly throwing away trash, recycling, composting, and building and maintaining wild spaces. It’s also important that we advocate for policies that decrease **carbon emissions** and have sustainability at the forefront. Continue to learn and share information with others by researching habitats and ecosystems around the world, including those in your community.

Resources

For more information about *habitats*, please visit:

- **National Geographic – Habitat** (education.nationalgeographic.org/resource/habitat)
- **“Home Sweet Habitat - Crash Course Kids #21.1”** (youtube.com/watch?v=p15lrEuhYmo)

For more information about *animals*, please visit:

- **National Geographic Kids – Animals** (kids.nationalgeographic.com/animals)
- **Smithsonian’s National Zoo – Animals** (nationalzoo.si.edu/animals)
- **WWF – African Savanna Elephant** (worldwildlife.org/species/african-savanna-elephant)
- **National Park Service – American Alligator** (nps.gov/ever/learn/nature/alligator.htm)

For recent reports on *climate change*, please visit:

- **Intergovernmental Panel on Climate Change** (ipcc.ch)
- **NASA – Climate Change** (science.nasa.gov/climate-change)
- Facilitator Video: **“What Is Climate Change?: Crash Course Biology #8”** (youtube.com/watch?v=Y1mPWVzaGQY)
- Youth Video: **“Climate Change: Crash Course Kids #41.2”** (youtube.com/watch?v=SzcGTd8qWTg)

For a compilation of science topics covered in this module, please visit:

- Geisen, M. (2016). **Everything You Need to Ace Science in One Big Fat Notebook** (hachettebookgroup.com/titles/workman-publishing/everything-you-need-to-ace-science-in-one-big-fat-notebook/9780761160953). New York: Workman Publishing Co., Inc.

Academic Skills

- Creativity
- Critical Thinking

Social-Emotional Skills

- Communication
- Collaboration
- Ethical Responsibility

Extension Activities

- **Have a food chain-inspired snack.** Research foods that local consumers eat and try to replicate it in fun ways!
- **Create a native garden.** Create spaces for native wildlife, like pollinators. Check out the **Pollinator Garden Planning Guide** (in Club Programs under the Resources tab of the SBG Pollinator Protectors module) and start a native pollinator garden at your Club.
- **Reach out to your local zoo, aquarium, or national and state parks.** Many of these places offer in-person and virtual education programming.
- **Research a community science project to participate in.** Visit **SciStarter.org** (scistarter.org/finder?SDG=SDG_13&events=true&longitude=25.18153&latitude=-4.22773&active=true) to find current projects or inspiration.

Career Connections

In this module, youth learn about habitats and protecting the natural world. Below are a few careers that align with the covered topics. Click the [EnvironmentalScience.org](https://environmentalscience.org) links below to learn more about these careers.

- **Climatologist** (environmentalscience.org/career/climatologist)
- **Ecologist** (environmentalscience.org/career/ecologist)
- **Physicist** (environmentalscience.org/career/physicist)
- **Wildlife Biologist** (environmentalscience.org/career/wildlife-biologist)
- **Zoologist** (environmentalscience.org/career/zoologist)

Family & Caregiver Engagement

On-site

- Invite family and caregiver volunteers to help start and maintain a garden.
- Organize a trash clean-up or recycling day at your Club or Youth Center. Involve parents and community members!

At home:

- Encourage families to go on nature walks to discover native plants and animals in their backyards.
- Encourage families to recycle items they don't use. Can these items be donated to the Club or Youth Center, or taken to a recycling center? Check out the [iRecycle app](https://earth911.com/irecycle) (earth911.com/irecycle) to find recycling stations near you.
- Encourage families to research the health of their environmental community. Are there issues they can advocate for and rally behind?

Notes to Facilitator

- Sessions 1 and 4 are conducted outdoors. Check the weather and schedule the sessions for a clear, sunny day.
- Discussing environmental issues such as climate change can be heavy to navigate with youth. While the leading causes of climate change are not youths' fault, they will need to cope with the effects as they get older. It is important that youth understand some of the problems facing ecosystems and feel empowered to help, but it is equally important that they do not feel stressed or pressured to alleviate the issues. Take moments to observe youth and ensure they are mentally prepared to engage in conversation and these activities.