

Threatened and Endangered Species: Learn about these New Jersey residents

In this lesson, students learn about ecosystems, food sources, and human impact on ecosystems by identifying threatened and endangered species in their area; and proposing a plan to help protect it. Students will be able to create their own threatened and endangered species and explain the impacts their creature faces and how they survive. In addition, students will also identify a threatened or endangered species, research why it is in jeopardy, and propose plans to help protect it. Students can utilize the creature profile cards as a jumping off point for their research. *These lesson plans can be adjusted for younger and older students but is recommended for grades 5th-9th.*

Time allotment:

- Three, 45-60-minute learning periods (can be made into four learning periods – see Culminating activity, last page)

Learning objectives:

- Understand that living things need air, water, food, light, and shelter. Living things can only survive in ecosystems in which their needs are met.
- Show how a habitat is an organism's home. A habitat provides food, water, shelter, and space.
- Explain that different areas support different kinds of living things, both on land and in water.
- Explain that an ecosystem is a community of living things (plants, animals, and other organisms) interacting with each other and with the nonliving things in the environment (weather, water, soil, sun, air).
- Show that there are many different kinds of living things in any area, and they exist in different places on land and in water.
- Recognize the interdependent relationships between organisms in an ecosystem.
- Understand that human activity can both harm and help ecosystems.

Prep for teachers/parents:

- Read through the entire lesson and print (if able) one copy of the Creature Profile Cards, and the blank Creature Card Profile.
- You will assign one blank card to a group of three students, if in a classroom setting, during the lesson for them to utilize to design their creature.
- Assemble the craft supplies in a bag or bucket that can later be transported to a nearby outdoor setting.
- Later in the lesson, your students will identify and learn about endangered or threatened species in your area. Browse the attached profile cards, or go to <https://www.nj.gov/dep/fgw/tandespp.htm> to select additional creatures to discuss.

- This lesson can be done via a car ride, or access to an outdoor setting where students are likely to see a variety of places where plants and animals live. In advance of the lesson, be sure to scout out places where the outdoor activities will work well, such as a neighborhood park, schoolyard, or even a walk through the neighborhood. Notice what kinds of living things (plants and animals) you find and where you find them. Be sure you also troubleshoot any safety concerns, such as traffic, poison ivy, or sharp objects.
- For Part II of this lesson, it would be helpful for each student to have access to a computer.

Materials:

- Creature Card Profiles
- Blank Creature Card Profile
- Notebook or clipboard with paper
- Pencils
- Construction paper
- Craft sticks
- Crayons or markers
- Craft supplies such as pipe cleaners, pom-poms, tape, and glue – anything you have around that would allow your student to design their creature
- Flipchart, poster board, or paper
- String

Learning activities:

Part III

Today your students will synthesize what they have learned about habitats and ecosystems and will propose solutions for helping endangered species that live in your state.

1. Project the U.S. Fish and Wildlife service [Endangered Species NJ listing](#) on the whiteboard again. As a class, choose one of the endangered species from your state list.

Note: As an alternative to having students focus on endangered species, you could have them learn about the New Jersey State flower (the Purple Violet), animal (the Horse), bug (Honeybee), reptile (the Bog Turtle), or the bird (Eastern Goldfinch). They could explore its habitat and what it needs to survive. Where can it find those things? Can the plant, insect, or animal live in your neighborhood? Why or why not? If not, how might you be able to create a habitat for it in your neighborhood? As a class or in groups, students can find information about NJ's official plants and animals on the [NJ State Website](#).

Furthermore, the profile cards can be utilized as another options for students to choose an animal to focus on. Follow the same steps for the cards as above. *For older students – the library*

or computer system can be utilized as another learning tool for students who need to learn how to access those resources.

2. Have students work in small groups to find out more about the species of their choice. If the class has chosen one species to focus on as a group, assign each group one of the questions below otherwise, have each group consider the questions below:

- Where does the endangered species live? Find where on a map of NJ.
- What does the endangered species need to survive? Describe its habitat, what it eats (remember, carnivorous plants, such as the Venus flytrap, are endangered in some states!), and what, if anything, eats it.
- Can the species live in your neighborhood? Why or why not?
- Why is the species endangered?

3. After about 20 minutes, have students report back to the group on their findings. Loop back to Part I of the lesson and its emphasis on habitats. Ask students:

Knowing what you now know about habitats and ecosystems, what do you think people can do to help keep this endangered species from going extinct?

4. Tell students it is now their job to spread the word about endangered species. How would they educate their friends and families about the plight of endangered species? You might have groups create educational posters to hang in the cafeteria or other locations where other students will see them or produce informational flyers to send home. If possible, you might arrange for your class to present their posters to a younger group of students to teach them about habitats and endangered species. *For older students: if you have the resources, you also could produce a class video in the form of a news program or documentary summarizing what your students have learned.*

Culminating activity (Can be used as a fourth learning period)

Ask students to talk about the balance between plants and animals in an ecosystem. How do the different species in an ecosystem depend on each other? How can changing this balance sometimes cause species to become endangered? How can people prevent endangered species from going extinct?

Next Generation Science Standards Correlations

Disciplinary Core Ideas

- LS1.A: Structure and Function
- LS2.A: Interdependent Relationships in Ecosystems
- LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- LS2.C: Ecosystem Dynamics, Functioning, and Resilience
- LS4.D: Biodiversity and Humans
- ESS2.D: Weather and Climate

Science and Engineering Practices

- Asking Questions and Defining Problems
- Developing and Using Models
- Using Mathematics and Computational Thinking
- Planning and Carrying Out Investigations
- Obtaining, Evaluating, and Communicating Information

Crosscutting Concepts

- Patterns
- Cause and Effect: Mechanism and Explanation
- Scale, Proportion, and Quantity
- Systems and System Models
- Energy and Matter: Flows, Cycles, and Conservation
- Structure and Function