

American Eels

Topics: Life cycle, migration, habitats



Department of
Environmental
Conservation

GRADE LEVEL: 4-5

Big Ideas:

- Animals adapt to living in their environments.
- Animals need both living and nonliving things to survive.
- A habitat includes certain characteristics/qualities for different animals.
- Animals have different life cycles.

Learning Objectives: *students will be able to...*

- Compare and distinguish between different types of animal habitats.
- Identify the behaviors and adaptations that allow eels to survive in their environment.

New York State Science Learning Standards:

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS2-2 Analyze and interpret data from maps to describe patterns of Earth's features.

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Key Understandings:

- American eels have both internal and external structures that help them survive.
- American eels adapt to their environment to change and develop over time.
- Animals depend upon each other and their surroundings to get what they need including food, water, shelter, and a place to raise their young.
- Eels travel long distances.
- Some young animals are similar to, but not exactly like their parents.
- Maps show where things are located.
- American eels use different habitats throughout their life cycle.

Essential Questions:

- How do animals adapt to living in their habitat?
- How do animals depend on each other and their environment to survive?
- What do animals need to survive in their habitat?
- Why do animals have different habitats?
- How does the American eel's external features help it survive?
- How does the American eel change in appearance as it grows from one stage to another in its life cycle?
- Why do some animals migrate throughout their lives?

Students will know...

- What a life cycle is, and the sequential life stages of the American eel.
- Key vocabulary terms.
- What a habitat is, and the importance of habitats.
- The migration patterns of the American eel.

Vocabulary:

- Adaptation: a feature that allows an organism to deal with environmental conditions.
- Behavioral adaptation: an adaptation involving the way an animal acts.
- Physical adaptation: an adaptation involving the form of an organism.

- The different habitats that an American eel uses during its life.
- Habitat: the place where a given plant or animal lives,
- Life cycle: the stages of form and activity through which a living thing passes as it develops from a beginning stage to an adult able to reproduce and restart the cycle.
- Migration: the movement from one place to another.

Learning Plan: We recommend doing these lessons in sequential order; however, they can be done as individual lessons. Lessons have multiple links (videos, songs, diagrams, activities) that can be used at the teacher's discretion depending on class time.

Pre-assess: Why do animals migrate? Use K-W-L to assess students' prior knowledge, have students write or draw in response to the essential questions.

Progress Monitoring: Formative assessment and teacher feedback should be ongoing throughout the lessons. Teachers should develop assessments based on their individual class needs. Think-pair share, exit tickets, interactive discussions, questions and listening, informal observations, quizzes and student work samples can all be used.

Lesson 1: The Eel's Incredible Journey- Students listen to a story about American eels and read and answer questions about the life cycle of the American eel. Students create an eel diorama by illustrating or creating a model of an eel habitat.

- [Video](#): The Eel Story; [Spanish Version](#)
- Video: [Meet the Fish- American Eel](#)
- The Eel's Incredible Journey [Student Reading](#) & [Teacher Section](#)
- Create an Eel Habitat Diorama [Student Activity](#)
- Be an Origami Naturalist: American "Glassy" [Eel Craft](#)
- Eel Life Cycle [Poster](#)
- Extension Activity: [Growing up as an American Eel](#). *Students could also create their own life cycle drawing.*

Lesson 2: Mapping the Migration of American Eels- Students follow the life cycle of the American eel by mapping their migration routes. Using graphs and videos students pose questions about eels and their reliance on many aquatic habitats.

- Video: [Eli the Eel, A Mysterious Migration](#)
- Video: [American Eels](#)
- Mapping the Migration of American Eels [Activity](#), [Student Worksheet](#) & [Map](#)
- Migration Story Time: Video Recording of the Book [Bird, Butterfly, Eel](#)
- Optional: Migration of the American [Eel Presentation](#) & [Student Worksheet](#)

Lesson 3: Eels and Ladders- Students play a game where they will climb up and down eel ladders to get their eel to the habitats they need.

- Eels and Ladders [Student Activity](#)

Lesson 4: Eel Relay Race- Students will learn about the different life stages of the American eel through an active relay race.

- Eel Relay Race [Student Activity](#)
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Teachers: Would you like to visit us at Norrie Point environmental education center, or have an educator visit your classroom in-person or virtually? Contact us to schedule a program: hrteach@dec.ny.gov

Resources:

Children's books:

- [Bird, Butterfly, Eel](#) by James Prosek
- [Think of and Eel](#) by Karen Wallace
- [Ellie and Ollie Eel, a Tale of a Fantastic Voyage](#) by Susan Tate
- [River](#) by Elisha Cooper

Websites:

- [The Hudson River Eel Project](#) (NYSDEC)
- [U.S Fish & Wildlife Service Eel Page](#)
- [All About American Eels](#) Infographic (PBS Nature)
- [Video: The Mystery of Eels & Eel Project](#) (PBS Nature)
- [Chesapeake Bay Program American Eel](#)