Shaver's Creek Environmental Center

WPSU Virtual Field Trip Teacher Guide

For Grades: 1st – 7th

Duration: 3 class sessions

Objectives:

- Describe the different habitats and plants and animals that live there.
- Identify how plants and animals are interrelated.

Contents:

Shaver's Creek Environmental Center is Penn State's Nature Center. Through videos and photos of the various areas of the facility you and your students will learn about local wildlife and their habitats without having to leave the classroom!

Plan Your Trip!

BEFORE

KWL Chart [Assessment]: Use the included KWL chart to help students assess what they "Already Know" and "What they Wonder" about the outdoors. Use their answers to help guide a discussion prior to the field trip and identify areas that, as a class, you'll have to research to find out.

Guiding Questions:

- Think about a time you were in the woods – what did you see?
- Discuss and define the terms *habitat* and *biome*

Amphibian Life Cycle Adventures [Activity]: Once you're ready for your "trip" get your students excited for their visit by having them learn more about what amphibians are and explore the life cycle of an amphibian using one or more of these activities created by the Shaver's Creek educators.

Amphibian Habitat Scavenger Hunt:	Streams & Roads Board Game:	Make Your Own Vernal Pool:
Encourage your participant to hop around the school yard in search of the ideal habitat for an amphibian. Amphibians like cool, wet locations. Learn more with Shaver's Creek's Amphibian Habitat Search activity.	Make your way through the life cycle of a frog in this "Chutes & Ladders"-like board game. Streams move you up the board and roads move you down. Not able to print? Make your own version by creating the board with your participants!	Introduce the idea of the vernal pool – a temporary body of water - to your participants, and invite them to create their own with crayons, chalk, household items or whatever inspires them!

DURING

It's Field Trip Day! Start your trip by going over the different locations of Shaver's Creek with your students and having them predict what they will see. Then as a class, or in small groups, travel through the locations to see images, read descriptions, and watch videos. Have your students take notes and draw observations. Questions you can ask might include:

- What are the different locations you can visit?
- What are the different types of animals, amphibians, reptiles, etc. that live at Shaver's Creek? Which are your favorites? Why?
- What are macroinvertebrates? What does macroinvertebrates mean? Where do they live?
- What kind of choices can you make to help reduce the amount of waste that is generated by humans?

Plan Your Trip!

AFTER

KWL Chart [Assessment]: Complete the KWL chart you began before the trip by having students fill-in the "What I Learned" column.

- Discuss as a class what new things they learned about the outdoors and the environment.
- Discuss if there was anything that they thought they knew before the field trip that was not quite correct and how the field trip helped to clear up the misconceptions.

Classroom Extensions

Exploration: Explore your local environment by taking your students outside for a Signs of Animals Scavenger Hunt.

Expert: Learn from the experts at Shaver's Creek Environmental Center by visiting their programs in-person. Encourage families to attend their weekend events to learn about the Raptors, experience nature journaling, observe bird migrations, and more!

Experience: Register with WPSU to request your **FREE Nature Observation Classroom Activity Kit** from your local Intermediate Unit (IU) Lending Library to extend the Field Trip experience.

Mini Watershed [Activity]: Use natural objects found around your school to build a mini watershed and explore how water moves through different landscapes! This activity can be done indoors or outdoors.

Learn more about this activity and Pennsylvania watersheds at the Shaver's Creek Mini Watershed page.

Sound Map [Activity]: With just a few simple items students explore the sounds around then and draw a map of the locations and types of sounds they hear.

Materials Needed:

- Clipboards, paper, writing utensils

Learn more about this activity

At-Home Extensions

Biodiversity Seek

Using the Seek app by iNaturalist take a deeper look at local green spaces while learning more about the living things that call it home.

Get More Info

Backyard Birdwatch

Learn about how birds use their beaks and try to find birds in your backyard or neighborhood. Take a walk or try sitting by a window to look for birds.

Get More Info

Decomposition Line Up

Explore the process of decomposition by looking closely at and comparing decomposing things.

Get More Info

Additional Resources

Grades K-5

- How a Frog Becomes a Frog **[Video]:** Many animals look like tiny versions of their parents when they're born, but not frogs! Follow our narrator and her grandpa as they observe a frog's life cycle or events leading up to our amphibian friend, the frog, becoming a frog.

- Make a Mangrove: An Ecosystem Game **[Game]**: Players strive to create a balanced mangrove ecosystem in which each animal has enough food to survive over a period of 12 days, in this interactive game from PLUM LANDING™. Players see how the different species of plants and animals in a mangrove swamp depend on one another. They also experiment with how changing the amount of one resource affects the whole ecosystem.

- Beavers! **[Interactive Lesson]**: Learn how beavers are nature's amazing engineers. This self-paced lesson is full of beautiful beaver videos, awesome fact filled infographics and all you can soak in about beavers, beaver dams and beaver lodges.

Grades 6-8

- Cave Species and Karst Landscapes **[Interactive Lesson]**: Caves are the home to some very interesting species. Some use the cave during colder seasons, while others live there year-round. Learn more about these obligates in this original interactive.

- A Season at Shaver's Creek **[Video Series]**: A recap of wildlife captured on Shaver's Creek's trail cameras across the seasons, with commentary from Wildlife Program Coordinator Alex Suleski.

- How Disruptions Affect Animal Populations **[Interactive Lesson]**: Students explore the effects that ecosystem disruptions can have on animal populations. They also discover the impacts that a shift in the population of one animal can have on others in an ecosystem.

Grades 9-12

- Building a Biodiversity Timeline **[Interactive Lesson]**: Students learn how various kinds of data and information can be gathered to create a biodiversity timeline that serves as evidence of changes in a population of a species. As they create their own timelines, students gain a deeper understanding of the interconnectedness of humans and the environment and the impact human activities can have on biodiversity.

- Ecology Lab **[Simulation Activity]:** Build your own ecosystem and explore the effects of these interrelationships in this interactive ecology lab from The Habitable Planet: A Systems Approach to Environmental Science, a multimedia course from Annenberg Learner.

Standards Alignment

PA STEELS Standards:

- *3.1 Life Science* – Interdependent Relationships in Ecosystems
- *3.1 Life Science* – Ecosystem Dynamics, Functioning, and Resilience
- *3.4 Environmental Literacy & Sustainability* – Environmental Experiences

Career Education and Work:

- *13.1. Career Awareness and Preparation (A, B, E, & H)*

Feedback

We would greatly appreciate your feedback as we

continue to develop and improve upon this program.

Please consider taking this short survey.

Thank you!

https://wpsumm.wufoo.com/forms/qakrwaf11gjht7/

Shaver's Creek Environmental Center

WPSU VIRTUAL FIELD TRIPS

Signs of Animals Scavenger Hunt

Time: One class period

Materials Needed:

- Printed scavenger hunt (on next page)
- Clipboards
- Writing Utensils

Overview: Students practice their observation skills by working together to complete a scavenger hunt for different habitat components.

Conducting the Activity:

- Explain that you are going to do a scavenger hunt to look for different parts of different animals' habitats. Decide if you want students to work individually, in pairs or in small groups.
- Pass out scavenger hunts, clipboards and pencils.
- Read through the list as a group, so that all students are familiar with what they're looking for.
- Once outside, set clear boundaries with the students and make sure that students have partners/groups if they are working in them. Then send students to explore!
- Allow students approximately 15 - 25 minutes to explore.
- As students begin to finish, encourage them to draw their favorite finding on the back of the scavenger hunt paper and/or then invite them to ask other students if they would like some help finding any final things.
- As you walk back to the classroom, you may choose to ask students to pair-share their favorite findings.
- Once back in the classroom, have students share their favorite findings to a community board (physical or virtual) and/or have them record a short video of what they found and what their favorite finding was.

Signs of Animals Scavenger Hunt Sheet

X	Item to find	Location of item/ what you found
	An animal track	
	A hole in a tree	
	Something a bird could use to make a nest	
	An insect	
	A seed	
	A place where an animal could hide	
	A leak with point edges	
	A spider web	
	A place where an animal could find water	
	A plant with green leaves	

Sound Maps

Time: One class period

Overview: Students explore the sounds around then and draw a map of the locations and types of sounds they hear.

Materials Needed: Clipboards, paper, writing utensils

Procedure:

- Watch the Shaver's Creek Lake video again with your students
- Take your students out to the playground or another open area and have everyone find a quiet place, within defined boundaries, to sit and listen quietly on their own for about 5-7 minutes.
- Students should sit quietly and complete a sound map for themselves.
- After the allotted time period, gather the group together and reflect on the experience. A few prompts might include:
    - *Would anyone like to share a few things they heard?*
    - *Did anyone also hear that noise?*
    - *Did anyone hear something that they didn't notice until we took the time to listen?*
    - *Did anyone hear a living thing?*
    - *Did anyone hear a nonliving thing?*
    - *Did anyone hear a sound made by humans? Are humans part of the natural world as well?*

Decomposition Line Up

Time: Two class periods

Overview: Students explore the process of decomposition by looking closely at and comparing decomposing things.

Procedure:

- Review the definition of decomposition. Use a fresh leaf and soil to introduce the first and last stages of decomposition. Ask students how a leaf could become part of the soil like this? Listen to their ideas, then remind students that decomposition is the process of dead (once living) things being broken down into smaller parts. Tell students that by looking closely at different stages of decomposition, they can find evidence of how it happens.
- Divide students into groups of 2-4.
- Explain to students that their mission is to make a display that shows the stages of decomposition of one type of material, going from “fresh” or not decomposed, to part of the soil. Challenge them to look closely to include as many stages as possible.
- Share that leaves, sticks and pine needles are just some of the items students could focus on for their line up.
- Take students outside to collect materials (or take photographs) for their displays. Set boundaries and allow students to begin their collection.
- Circulate to check in with students as they work. Encourage them to make comparisons and ask them to explain why they are picking pieces and placing them in a certain order.
- Once back in the classroom give students time to create their displays (physical or virtual).
- Invite groups to present their displays and describe characteristics they used to order their materials. Point out evidence in displays of something missing, and ask where it may be now.
- Remind students that decomposition is part of a healthy forest ecosystem. Did your group find evidence of decomposition?