

Virtual Ranger Program: The Shenandoah Salamander

National Park Service
U.S. Department of the Interior



Shenandoah National Park

Summary Students will use this worksheet to follow along with the virtual ranger program about the Shenandoah Salamander. Students will use various methods of learning to further understand the importance of the salamander and protecting national parks.

Suggested Grade Levels 3-8

- Objectives**
- Understanding how the Shenandoah Salamander impacts the ecosystem in Shenandoah National Park.
 - Use reasoning to discover what might happen to the Shenandoah Salamander due to climate change.
 - Learn the basic concepts of impacts of climate change on an area and species.

Virginia State Standards

Strand: Living Systems

4.5 The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and the nonliving components in the ecosystem. Key concepts include: a) plant and animal adaptations; b) organization of populations, communities, and ecosystems and how they interrelate; d) habitats and niches; f) influences of human activity on ecosystems.

Strand: Earth Resources

- 3.8 The student will investigate and understand that natural events and humans influence ecosystems. Key ideas include a) human activity affects the quality of air, water, and habitats.
- 4.8 The students will investigate and understand important Virginia natural resources. Key concepts include: a) watersheds and water; b) plants and animals; c) minerals, rocks, and ores; and d) forests, soil, and land.
- 5.9 The student will investigate and understand that the conservation of energy resources is important. Key ideas include a) some sources of energy are considered renewable and others are not; b) individuals and communities have means of conserving both energy and matter.

Grades 6-12

- 6.9 The student will investigate and understand that humans impact the environment and individuals can influence public policy decisions related to energy and the environment. Key ideas include a) natural resources are important to protect and maintain; b) renewable and nonrenewable resources can be managed; c) major health and safety issues are associated with air and water quality; e) preventive measures can protect land-use and reduce environmental hazards.
- LS.6 The student will investigate and understand that populations in a biological community interact and are interdependent. Key ideas include a) relationships exist between predators and prey and these relationships are modeled in food webs; b) the availability and use of resources may lead to competition and cooperation; and d) the niche of each organism supports survival.
- LS.8 The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time. Key ideas include a) organisms respond to daily, seasonal, and long-term changes; b) changes in the environment may increase or decrease population size; and c) large-scale changes such as eutrophication, climate changes, and catastrophic disturbances affect ecosystems.

**Virginia State Standards
(continued)**

LS.9 The student will investigate and understand that relationships exist between ecosystem dynamics and human activity. Key ideas include a) changes in habitat can disturb populations; b) disruptions in ecosystems can change species competition; and c) variations in biotic and abiotic factors can change ecosystems.

Vocabulary

Adaptation – a special trait or characteristic that helps an organism survive
Amphibian – a cold-blooded vertebrate that spends some time on land but must breed and develop into an adult in moist areas. Frogs, salamanders, and toads are amphibians.
Climate change – long-term alteration in global weather patterns, especially noted as increases in temperature and storm activity and intensity.
Endangered species – a species whose numbers are so few, or are declining so quickly, that the animal, plant, or other organism may soon become extinct. Endangered species are protected under national or international law.
Endemic – only found in one place
Habitat – environment in which a plant or animal lives
Preservation – to keep intact, guard from danger, harm, or injury
Protection – the act of preventing something from being harmed or damaged
Research – the methodical investigation into a subject in order to discover facts, to establish or revise a theory, or to develop a plan of action based on the facts discovered
Terrestrial – living or growing on land rather than in the sea or the air

Materials

YouTube video: Shenandoah NPS / Virtual Ranger Program: *The Shenandoah Salamander*
Link: [Junior Ranger Program: The Shenandoah Salamander](#)
Duration: approximately 14 minutes

Shenandoah National Park
Virtual Ranger Program: The Shenandoah Salamander
Student Worksheet

Student Name:

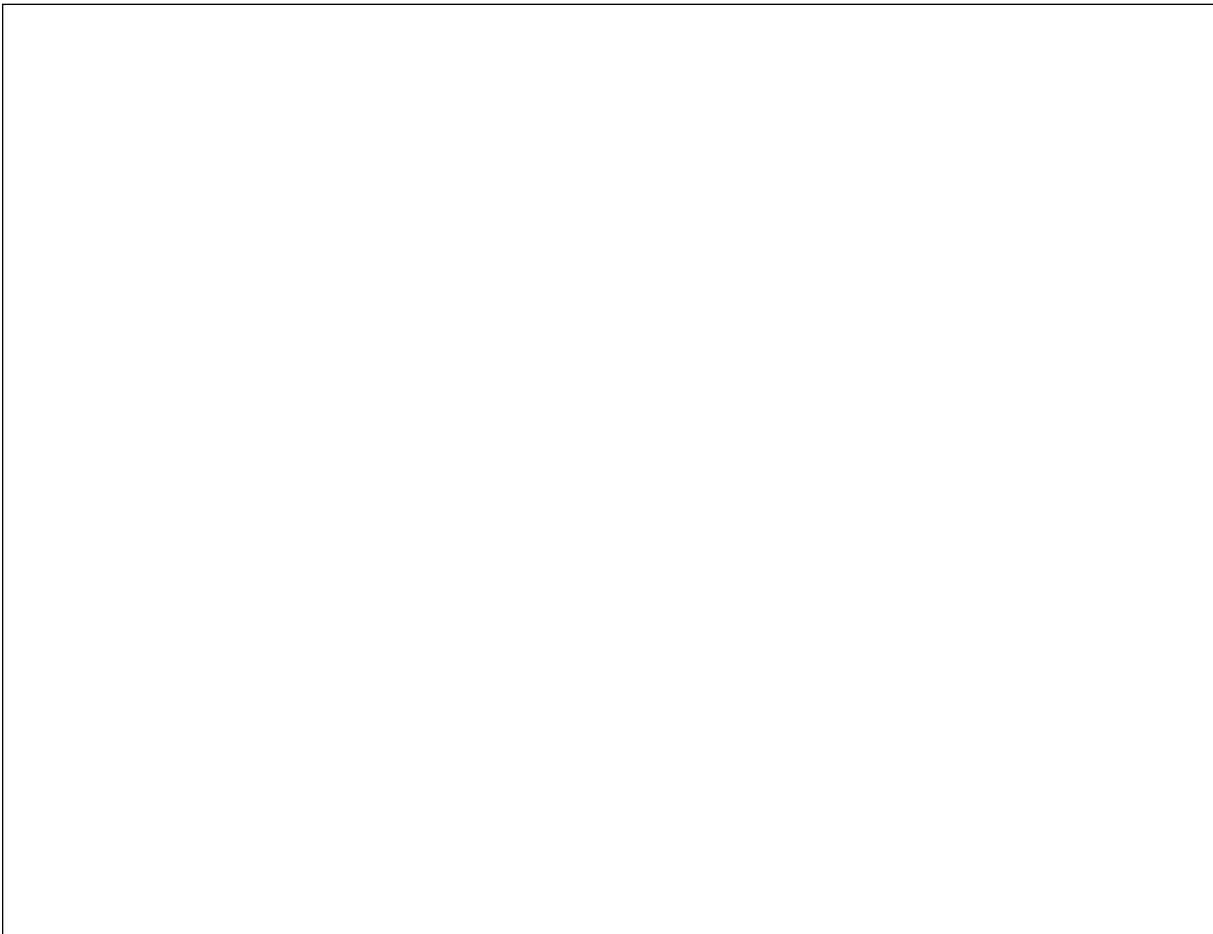
Date:

What kind of animal is the Shenandoah Salamander? Check the box next to the correct answer.

- Amphibian Mammal Fish
 Reptile Insect Bird

Why is the Shenandoah Salamander special?

Draw a Shenandoah Salamander. Label one adaptation (thing that helps it to survive).



What differences did you see between the Shenandoah Salamander and the Red-backed Salamander in the video? List at least two.

What do all living things need to survive? (Check all that apply)

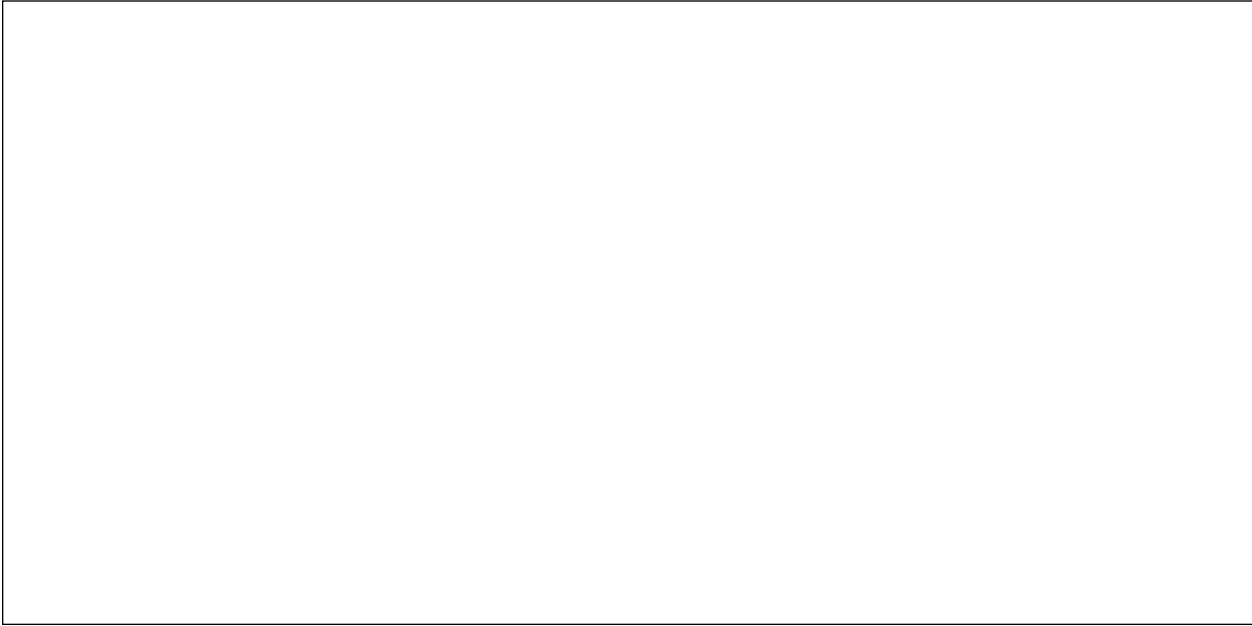
- | | |
|-----------------------------------|----------------------------------|
| <input type="checkbox"/> Sunlight | <input type="checkbox"/> Shelter |
| <input type="checkbox"/> Food | <input type="checkbox"/> Trees |
| <input type="checkbox"/> Space | <input type="checkbox"/> Air |
| <input type="checkbox"/> Water | <input type="checkbox"/> Rock |

Which habitat is best for a Shenandoah Salamander? Check the box next to the correct answer.

- A lake or pond
- A stream
- Tree tops
- Meadows
- High mountain tops (rock and forest)

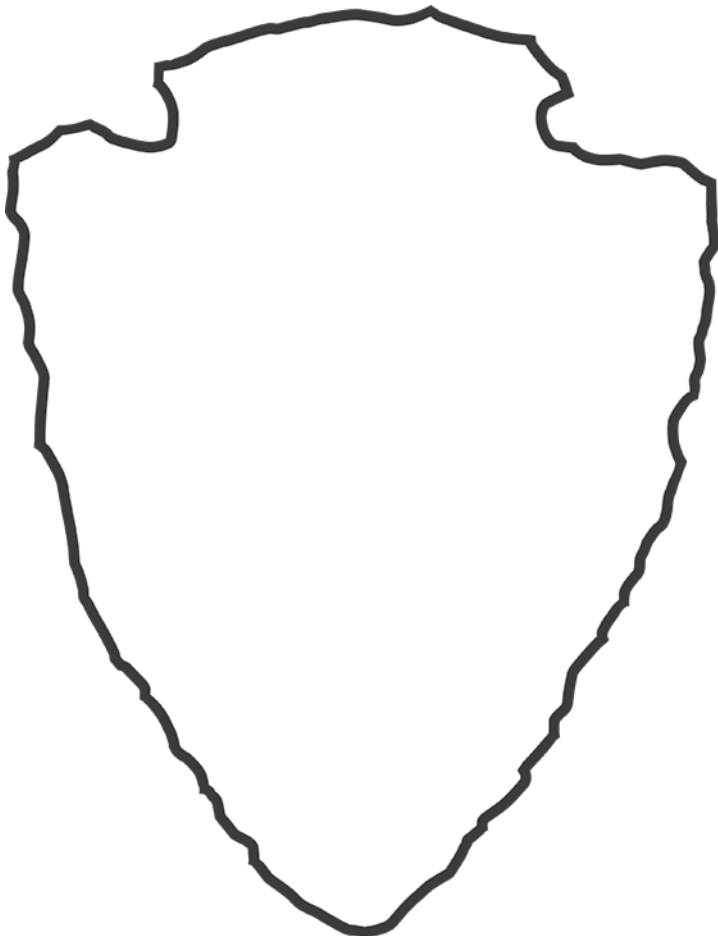
Why did you choose this habitat?

Using what you learned, draw where the Shenandoah Salamander lives. Include where to find its needs.



The National Park Service Patch

The National Park Service Patch is a symbol that represents what is protected in national parks around the country! Design your own arrowhead to represent what you would want to protect in a special place near your home.



The Shenandoah Salamander Search

Find and circle the vocabulary words!



ADAPTATION	AMPHIBIAN	ARROWHEAD	CLIMATE CHANGE	ENDANGERED
ENDEMIC	HABITAT	MOUNTAINS	NATIONAL PARK	NOCTURNAL
PREDATOR	PROTECTION	SALAMANDER	SHENANDOAH	TAIL

What are three ways that you can help protect the Shenandoah Salamander and the environment at home or in the Park?

- 1.
- 2.
- 3.

What is one question you still have about salamanders?

- 1.

Shenandoah National Park
Virtual Ranger Program: The Shenandoah Salamander
Teacher Answer Guide

Student Name:

Date:

What kind of animal is the Shenandoah Salamander? Check the box next to the correct answer.

Amphibian

Mammal

Fish

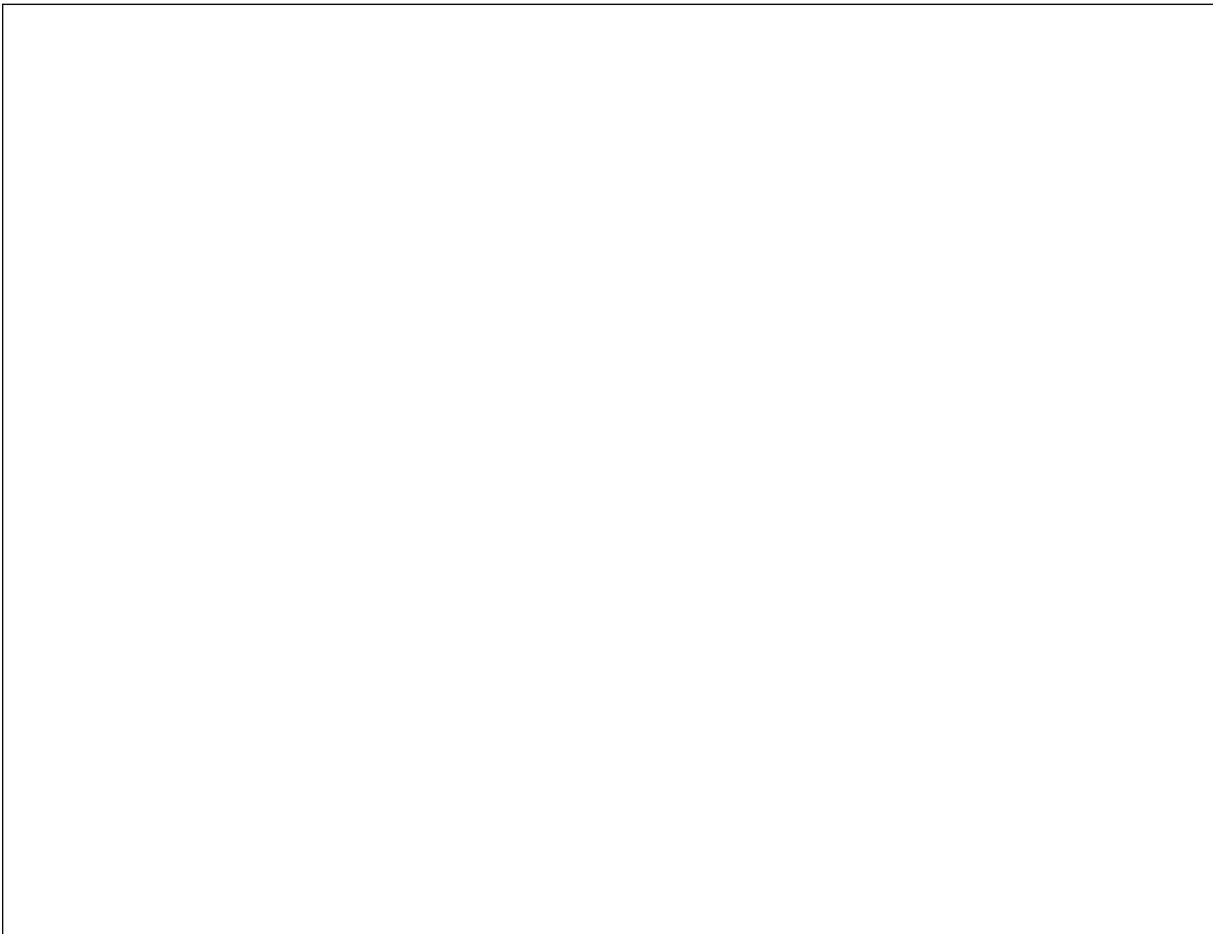
Reptile

Insect

Bird

Why is the Shenandoah Salamander special?

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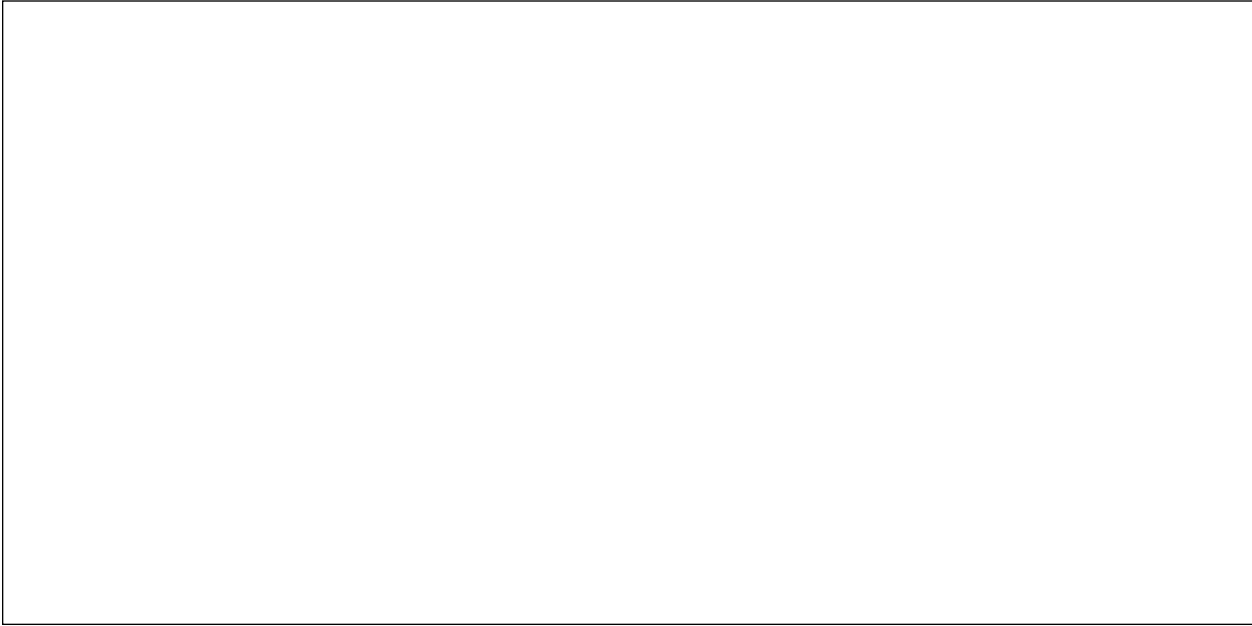
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Why did you choose this habitat?

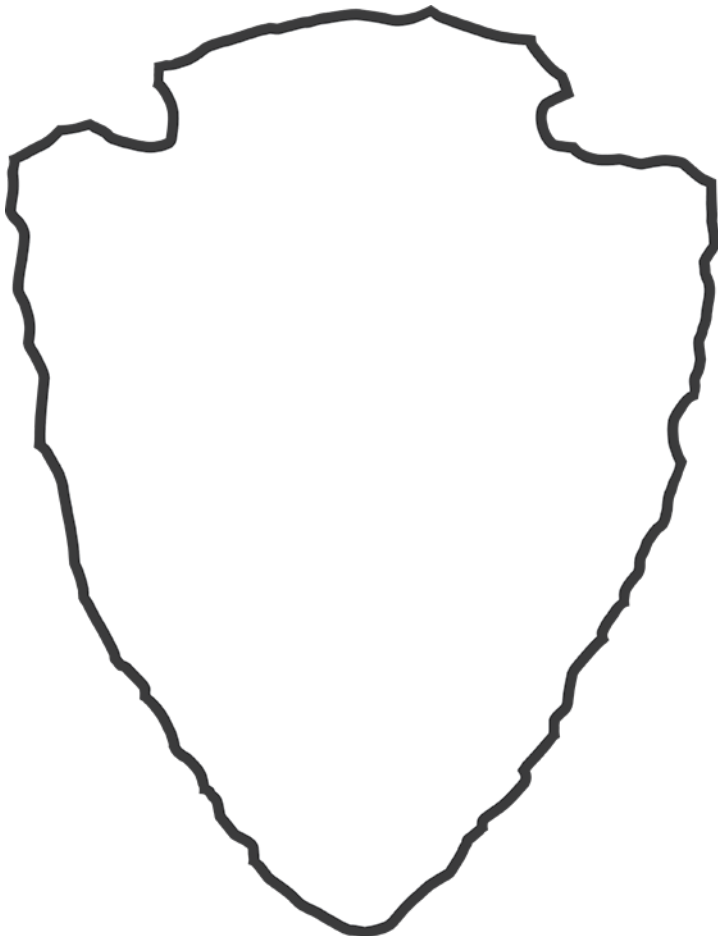
Example: This has a cool environment for them to live in.

Using what you learned, draw where the Shenandoah Salamander lives. Include where to find its needs.



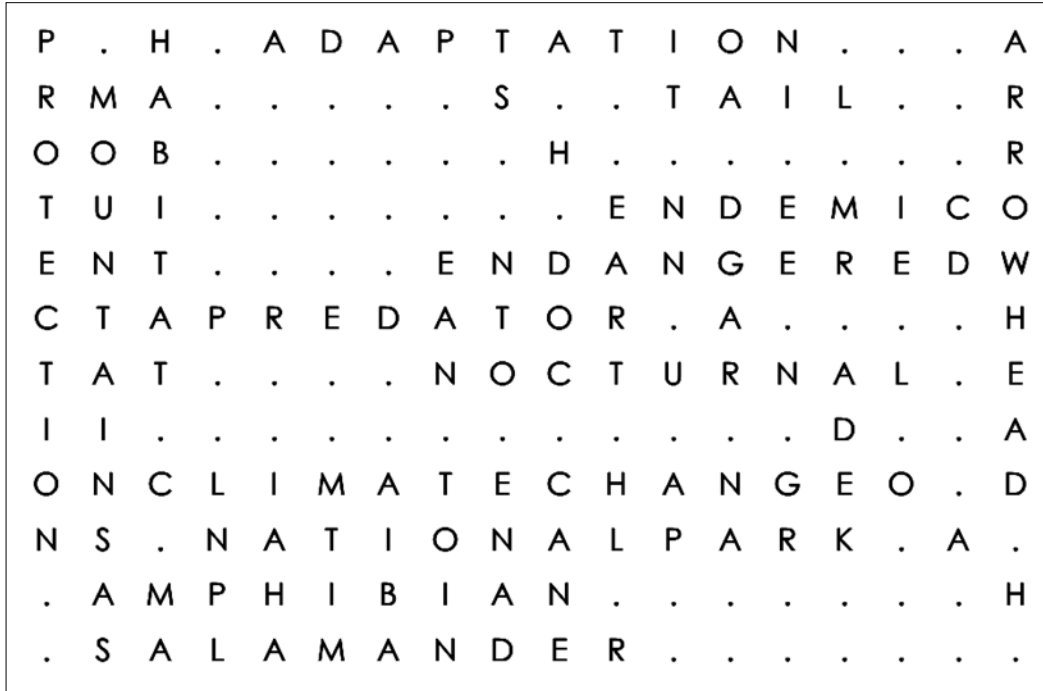
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| ENDEMIC | HABITAT | MOUNTAINS | NATIONAL PARK | NOCTURNAL |
| PREDATOR | PROTECTION | SALAMANDER | SHENANDOAH | TAIL |

What are three ways that you can help protect the Shenandoah Salamander and the environment at home or in the Park?

1. **Example:** Stay on trail
2. **Example:** Teach Others
3. **Example:** Pick up trash

What is one question you still have about salamanders?

- 1.