



Table Rocks Curriculum

Habitat Pen Pals

Objective: Students will explore the four plant communities of the Table Rocks and some of the animals that live in each habitat. They will write “pen pal” letters from the perspective of an animal.

Benchmark Targeted: 1, 2, and 3 (Grades 3-8)

Oregon Standards:

Subject Area: Life Science

Common Curriculum Goals: Diversity/ Interdependence: Understand the relationships among living things and between living things and their environments.

Benchmark 1: Describe a habitat and the animals that live there. Identify how some animals gather and store food, defend themselves, and find shelter.

Benchmark 2: Describe the relationship between characteristics of specific habitats and the organisms that live there. Describe how adaptations help a species survive.

Benchmark 3: Identify and describe the factors that influence or change the balance of populations in their environment.

Common Curriculum Goals: Organisms: Understand the characteristics, structure, and functions of an organism.

Benchmark 1: Describe the basic needs of living things.

Benchmark 2: Group or classify organisms based on a variety of characteristics.

Subject Area: The Arts

Common Curriculum Goals: Create, present and perform: Apply ideas, techniques and processes in the arts.

Benchmark 1: Use experiences, imagination, essential elements and organizational principles to achieve a desired effect when creating, presenting and/or performing works of art.

Benchmark 2: Use experiences, imagination, observations, essential elements and organizational principles to achieve a desired effect when creating, presenting and/or performing works of art.

Benchmark 3: Select and combine essential elements and organizational principles to achieve a desired effect when creating, presenting and/or performing works of art.

Subject Area: English/Language Arts

Common Curriculum Goals: Reading: Increase word knowledge through systematic vocabulary development; determine the meaning of new words by applying knowledge of word origins, word relationships, and context clues; verify the meaning of new words; and use those new words accurately across subject areas.

Common Curriculum Goals: Writing: Investigate topics of interest and importance across the subject areas, selecting appropriate media sources, using effective research processes, and demonstrating ethical use of resources and materials.

Common Curriculum Goals: Writing: Demonstrate knowledge of spelling, grammar, punctuation, capitalization, and penmanship across the subject areas.

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Length of Lesson: 45 to 60 minutes

Materials:

- ✓ Photos of the four plant communities on the Table Rocks available online at the BLM Table Rocks website: <<http://www.blm.gov/or/resources/recreation/tablerock/index.php>>.
- ✓ Cards of animal species of the Table Rocks (provided with lesson)
- ✓ Name cards for each of the four *habitats* (to be placed around the classroom)
- ✓ Optional: field guides to mammals, birds, reptiles, amphibians, and insects of the region

Key Vocabulary: *chaparral, generalist, habitat, mixed woodland, mounded prairie/vernal pool, oak savannah, specialist*

Background:

The environment of the Table Rocks can be roughly divided into four different plant communities, each of which occur on different parts of the area and serve as *habitat* for various animal species. The four plant communities of the Table Rocks are the *oak savannah, chaparral, mixed woodland, and mounded prairie/vernal pools* (see Botany Chapter Introduction for more detailed information). Some animal species at the Table Rocks inhabit more than one plant community. Such species are called *generalists*; they can survive under a wide range of environmental conditions and can eat a variety of foods. Others species are restricted to a narrower range of environmental conditions, often relying on a single type of food. These species are called *specialists*. Because of their stricter *habitat* requirements, they are typically found in only one of the four plant communities at the Table Rocks.

A great example of a *generalist* at the Table Rocks is the coyote. Like most generalists, the coyote is an omnivore, including both plants and meat in its diet. Coyotes eat small mammals (especially rodents and hares), birds and bird eggs, reptiles, amphibians, berries, nuts, young deer, and even domestic dogs and cats. An example of a *specialist* at the Table Rocks is the Violet-Green Swallow. Often seen overhead in the *mounded prairie/vernal pools habitat* at the tops of the Table Rocks, this bird's diet is restricted to insects caught while in flight. It needs open space to fly and therefore is not found in more forested *habitats*.

As with animals, plants species differ in the range of environmental conditions they can tolerate. Plants which are restricted to a narrow temperature range, particular soil conditions, or precise moisture or light levels may be considered *specialists*. Typically, such *specialist* species are highly adapted to particularly harsh conditions where few other species can survive. In other words, they require a narrow range of conditions, but within that range, they have little competition. Those that can survive under a broader range of conditions are *generalists*.

Procedure: (Adapted from “Habitat Pen Pals” an activity by *Project Learning Tree*):

Preparation:

On the Table Rocks website under the heading “plants,” find photos of each of the four plant communities of the Table Rocks. Either print photos of the plant communities or have students make an illustration of each plant community. Make several copies of the animal cards included at the end of this lesson. You will need multiple copies because some animals are found in more than one plant community. Make four signs, each with the name of one of the plant communities

and post each sign, along with the appropriate photo or illustration, in a different area of the classroom.

Divide the class into six groups and give each group a set of five animal cards. Instruct each group to research the animal on the cards provided using field guides, the Internet, the library, or other methods to discover their animals' preferred foods, sources of shelter, and other *habitat* requirements. If time permits, have each group make illustrations, or print photos from the Internet, of the animals. Ask the groups to decide whether each of their animals is more of a *generalist* or more of a *specialist*. Finally, ask them to predict which plant community, or communities, each animal inhabits. Remind them that many of the animals can be found in more than one plant community.

Activity:

After students have had time to discuss their ideas, have them post their animal cards (and pictures, if available) in the appropriate areas of the classroom, according to which plant community/ or communities they belong in. After all cards have been posted, gather students and review each plant community with its assigned animals. Encourage students to share their thoughts about how each plant community meets the *habitat* needs of its resident animals. If an animal has been placed in a *habitat* that doesn't suit it, use the opportunity to discuss what that animal needs that the *habitat* in question doesn't provide. For instance, the Acorn Woodpecker isn't well suited to the *mounded prairie* because this *habitat* lacks oak trees to provide acorns. Finally, review the concept of *generalists* and *specialists*, pointing out that some animals are restricted to a single plant community, while others are found in two or more different communities.

When students have correctly placed all the animals in the appropriate plant communities, have them return to their seats. Explain they will each select one of the mammals, birds, reptiles, amphibians, or insects of the Table Rocks and imaginatively "transform" themselves into their chosen animal. Ask them to imagine themselves "at home" in their appropriate *habitat* and to write a "pen pal" letter to another animal in a different *habitat*. Encourage students to adopt the point of view of the animal they selected and include as many details of that animal's life as they can think of.

To encourage creative thinking, write the following statements on the board:

- DON'T USE THE NAME OF YOUR PLANT COMMUNITY IN YOUR LETTER! Let your pen pal try to guess which plant community you belong in from the clues in your letter.
- What is the climate like in your *habitat*?
- Name some other animals that live in your plant community. What are your interactions with them?
- Describe some plants that grow in your *habitat*.
- Describe any special features of your plant community.
- What do you eat?
- What eats you?
- Where do you sleep?
- Do you build a home? If so, what does it look like?
- What is something unique or special about your *habitat*?

Encourage the students to be as imaginative and as specific as possible in addressing each point above. For example, rather than simply writing “I eat insects,” one could write “I had a delicious breakfast of ants and beetles this morning.” Explain that by addressing each point in an entertaining way, each “animal” will be providing hints about the plant community in which they live.

While students are working on their letters, assign partners. As letters are completed, have students exchange them with their partners. Give the class time to read the letters they have received and to decide the animal identities of their pen pals. Then have the students share the letter they received with the rest of the class. If students are unable to figure out which animals their pen pals represent, or which plant community animals belong in, ask for assistance from classmates.

Extension:

After students have correctly decided which animals their pen pals represent and which plant community each belongs in, ask each person to act out the animal portrayed in their pen pal letter. Let students in the audience try to guess which animal and *habitat* they represent. Follow the rules of charades for this portion of the activity.

Discussion Questions:

What are some important components to have in a *habitat*?

*The **habitat** must provide enough space, air, food, water, and shelter for animals to survive. Give some examples and have students determine impacts on each animal based on their requirements. Grizzly bears, for example, require approximately 100 square miles of open space to meet their dietary requirements. Try to think of any other components species might require in a **habitat** in order to survive and reproduce.*

Do you think a *generalist* or a *specialist* would be more likely to be endangered?

***Generalists** are not isolated to specific areas or diets as much as **specialists**. So if **habitat** fragmentation or **habitat** destruction, two of the leading causes of endangerment, were to occur to an area, **generalists** would be better equipped to survive because they could take advantage of other resources and are better adapted for migration. **Specialists**, however, are sometimes not able to migrate at all and cannot leave their specific **habitat**, or would struggle finding their food resources while migrating.*

References:

Project Learning Tree. Environmental Education Activity Guide Pre K-8. Washington, D.C.: American Forest Foundation, 1993.

Table Rocks Environmental Education. 2007. USDI BLM. 16 October 2007
<<http://www.blm.gov/or/resources/recreation/ablerock/index.php>>.