

A DAY BY THE BUFFALO

FOREST ECOLOGY - River View Stroll

Forests are more than a collection of trees. Plants and animals of many types can live in forests, forming communities that may interact. These activities will introduce your class to various forest communities at Buffalo National River.

TEACHER BACKGROUND

A forest is composed of many *habitats*, or natural communities, just as a town is composed of many neighborhoods. Each community, in turn, contains a variety of plants and wildlife, just as each neighborhood in a town has different types of people. People depend upon the different skills of others to make a town operate properly (some are teachers, some auto mechanics, and some musicians). Likewise, plants and animals in a community directly and indirectly depend upon each other for survival.

Lichens, for instance, break down rock to make soil. Soil then provides a place for ants to build tunnels and escape *predators*, or animals that will eat them. Ant tunnels allow more air into the soil, enabling plants to grow better. Plants produce food for wildlife whom, in turn, help spread the same plants by eating the fruit and excreting waste products that contain seeds.

Removing one member of a community can affect the entire forest. Sometimes this effect is bad for one type of plant or animal, but seems to help another. The effect is often temporary, however, because when the population of a single *species*, or type, of animal gets too big, the food supply usually runs short causing starvation, disease, and maybe even death.

We are also members of the natural community and play a role in maintaining its health. We do this not by breaking down rock to make soil, or digging tunnels to increase the air supply, but by allowing these things to happen without removing from or adding to the natural process. We also help by doing things like not littering and cleaning up after those who are not as responsible. It is in ways such as this that we play a vital role and can feel proud to be responsible members of the natural community.



CLASSROOM: PRE-VISIT ACTIVITIES

Activity 1. Community Efforts

STATE STANDARD

Science - Strand 2: Life Science

Standard 4. Populations and Ecosystems

Students shall demonstrate and apply knowledge of populations and ecosystems using appropriate safety procedures, equipment, and technology.

OBJECTIVES

Students will:

1. describe at least three natural *communities* found at Buffalo National River.
2. name at least five members found within those three communities.

MATERIALS

- paper
- pencil

ACTIVITY

As a class discuss the term habitat or community. Have students name different natural *communities* (i.e., cedar glade, stream, open fields, dead tree, etc.). Then have them name different members of each community (i.e., a dead tree community would include mushrooms, grubs, mosses, woodpeckers). Make a visible list on the chalkboard. How do the different members help the community survive? Do any of them hurt each other? Give examples of what could happen if a community member was suddenly removed.

Are there any members of one community that are members of another as well? Draw lines to connect these members (it could get cluttered). With a different color chalk, connect community members (regardless of community) with other members that they eat or are eaten by or have a beneficial or negative relationship with (now the chalkboard should really be getting messy). Can you create new communities from these newly identified relationships? Your students should understand how interwoven and sometimes complicated the relationships are in the natural world.

NATIONAL RIVER: ON-SITE ACTIVITY

Activity 2. River View Stroll

STATE STANDARD

Science - Strand 2: Life Science

Standard 4. Populations and Ecosystems

Students shall demonstrate and apply knowledge of populations and ecosystems using appropriate safety procedures, equipment, and technology.

OBJECTIVES

Students will:

1. define **habitat** and give an example of four within Buffalo National River.
2. identify a key plant or animal **species** and explain how this plant or animal interacts with something else in its habitat.
3. compare and contrast natural **communities** with human communities.
4. determine the effects on a **community** if one or more of its members are removed.
5. describe the purpose of **national parks** in **preserving** natural communities and why **diversity** is important.

MATERIALS

- day pack
- drinking water

ACTIVITY

Be prepared to spend approximately one hour with a park ranger hiking a moderately strenuous trail.



CLASSROOM: POST-VISIT ACTIVITIES

Activity 3. Taking Responsibility (in an human community)

STATE STANDARD

Social Studies – Strand: Civics

Standard 4. Government

Students shall develop an understanding of the forms and roles of government.

OBJECTIVES

Students will :

1. list what they feel describes a responsible member of a *community*.
2. actively participate in their community.
3. explain how their accomplishments benefit the community.

MATERIALS

- paper
- pencil
- poster board

ACTIVITY

Have your students consider that they are members of a classroom community. There may be active and in-active members. Do some brainstorming as a group to define what this classroom community requires to function (leadership, organization, structure, etc.). Consider the basic needs (similar to Activity 1, Habitat Shuffle).

1. Divide the class into groups of 4 or 5 and have the students make a list of things they can do to make them responsible members of the classroom community. Have each group share their ideas with the class. After each group has shared, ask the whole class to refine these ideas and make a class list of no more than 10 items and post them on the chalkboard or poster board.
2. Mount this list in a prominent place in the classroom.
3. Encourage the students to personally consider their roles in the classroom community. As a student accomplishes an item, have the student sign their name on the poster board next to the item (more than one student name may be next to each item). After a period of time, come back to a discussion of this class list and allow the students to share how their accomplishments benefited the community.

4. For further discussion, ask the class to discuss how they as individuals are part of the greater natural community of the Ozarks. What personal actions will have a positive or negative impact on the community? List for impact.



KEY WORDS

predators, species, communities, national parks, preserving, diversity, habitat

RESOURCES

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