Wonderful Wildlife Web

An activity that helps 5-8 year olds understand the interdependence of forest species.

By Sarah M. Schwartz

When you hear the word “forest”, what comes to mind? Most people say trees but there is so much more to these complex ecosystems. Soil, climate, understory plants and animals combined make a forest what it is. This activity is intended to help students, aged five to eight, understand the interdependence of all of the parts that make the whole. Each become an animal in a specified forest habitat for the day. They make decisions about what habitat items they need and what they will do if they lose a habitat item. They will either adapt or go extinct.

Preparation: Generally speaking, forests can be divided into two types, coniferous or broad-leaved. A coniferous forest is made up of cone bearing trees with leaves that are in the form of needles. Needles are dropped continuously throughout the life of the tree, so they never look bare at any one time. Trees in broad-leaved forests generally loose their leaves at a specific time of year (fall), then grow new ones (spring). In North America, they are commonly called deciduous forests.

Of course there are always exceptions to the rule. Larch, also known as tamarack, (Larix sp.) is a coniferous tree that drops its needles in the fall. And madrone (Arbutus menziesii) is a broad-leaved tree that keeps its leaves throughout the year. What type of forest do you live near? Do you have trees in your area that are anomalies like larch or madrone? Do they serve a special purpose in your local forest? Make these a part of your discussion.

Depending on the time frame and format of your class, it will be helpful if you can provide a general introduction to forest types and components a day ahead of the actual activity. Whether you are surrounded by a desert-like dry pine forest, a northern boreal forest, an eastern hardwood or temperate rainforest, make use of the forest type nearest you for this activity. That way, the children will become more familiar with the animals and plants that you will be talking about. I live in the Pacific Northwest temperate rainforest, characterized by a big coniferous overstory, deciduous understory, lots of rain, an array of animals and very green overall.

Choose enough animals in your forest type so that each student can have one. Don’t limit yourself to warm and fuzzy animals. Include insects, birds, mammals, amphibians,
reptiles and fish, and ensure that herbivores, carnivores and omnivores are all represented. Note which ones are native or introduced. All of this information can serve as a springboard for discussion as students select which animal they wish to be.

Select five habitat items that are characteristic of the forest you chose, and are used by all the animals for food, hiding cover or nesting/denning sites. (See the chart above) If you need help coming up with habitat items and animals for the forest type you’ve picked, check out the websites of your state/provincial department of wildlife or natural resources or pay your local office a visit. (State extension offices are another excellent resource for listings of native plants and wildlife.)

A spreadsheet may help you through this process. I’ve provided an example above for my own region. Note that some animals are listed twice. These are ones that have other options when their habitat starts to change.

Once you have developed your list of animals, have each student select the one that they would like to represent in this activity. Using clipart, magazines or an online search, locate a picture of each animal. Cut and glue the pictures onto card stock, then punch a hole in each side and tie yarn through the holes. This can then be placed around the child’s neck when the activity begins. If they have time to make their badges a day ahead of the activity, this will encourage them to start thinking about the needs of their particular animal.

To familiarize the children with their selected animal, have them discuss what the animal eats, where they live and where they hide. Since students’ knowledge and familiarity will vary, you may want to plan ahead with a selection of non-fiction picture books that show animals in their native habitat. Magazines such as Ranger Rick or National Geographic may also be useful. As students look at pictures, ask them where the animal nests/dens, what it eats and where it blends into its surroundings the best.

### Materials
Photos of selected animals, glue, stiff paper/cardstock, yarn, hole punch, habitat items (real or pictures)

### Activity
1. Choose an area with ample room to move around, preferably outdoors. And if a nearby outdoor area exemplifies your chosen forest type, this will allow you to use real habitat items rather than props or pictures. Determine which part of this area will be the gathering place for animals that become extinct during the activity.

2. Choose five habitat items associated with your forest type and locate photos or props to represent each one. Here in the Pacific Northwest temperate rainforest, the habitat items I would select are an ancient Douglas-fir tree, huckleberry bush, rotten log, mushroom and vine maple. Discuss the use of each of your habitat items and then place them around the area in a large circle.

3. Instruct students to go to a habitat item that they need. For example, a wren, a squirrel, a grouse and a raccoon may all associate themselves with the huckleberry bush. These are the first tier animals. Note: not all of the student’s animals will find a habitat item that they need.

4. Ask the remaining students—second tier animals, many of them carnivores—to associate themselves with a first tier animal that they can eat. For example, a bobcat could associate with the grouse that is associated with the huckleberry bush. These are the first tier animals. Note: not all of the student’s animals will find a habitat item that they need.

5. Continue Step 4 until all students are attached to a food source or habitat item.

6. Discuss what other associations are possible. For example, a grouse may associate with the huckleberry bush for a food source, but it could also use the vine maple for

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### Example: Wonderful Wildlife Web
**Pacific Northwest Temperate Rainforest**

<table>
<thead>
<tr>
<th>Habitat Items</th>
<th>Ancient Douglas-fir tree</th>
<th>Huckleberry bush</th>
<th>Mushroom</th>
<th>Rotten log</th>
<th>Vine maple</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First tier animals</strong></td>
<td>Chipmunk</td>
<td>Grouse</td>
<td>Vole</td>
<td>Civet cat</td>
<td>Spider</td>
</tr>
<tr>
<td>(multiple options shown)</td>
<td>Flying squirrel</td>
<td>Deer</td>
<td>Black bear</td>
<td>Snake</td>
<td>Wren</td>
</tr>
<tr>
<td>Owl</td>
<td>Butterfly</td>
<td>Newt</td>
<td>Slug</td>
<td>Flying squirrel</td>
<td></td>
</tr>
<tr>
<td>Woodpecker</td>
<td>Black bear</td>
<td>Snail</td>
<td>Vole</td>
<td>Wood rat</td>
<td></td>
</tr>
<tr>
<td>Frog</td>
<td></td>
<td></td>
<td>Wood rat</td>
<td>Mountain beaver</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Beaver</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chipmunk</td>
<td></td>
</tr>
<tr>
<td><strong>Second tier animals</strong></td>
<td>Bobcat</td>
<td>Hawk</td>
<td>Cougar</td>
<td>Black bear</td>
<td></td>
</tr>
</tbody>
</table>

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hiding cover. The bobcat that associated with the grouse could also eat the squirrel or the wren.

7. Introduce a scenario that results in the need to remove a habitat item. For example, a forest landowner decides that he doesn’t like rotten logs littering the forest floor and cleans them all up. Animals that are associated with the lost habitat item must find something else with which to associate. In the above example, a porcupine, newt and a snake, all of which make their home in logs, would lose their home. The porcupine could move into a hollow in the Douglas-fir. The snake might associate with a tree vole. But if the newt cannot find an association, it will die and need to move to the extinction area.

8. Remove another habitat item and explain why you have removed it. This gives children a cause/effect understanding of what causes habitats to change whether it is a natural change or human caused. Have students re-associate or move to the extinction area.

9. Keep removing items until they are all gone. All the students are then in the extinction area.

Wrap up
Discuss which animals might be able to move and adapt to a different habitat. Example: Raccoons are often found in towns, eating people’s garbage. Discuss what habitat items affected the most animals and which the least. Identify the concept of keystone species. These are ones that once their habitat is disrupted, in turn affected many other species.

Advanced discussion topics: What animals are extinct in your area? What caused these animals to become extinct? What animals are threatened or endangered in your area? What is being done to prevent their extinction?

The environment around us is ever changing. Some of these changes are natural like volcanoes, floods or wind storms. Others are human caused like the extermination of wolves in the United States. No matter the origin, ecosystems can change. This activity helps children to understand the relationships between animals and their habitats and what can happen to those animals if their ecosystem changes.

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Teacher Resources
National Geographic Book of Mammals Volume 1 A-J, National Geographic Society, 1981.

Classroom Resources