Habitats

Within an ecosystem there may be many different species living in many different habitats. A habitat is the physical environment where a plant or animal lives. For example, the habitat of a banana slug is the forest floor. Components of habitats include an organism's food, water, shelter and the space it needs to live. Habitat includes both living and nonliving components.

Teaching Ideas:

**Martin Griffin Preserve Map** — Handout

**Martin Griffin Preserve Habitats** — Handout/Follow-up Activity

**Draw the Habitats** — Handout/Follow-up Activity

**Outside-In and Inside-Out Tree** — Discussion and Handouts/Activity
# Martin Griffin Preserve Habitats

**Name** _____________________________

What living things would you be able to find in each habitat at Martin Griffin Preserve?

**The tops of Redwood Trees**

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**The Ranchyard**

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**The Ponds**

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**The Lagoon**

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Choose from this list of animals. Some can be used more than once.

<table>
<thead>
<tr>
<th>Animal</th>
<th>Animal</th>
<th>Animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heron</td>
<td>Tadpoles</td>
<td>Water Boatman</td>
</tr>
<tr>
<td>Deer</td>
<td>Rabbits</td>
<td>Lizards</td>
</tr>
<tr>
<td>Wading Birds</td>
<td>Owls</td>
<td>Egrets</td>
</tr>
<tr>
<td>Mice</td>
<td>Newts</td>
<td>Clams</td>
</tr>
<tr>
<td>Water Striders</td>
<td>Shrimp</td>
<td>Backswimmers</td>
</tr>
<tr>
<td>Fish</td>
<td>Dagonfly nymphs</td>
<td>Chipmunks</td>
</tr>
<tr>
<td>Eagles</td>
<td>Red-winged Blackbirds</td>
<td></td>
</tr>
<tr>
<td>Small Birds</td>
<td>Ducks</td>
<td></td>
</tr>
</tbody>
</table>
Draw the Habitats

Name ____________________________

Complete this picture by drawing in the habitats of animals you saw at Bolinas Lagoon Preserve.
Outside-In and Inside-Out Tree  
(Adapted from Ranger Rick, "Naturescope: Trees are Terrific")

Objective 
To help children have fun discovering some of the many ways animals use trees.

Materials 
- Copies of both "Outside-In and Inside-Out Tree" handouts 
- Scissors 
- Tape or stapler 

Background 
The information below is provided for your use as you discuss the animals in the handouts. (Names of the animals that appear on the "Outside-In and Inside-Out Tree" handouts are italicized.)

IN THE LEAVES 
A Place to Rest: Many birds use trees as resting spots. For example, the Barred owl may rest in the branches of a tree during the day or may perch there at night to look and listen for mice and other prey. 
Nesting High: A fork in a tree may be a perfect place for a Rose-breasted Grosbeak to build its nest in the spring. Many birds and other animals, such as squirrels, also build their nests in the branches of trees. 
A Treetop Smorgasbord: The Gray Squirrel spends most of its time in the treetops and feeds on many different nuts, seeds, and fruits. A lot of other animals also feed in the treetops. 
Blending In: Some animals are well camouflaged for their life in the trees. The Walkingstick feeds on tree leaves during the day. Looking a lot like a small stick helps this insect hide from birds and other predators. Some other tree-dwelling insects resemble leaves, thorns, or bark.

BENEATH THE BARK 
Growing Up Inside a Tree: Some animals spend most of their lives beneath the bark of trees. Bark Beetles lay their eggs in wood underneath the bark. After the eggs hatch, the larvae form patterns in the wood as they eat their way through it. 
Nesting Within: Many animals nest inside trees. Birds such as the Hairy Woodpecker chisel out their own nesting holes in trees. These cavities may be used by many other forest creatures after the woodpeckers have abandoned them. Honey bees, flying squirrels, and some birds may build their homes (hives or nests) in abandoned woodpecker nests or in other tree cavities. 
Fruiting Fungi: Many types of fungi grow on trees; the threadlike mycelia of these fungi often grow beneath the bark, hidden from view. When a fungus such as the Shelf Fungus produces its fruiting body, it’s easy to spot.

AROUND THE ROOTS 
Feeding on the Roots: Many insects, mites, millipedes, and pill bugs spend part of their lives in the ground. The cicada, for example, spends its larval/nymph stage underground around the base of a tree, feeding on sap from the tree’s roots. Some fungi form a "partnership" with the roots of trees. These fungi grow around the growing tips of the roots.
and feed on the tree's sap. The fungi aid the tree by absorbing nutrients from the soil and passing them into the tree.

**Burrowing, Furrowing**: Earthworms, moles and many other creatures tunnel through the soil beneath a tree. As they churn up the soil, they make it easier for a tree's roots to grow and absorb water and nutrients. Some animals, such as short-tailed shrews and chipmunks, dig tunnels beneath trees, while others, such as chipmunks and squirrels, may store a cache of nuts in the ground near the base of a tree.

**Activity**  
Pass out copies of the "Outside-In and Inside-Out Tree – Sheets A and B".

Using sheet A, discuss how all of the animals in the picture use trees or the areas around them for shelter, for food, or nesting sites. Tell the children that they probably wouldn't find all of these animals on the same tree at the same time, because animals use trees for different things during different times of the year, and they tend to spread themselves out among a lot of different trees so they'll have plenty of room.

After discussing how animals use trees, have the children color their "Outside-In and Inside-Out Tree" handouts.

Then using pointed scissors, carefully cut along the dotted lines only. Fold the cut pieces back along the solid lines, like little doors. Place sheet "A" over sheet "B" (secure with tape or staples at top and bottom), open the doors one at a time to see what's inside the tree. (Make tabs to attach to the "doors", for easier opening).
Outside-In and Inside-Out Tree – Sheet A

(Adapted from Ranger Rick, “Naturescape: Trees are Terrific”)
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