

<b>Lesson Title:</b>	Your Schoolyard's Microhabitats
<b>Grade(s):</b>	6 (7&8)
<b>Prepared by:</b>	Claire Cox
<b>Appropriate Science Areas:</b>	Life Science
<b>Science Concept(s):</b>	Ecology-Diversity Within A Habitat
<b>Lesson Objective:</b>	<ol style="list-style-type: none"> <li>1. Examine specific elements of microhabitats within a schoolyard.</li> <li>2. Formulate reasons as to why there are differences and similarities.</li> </ol>
<b>Georgia QCC Standards:</b>	<p><b>Grades 6, 7 &amp; 8</b></p> <ul style="list-style-type: none"> <li>• Scientific Inquiry Process: Uses process skills of observing, classifying, communicating, measuring, predicting, inferring, identifying, and manipulating variables. Also uses recording, analyzing, and operationally defining, formulating models, experimenting, constructing hypotheses and drawing conclusions.</li> <li>• Reference Skills: Selects and uses multiple types of print and nonprint sources for information on science concepts.</li> </ul> <p><b>Grade 7</b></p> <ul style="list-style-type: none"> <li>• Ecology/Interdependence of Life: Explains the food web/food chain cycles in nature that affect living things.</li> </ul>
<b>Background:</b>	<p>A habitat is the place an animal or plant lives and gets all the things it needs to survive such as food, water, and space to grow, breed, and raise young. Within any habitat there are many smaller microhabitats in which temperature, humidity, light, and other conditions vary from those of the habitat as a whole. In a schoolyard habitat there may be several microhabitats such as an open field, a bog area, a young forest area, a climax forest area, and even the open area under a portable classroom. Diversity of plant and animal life is evident in each microhabitat although there will be some similarities among them.</p>
<b>Materials:</b>	<ul style="list-style-type: none"> <li>• Yarn or string for roping off (4) 36- sq. ft. areas</li> <li>• Yard sticks and rulers (min. 1 per group)</li> <li>• Thermometers (min. 1 per group)</li> <li>• Magnifying glasses (min. 1 per group)</li> <li>• Container for collecting (min. 1 per group)</li> <li>• Resource books- plant, tree, insect, etc. identifying books</li> </ul>
<b>Preparation Time:</b>	Ample time to plan activity, survey prospective areas, and gather materials.
<b>Teaching Time:</b>	1.5-2 hours

<b>Procedures:</b>	<ol style="list-style-type: none"> <li>1. Discuss the meanings of habitat and microhabitat.</li> <li>2. Lead students in creating a semantic map for the schoolyard habitat, and identifying microhabitats.</li> <li>3. Make predictions about elements and organisms of each. (Students record the map and predictions in their journals.)</li> <li>4. List and discuss expectations for the activity. Each group will mark off a 36 sq. ft. area within a specific microhabitat. Observe and collect data on the following: a) air temperature, b) sunlight (full, partial, shade, describe amount throughout day), c) soil analysis (structure, texture, moisture, temperature, and take sample), d) collect a sample of each plant to identify later, count number and record height of each species, e) count number of each type of animal (collect evidence of presence-tracks, damage to plants, etc.)</li> <li>5. Return to classroom. Allow time for students to use resources to identify unknown organisms, and to observe soil more closely with magnifying glasses.</li> <li>6. Each group presents their findings. Discuss key questions.</li> <li>7. Administer short quiz. (see Evaluation)</li> </ol>
<b>Key Questions:</b>	<ol style="list-style-type: none"> <li>1. What elements of your area help support organisms living there? (Amt. of water and light, type of soil, etc.)</li> <li>2. What would happen if one of those elements were missing or suddenly disappeared?</li> <li>3. Which element(s) seem(s) to be the deciding factor for diversity among the microhabitats?</li> <li>4. What might be done to your area to make it better for plants? Animals?</li> <li>5. What creature(s) and plants were common in all the microhabitats?</li> </ol>
<b>Student Evaluation:</b>	<ul style="list-style-type: none"> <li>• Observation of activity and participation in discussion.</li> <li>• Short quiz- 1) If you had to teach someone about microhabitats, what would you tell them? 2) What elements of microhabitats are responsible for their diversity of life?</li> </ul>
<b>Helpful Hints:</b>	<p>Set up your students so that there will be at least one self-directing student in each group. Coach these ahead of time so that they can help others. Students should already know how to use measuring devices.</p>
<b>Related Activities:</b>	<ul style="list-style-type: none"> <li>• Tree exam</li> <li>• Habitat survival</li> </ul>

<b>Suggested Extensions into Other Curriculum Areas:</b>	Math: Calculate size of entire schoolyard and each microhabitat. Make a pie graph to illustrate percentages of each type of habitat in relationship to entire schoolyard. Social Studies: Construct a map of the schoolyard habitat designating the microhabitats. Include a legend. Language Arts: Create a short story from the point of view of an organism living in the microhabitat examined.
--	---