

# Ecology & Ecosystems - Learning Goals

Name: \_\_\_\_\_

Period: \_\_\_\_\_

**Instructions:** Use the performance expectations sheet to help you assess your current level of understanding (1-4) for each learning goal once an activity is done.

Unit E – Ecology Learning Goals	Pre-assessment	Act 1: What is Biodiversity?	Act 2: Was the Nile Perch really the "Miracle Fish?"	Act 3: Natural History of Red worms	Act 4: Food Webs, Chains, Matter Cyclers, & Energy Pyramids	Act 5: Coughing Up Clues	Act 6: Ups & Downs	Act 7: Field Study	Act 8: Worm Ranching Lab	Addendum 1: Endangered Species Report Format	Post-assessment
<b>Living &amp; Non Living Factors in an Ecosystem</b>											
1. I am able to <i>predict</i> what may happen to an ecosystem if one or more: <ul style="list-style-type: none"> <li>a. abiotic factors change or</li> <li>b. biotic factors are added or removed from the ecosystem.</li> </ul>											
<b>Flows of Matter &amp; Energy within an Ecosystem</b>											
2. I can <i>analyze</i> the flow of matter and energy in a local ecosystem with these three models: <ul style="list-style-type: none"> <li>a. Energy pyramid</li> <li>b. Food web</li> <li>c. Matter cyler.</li> </ul>											
<b>Examining Environmental Issues</b>											
3. I can evaluate a local ecosystem by analyzing environmental hazards, human impacts and the level of biodiversity.											

Unit D: Genetics Performance Expectations	Level 1	Level 2	Level 3	Level 4
<p><b>Learning Goal #1:</b></p> <p>I am able to <i>predict</i> what may happen to an ecosystem if one or more:</p> <ol style="list-style-type: none"> <li>abiotic factors change or</li> <li>biotic factors are added or removed from the ecosystem.</li> </ol>	<p>I can accurately define:</p> <ul style="list-style-type: none"> <li>Abiotic factors,</li> <li>Biotic factors,</li> <li>Carrying capacity</li> <li>Carnivore</li> <li>Competition</li> <li>Decomposer</li> <li>Herbivore</li> <li>Mutualism</li> <li>Omnivore</li> <li>Populations</li> <li>Predator-prey relationship</li> </ul>	<p>I can give examples of:</p> <ul style="list-style-type: none"> <li>biotic &amp; abiotic factors in a local ecosystem.</li> <li>How organisms depend on both abiotic and biotic factors to survive.</li> </ul>	<ul style="list-style-type: none"> <li>I can <i>explain</i> how organisms and populations are affected by a change in the amount of resources in an ecosystem.</li> <li>I can identify patterns in population growth and resource availability in an ecosystem.</li> </ul>	<p>I can <i>describe to others, using examples, how:</i></p> <ul style="list-style-type: none"> <li>Ecosystems are constantly changing due to natural &amp; human disturbances.</li> <li>The biodiversity of an ecosystem can be used to predict the health of the ecosystem.</li> </ul>
<p><b>Learning Goal #2:</b></p> <p>I can <i>analyze</i> the flow of matter and energy in a local ecosystem with these three models:</p> <ol style="list-style-type: none"> <li>Energy pyramid</li> <li>Food web</li> <li>Matter cycler.</li> </ol>	<p>I can accurately define:</p> <ul style="list-style-type: none"> <li>Consumer</li> <li>Energy</li> <li>Energy pyramid</li> <li>Food chain</li> <li>Food web</li> <li>Habitat</li> <li>Matter cycling</li> <li>Niche</li> <li>Producer</li> </ul>	<p>I can <i>explain with examples:</i></p> <ul style="list-style-type: none"> <li>How producers obtain energy</li> </ul> <p>I can create a:</p> <ul style="list-style-type: none"> <li>Local food chain showing how energy &amp; matter cycles through different organisms in an ecosystem.</li> </ul>	<p>I can <i>show &amp; analyze</i> the flow of matter and energy through organisms in a local ecosystem using</p> <ul style="list-style-type: none"> <li>A matter cycler</li> <li>an energy pyramid and</li> <li>a food web</li> </ul>	<p>I can explain the role nonliving factors play in the transfer and cycling of <b>matter</b> and <b>energy</b> in an ecosystem.</p>
<p><b>Learning Goal #3:</b></p> <p>I can evaluate a local ecosystem by analyzing environmental hazards, human impacts and the level of biodiversity.</p>	<p>I can accurately define:</p> <ul style="list-style-type: none"> <li>Biodiversity,</li> <li>Ecosystem</li> <li>Ecosystem services</li> <li>Endangered species</li> <li>Threatened species</li> <li>Species of concern</li> <li>Trade-off</li> </ul>	<p>I can give local examples of:</p> <ul style="list-style-type: none"> <li>Endangered species</li> <li>Threatened species</li> </ul> <p>I can give local examples of:</p> <ul style="list-style-type: none"> <li>Ecosystem services that humans rely on.</li> </ul>	<p>I can <i>investigate</i> why a local species is listed as endangered, threatened by analyzing:</p> <ul style="list-style-type: none"> <li>the causes of a species listing</li> <li>the species natural history</li> <li>adaptations a species has evolved to allow it to survive</li> <li>recovery efforts &amp; trade offs that are helping or hindering recovery</li> </ul>	<p>I can <i>describe to others, using examples, how:</i></p> <ul style="list-style-type: none"> <li>Changes in biodiversity will change the availability of certain resources.</li> <li>A change in the biodiversity of an ecosystem can be used to predict the future health of the ecosystem.</li> </ul>

**Student Leadership, Participation & Teamwork Self-Assessment**

**Tell 2 examples of your LPT skills per area to support your score**

*1 – Below Standard, 2 – Approaching Standard, 3 – Standard, 4 – Above Standard*

1. Leadership:  Explain w/2 examples: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Participation:  Explain w/2 examples: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Teamwork:  Explain w/2 examples: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Student Growth, Learning Progress and Goal Setting. Please complete each section as indicated below.**

4. Tell three concepts/learning goals that you have shown growth in. Explain.  
a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

5. Tell three concepts/learning goals you still need more growth in. Explain.  
a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

**Parent Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Comments:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Teacher Review - To be completed by your teacher**

*1 – Below Standard, 2 – Approaching Standard, 3 – Standard, 4 – Above Standard*

- 1. Activities completed .....
- 2. Corrections made in red pen .....
- 3. Self-assessment & learning goals completed above.....
- 4. Parent review completed .....
- FINAL SCORE** .....
- Leadership, Participation & Teamwork rating**.....

Voc 1/2	Voc 3
CH/EC	End. ... Species Editor