

**Part I: Learning Targets from the Ecology Unit of Study****Learning Targets from the Unit of Instruction**

Explain how living organisms react with biotic and abiotic components of an ecosystem.

Describe how human activities impact an ecosystem either positively or negatively.

Analyze how populations are limited by the materials available in an ecosystem.

Discuss the limited resources available in an ecosystem.

Explain how matter and energy cycles through living and non-living things.

**Big Ideas**

Human influences dramatically change ecosystems.

Ecosystems are limited by the amount of resources available.

The balance of an ecosystem depends on the flow of energy and matter.

**Essential Questions** from Big Ideas to guide instruction and assessment

How do humans influence ecosystems?

How do matter and energy cycle through ecosystems?

How do changes in resources affect populations in ecosystems?

**Part II: Feedback and Assessments (Formative and Summative)**

How will we provide students with feedback throughout the unit?

**What formative assessments will we use? (Non-graded assignments that check for understanding and provide feedback to the students) Incorporate the 7 Strategies of Assessment for Learning here.**

Posted learning objectives  
Guided reading notes with objectives.  
Pretest/Posttest concept checks.  
Checklist for Interpreting Ecological Data  
List 5 human impacts on biomes.

**How will students be involved with keeping track of their own learning progress (note—this is different than tracking points for a grade)?**

Pre-Post Test Scores  
Self-Assess of guided reading  
After completing an objective – students will pair & share their paragraphs on the objective using a guided rubric  
Grade own practice quizzes  
Checking progress book

**What summative assessments will we use? (Graded, evaluative assessments)**

Activity – Predator/Prey  
Activity – Food Web  
Test- Introduction to Ecology  
Test- Population Ecology  
Test – Biomes  
Project - Individual Biome Poster

### Part III: Instruction and Student Activities

**What instructional and student activities will we use for this unit? These activities should directly align with the indicators and assessments.**

Notes – Introduction “What is Ecology?” (SmartBoard)

Video: Ecology-Organisms & Their environment

Graph abiotic & biotic factors

Food Web Activity

Video: Food Web

Notes & Activity on Ecosystem Recycling (Carbon, Nitrogen & Phosphorus Cycles)

Article Reading on Eutrophication

Discussion on Global Warming

Essay on global warming

Notes – Populations (SmartBoard)

Activity – Random Sampling

The Lesson of the Kaibab (Deer Population)

Guided Reading Activity – Human Population Growth

Interpreting Ecological Data

Video: Community Interactions w/wksh

Activity- Hare & Lynx

Activity – Predator/Prey

Notes – Succession & Climax Communities

Discussion – Human affect on Succession Communities – over building

Wksh- Stages of Ecological Succession

Video: Biomes: Our Earth’s Major Life Zones (CD)

Interpreting Climatograms

Student Create Notes of Project Presentations

Project: Individual Biome Poster

Comparing pictures – Human impact on Biomes