

**Who's For Dinner? Lesson Plans
Grade 5**

**Written and Developed by
Michelle Lewis and Sharon Morris
Edited by Dr. Julie Green**



Who's For Dinner? Wesselman Nature Society Program

1. **Topic: Who's For Dinner? Lesson Plan 1 – Intro to Ecosystems** (prior to field trip)

2. **Names:** Created by Michelle Lewis and Sharon Morris, 07-15-11

3. **Materials:**

Teacher:

Dry erase board and marker

Book: *The Wolves Are Back* by Jean Craighead George (2008)

Index cards – enough for one or two per student

Document camera

Cause and Effect graphic organizer - a copy for each student

Student:

Pencil

4. **Science Standards:**

5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.

5.3.2 Investigate the action of different decomposers and compare their role in an ecosystem with that of producers and consumers.

5. **Notes for the Teacher:**

Note from the authors: This unit was designed in a scripted manner. Anything in quotation marks is what should be said to the students. Anything in regular font is instructions to the teacher. The focus of this unit is to have students discover the idea that every member in an ecosystem is interrelated and vital to its survival. As teachers you should refer back to this concept as much as possible throughout these lessons. We want students to evaluate and answer these two questions:

- *How does this organism that is being viewed contribute to this forest ecosystem?*
- *What would happen if this organism were removed from the ecosystem?*

Lesson Plan Objectives:

- Students will discover that each animal, plant, bird, fungus, insect, and organism has a vital role in the ecosystem.
- Students will be able to explain that an ecosystem is a group of interrelated organisms that rely on one another for basic needs.

Definition of Ecosystem: "The plants and animals that are found in a particular location are referred to as an ecosystem. These plants and animals depend on each other to survive. In a delicate balance, these life forms help to sustain one another in regular patterns. Disruptions to an ecosystem can be disastrous to all organisms within the ecosystem. an example, consider what happens when a new plant or animal is introduced into an ecosystem, where it did not before exist. The new organism competes with the natural organisms from that location for available resources. These unnatural strangers can push other organisms out, causing them to become extinct. This can then affect still other organisms that depended on the extinct organism as a source of food. Throughout the

history of the Earth, the delicate balance found within ecosystems has been disrupted by natural disasters such as fires, floods, storms, volcano eruptions, and so forth. In recent years however, mankind has increasingly been affecting the many ecosystems around the world.” (<http://www.kidsgeo.com/geography-for-kids/0164-ecosystems.php>)
An ecosystem can be large, like the ocean, or small like a log or an aquarium.

6. **Activities/Procedures:**

A. **Introduction/Background Knowledge** – Ask the students the questions below and record their answers on the dry erase board to refer back to after the read aloud.

- “Is there an animal or critter that you’d like to get rid of?”
- “Is there an animal that scares you that you wish didn’t even exist?”
- “If you could get rid of one animal/organism on this earth, what would it be and why?”
- “Raise your hand if you know an *ecosystem* is.”
- “Can anyone tell me what that word means?”

B. **Procedure**

- “Keeping these questions in mind, we are going to read *The Wolves Are Back* by Jean Craighead George.”
- Throughout and after the reading of the book, ask these questions:
 - “What type of ecosystem is this?” (Wooded forest and meadow)
 - “Where is this ecosystem located?” (Yellowstone Park)
 - “What types of animals/organisms interact in this ecosystem?” (possible answers include: wolves, elk, ravens, eagle, grizzly bear, magpies - bird, mice, beetles, deer, antelope, sparrow - bird, grass, flycatcher - bird, bison, aspen trees, willow trees, beaver, water birds, fish, frogs, dragonflies, moose, coyotes, squirrels, badgers, flowers, mountain sheep, bees, butterflies, hummingbirds)
- “After reading this book and seeing how the wolves affected the ecosystem as a whole, what can we infer about the nature of ecosystems and can we come up with our own definition or explanation of an ecosystem?”
 - Write students’ answers and characteristics and formulate a written definition in the students’ own words.
 - Compare this definition to Webster’s Dictionary, “a community of animals and plants, together with its environment.” Discuss the details that Webster’s definition may have left out.
 - Record the definition on the dry erase board to use later in the lesson.
- Restate the main idea: “Organisms are interrelated within an ecosystem.”

C. **Assessment - Graphic Organizer and Vocabulary Cards**

- Show the class the cause and effect graphic organizer on the document camera.
- “You will use this organizer to show the relationship of adding or taking away an animal to the changes in an ecosystem.”
- “The first cause of change is the reintroduction of wolves in Yellowstone Park.”
- Discuss with the students the effects of that reintroduction and record under the effect column and record one or two effects to model desired work.
- With partners, have students write at least three more effects and collect for assessment.

- “Next will be a on making vocabulary cards using the Frayer model (Moss & Lapp 2010). This will be the way all vocabulary cards are made for this unit.
- “When the unit is done, the cards will be taped or glued into the science journal for new vocabulary.”
- Pass out an index card to each student.
- Have the students create the blank card divided into the four squares as shown in example below.
- Assist the students in filling in each of the four quadrants as a guided practice on the word “ecosystem”, as demonstrated here.
- Have students write their names on the back of the card and turn for assessment.

<p>Definition: A community of animals and plants, together with its environment. A system made up of an ecological community of living things interacting with their environment especially under natural conditions.</p>	<p>Characteristics: Animals, plants, habitats. Depend on each other to survive. All organisms are important and needed to keep it in balance. Can be as big as an ocean, Can be as small as an aquarium</p>
<p>ecosystem</p>	
<p>Examples: Pond, ocean, aquarium, log, forest, desert. Wesselman Woods is an ecosystem.</p>	<p>Non-Examples: Factory Machines</p>

D. Extension Activities (Accommodations/Modifications)

- For students with disabilities:
 - Pair students with disabilities or struggles with a student that is more proficient.
 - Give students with disabilities preferential seating in front of the dry erase board to minimize distraction.
- For gifted students:
 - Have these students list effects that were not listed in the book but would be likely to occur.
 - Students could do another graphic organizer listing the cause and effect of removing any of the unwanted animals listed in the introduction of the lesson.

E. Closure

- “Can anyone tell me what the main idea was during today’s lesson? (Student reply should be something along the lines of *Organisms are interrelated in an ecosystem and that every organism is important*)

- “Tomorrow we will be going to Wesselman Woods for a field trip. While we are there, here are a few questions we will want to think about:
 - “How does this thing we are viewing contribute to this forest ecosystem?”
 - “What would happen if this item were removed from the ecosystem?”

7. **Annotated Bibliography of Books for Students:**

George, Jean Craighead. *The Wolves Are Back*. New York: Dutton Children’s Books, 2008. Print.
This beautiful picture book illustrates the balance of the ecosystem in Yellowstone National Park. The wolves had been removed in 1926, but there were unexpected consequences for the ecosystem. See the changes that occur in the Park once the wolves are reintroduced. Reading Level: 3.5

8. **Annotated Bibliography of Websites for Students:**

“Ecosystems.” *Geography for Kids – By KidsGeo.com* n.d. Accessed 07-12-11.
<<http://www.kidsgeo.com/geography-for-kids/0164-ecosystems.php>>.

This website discusses ecosystems. There are a few pictures and a good definition of ecosystems at this site.

9. **Resources Used for Writing this Lesson Plan:**

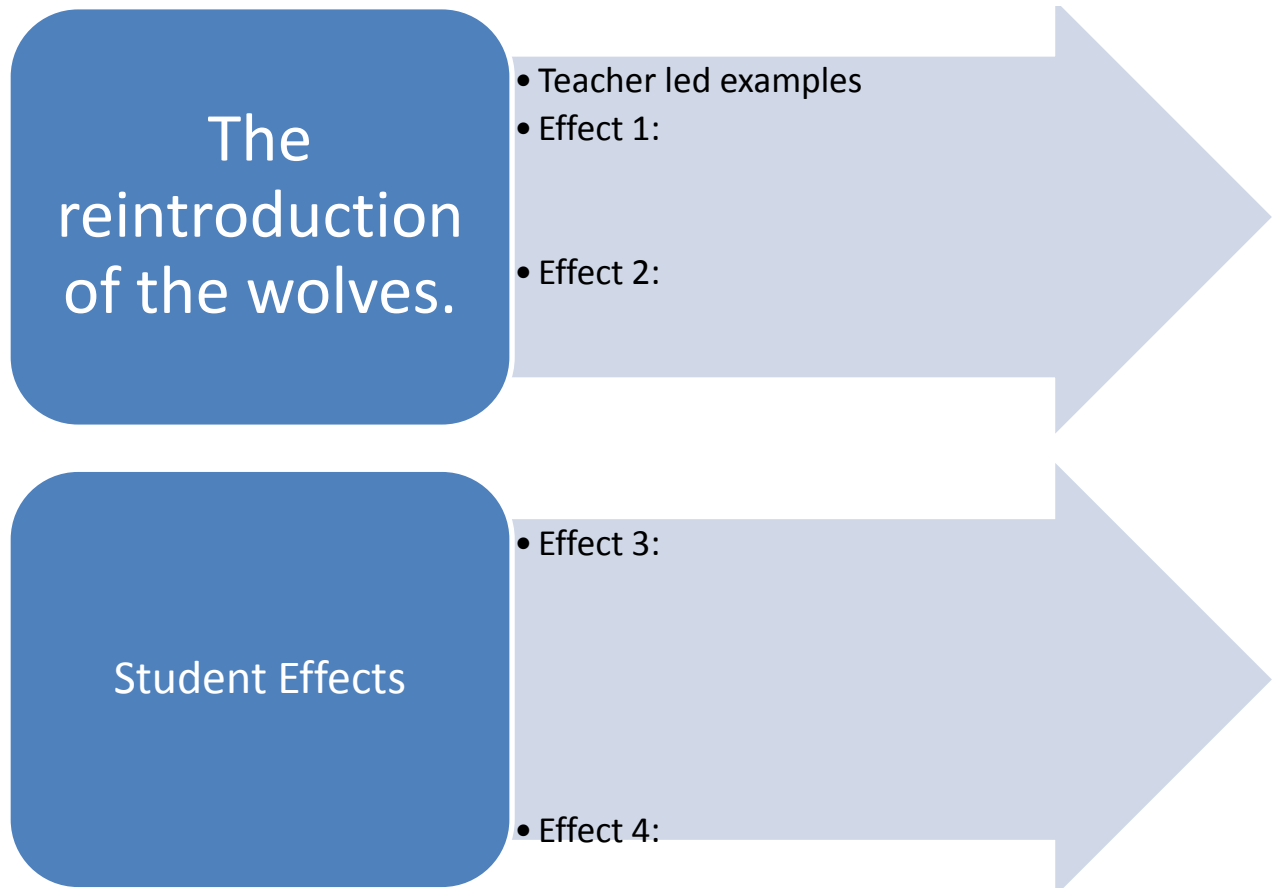
Webster’s New World Dictionary and Thesaurus, 2nd Ed. New York: Hungry Minds, 2002. Print.

Moss, Barbara and Diane Lapp. *Teaching New Literacies in Grades K-3, Resources for 21st-Century Classrooms*. New York: The Guilford Press, 2010. Print.

Merriam-Webster’s Student Dictionary. n.d. Accessed 07-13-11.

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=ecosystem>>

Graphic Organizer



Who's For Dinner? Wesselman Nature Society Program Field Trip Today

1. Review the Main Idea and Essential Questions before the field trip

Main idea: Each animal, plant, bird, fungus, and insect has a vital role in the ecosystem.

- Questions the students will be keeping in mind during the field trip at Wesselman Woods:
 - How does this thing we are viewing contribute to this forest ecosystem?
 - What would happen if this item were removed from the ecosystem?

1. Topic: Who's For Dinner? Lesson Plan 2 – Predator and Prey (after the field trip)

2. Names: Created by Michelle Lewis and Sharon Morris, 07-15-11

3. Materials:

Teacher:

- Dry erase board and marker
- Computer access for the entire class
- Index cards - at least two per student

Students:

- Pencil
- Paper

4. Science Standards:

- 5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.
- 5.3.2 Investigate the action of different decomposers and compare their role in an ecosystem with that of producers and consumers.

5. Notes for the Teacher:

Note from the authors: During the field trip students will experience and learn things that do not necessarily align with the standards listed. Allow students to discuss their experiences and the learning that occurred even if it does not meet the goal and objectives. It is important that students are interested in the material and have a willingness to learn more. Take time before this lesson to recap the day's events and take advantage of any teachable moments.

Lesson Plan Objectives:

- Students will discover that each animal is either a predator, prey or both.
- Students will demonstrate understanding of the words predator and prey through the creation of vocabulary cards and through writing an original poem about an animal.

6. Activities/Procedures:

A. Introduction/ Background Knowledge:

- “Yesterday we participated in a field trip titled ‘Who’s for Dinner?’ We should have enough background knowledge to answer a few questions.” (Pose the questions below to the class to assess students’ prior knowledge)
- What is a predator?
- What is prey?
- Are predators bad? Why or why not?
- What happens to an ecosystem if we take away predators?
- What do your friends or members of your family feel about predators?
- Why do they feel that way?
- Are their feelings based on their own experience?
- Something they saw on television or something they read?
- What influences people's attitudes?
- Are humans predators? Explain
- What about prey? How do prey protect themselves? (hide, fight, run away)
- “Now, let’s make our own definition of predator and prey.” Write this on the dry erase board and save for the students to use when making their vocabulary cards.

B. Procedure

- “Now that have discussed what it means to be a predator or prey. You can use your knowledge to put together a food web. A food web is a graphic organizer that shows who eats whom. You must think critically about what you know of these animals and decide who they would have for dinner and who would have them for dinner.”
- Have students go to the website below and complete the food web.
http://teacher.scholastic.com/activities/explorer/ecosystems/be_an_explorer/map/foodweb_play.htm
- “Throughout this lesson we have talked about animals as both predator and prey. Many animals have a natural predator and an animal that they prey upon if they are carnivore or omnivores.(Be sure that students know the definition of carnivores and omnivores. Carnivore is a meat eater: omnivore eats both plants and meat.) It is a constant connection which is shown in the food web. Everything is connected somehow and many animals have more than one connection. We are going to do an activity today that is going to rely on your creative thought. We are going to express through writing how an animal may feel being both predator and prey.”
- Read the following poems aloud:
 - Who am I Riddle
By Sharon Morris

I am easily hidden.
I like to eat tiny rodents.
I am very quiet.
I might sneak up on you!

I am afraid of hawks and eagles;
They want to eat me for lunch!
They catch my long tail,

While I try to slither away.

Who am I? (Answer: A snake)

- Dinner Menu Tonight
By Michelle Lewis

Soaring above the trees, feeling hungry
All day I scan and search to fill my belly
But I am not the only one looking to feed
I hope the bad guys never see me
Hooray! A tasty mole is scurrying below
I nosedive in the nick of time to his demise
I rest to enjoy my kill and eat to my fill
Rustling leaves perk my ears up
As I lift my wings to escape I know my fate
Snap! The fangs clamp tight
I guess I am on the menu tonight.

- “After listening to these poems, you should have an idea of what is expected but to be clear I will lay out a few guidelines:
 1. Poems do not have to rhyme but may.
 2. There should be at least three lines to your poem
 3. You should be keeping a specific animal in mind while writing and you must talk about what they prey upon and what preys upon them.
- Give students class time to brainstorm and begin writing their poems. Tell them when you expect them to be finished and allow class time to work.

C. Assessment (Poems/ Vocabulary Cards)

- Students should turn in completed poems that adhere to the three guidelines.
- Pass out an index card to each student and have the students create the blank card divided into the four squares as was done in the last lesson.
- Assist the students in filling in each of the four quadrants as a guided practice on the word “predator”, as demonstrated below.
- Have students fill out a similar card for the word “prey”
- Have students write their names on the back of the card and turn for assessment.

Definition: An animal that lives by killing and eating other animals.	Characteristics:
Examples:	Non-Examples:
<div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 0 auto;"> predator </div>	

Definition: an animal hunted or killed by another animal for food	Characteristics:
Examples:	Non-Examples:
<div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 0 auto;"> prey </div>	

D. Closure

- “Can someone remind me what the definition of a predator is? What is prey? Can anyone name an animal that is both? Can anyone name me an animal that is only one of those things?”
- After reviewing the information learned, have students volunteer to share their poetry with the rest of the class. If it was not directly stated see if students could identify what animal the student was referring to.
- After everyone who wanted to share has had the opportunity, give a preview of the next day’s lesson with the following prompt: “Tomorrow we are going to expand our food chain even more and think about other organisms that contribute to ecosystems. We saw signs of these three new categories of organisms on our field trip. I won’t tell you what they are but the proof of them was all over the floor of the woods.”

E. Extension Activities (Accommodations/Modifications)

- For kinesthetic learners or ADHD students who need to release excess energy, do a predator/prey tag game. Each student is assigned a forest animal. You may tag anyone you eat, then they are out. See who the biggest predator is!
- For students with special needs, the poem assignment can be altered to a drawing that includes an animal, what it eats, and what eats it.
- Using a Venn diagram and a variety of pictures of animals, have a student sort the pictures into categories of prey, predator, and both.
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7. Annotated Bibliography of Books for Students:

Kalman, Bobbie and Jacqueline Langille. *What Are Food Chains and Webs?* New York, Crabtree Publishing Company, 1998. Print. Page 15 is specifically about predators and prey.

This book has actual photographs of many organisms to illustrate the idea of the food chain, the food web, producers, consumers and decomposers. It introduces and illustrates vocabulary such as herbivore, carnivore and omnivore. There are food webs found in the forest, on an ocean reef, in the arctic, and on a savannah. Index and glossary are at the end of the book. It is at a 6.3 reading level.

8. Annotated Bibliography of Websites for Students:

"Food Web." *Scholastic*. n.d. Accessed 07-13-11.

<http://teacher.scholastic.com/activities/explorer/ecosystems/be_an_explorer/map/foodweb_play.htm>

This online game allows students to connect animals and organisms together to create an interactive food web. The colors are bright and attention grabbing

9. Resources Used for Writing this Lesson Plan:

Merriam-Webster's Student Dictionary. n.d. Accessed 07-13-11.

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=predator>>

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=prey>>

"Predator vs. Prey - TPW Magazine, September 2008." *Texas Parks and Wildlife*. Sept, 2008. Accessed 07-13-11.

<<http://www.tpwd.state.tx.us/learning/resources/keep texas wild/predators/activities.phtml>>

1. Topic: Who's For Dinner? Lesson Plan 3 - Producers, Consumers, Decomposers

(after the field trip)

2. **Names:** Created by Michelle Lewis and Sharon Morris, 07-15-11

3. **Materials:**

Teacher:

Three Circle Venn diagram included below

Dry erase board and markers

Poster board or surface to show timeline of leaf decomposition

Index cards, at least three per student

Student:

Science journal

Pencil

Partially decomposed leaf (to be found outside during the lesson)

4. **Science Standards:**

5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.

5.3.2 Investigate the action of different decomposers and compare their role in an ecosystem with that of producers and consumers.

5. **Notes for the Teacher:**

Lesson Plan Objectives:

- Students will be able to compare and contrast producers, consumers and decomposers.
- Students will discover that each animal, plant, bird, fungus and insect play a role in the woodland forest as a producer, consumer or decomposer.

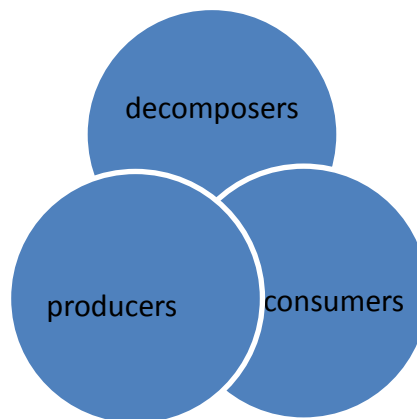
6. **Activities/Procedures:**

A. Introduction/Background Knowledge:

- “We have been discussing the food web and animals as predator and prey. There was a word we used to describe the type of environment that they live in where they all are connected. What was that term? (Ecosystem)
- “What did we need to know about ecosystems? (That every member contributes to it and the removal of any organism could completely change the ecosystem.)
- “Well there are a few other types of organisms in ecosystems that are vital to its balance. I said yesterday that the evidence of them could be found on the floor of the woods. Does anyone know who I am talking about?” (Decomposers, producers and consumers.)
- Record the responses from the prompts below on a dry erase board. Focus on characteristics and definitions of the terms decomposer, consumer and producer.
- “What is a decomposer? Why are they important? What did we see at Wesselman Woods that was a decomposer?”
- “What is a consumer? Why are they important? What did we see at Wesselman Woods that was a consumer?”
- “What is a producer? Why are they important? What did we see that was a producer?”
- “To illustrate the questions we just discussed think about a tree in your yard. Every year the leaves fall to the ground and we either rake them up or let me stay where they are for the rest of the year. After time, they break down and return to the soil. Imagine if they didn’t. What if year after year the leaves fell but did not break down. What would your yard look like in a year? What about 20 years? What about 1,000 years? You may not have a yard anymore but a mountain of leaves! This is what life would be like without decomposers and consumers. To have those organisms we must have producers. They all are important to a balanced ecosystem.”

B. Procedure

- “Today we are going to do an activity related to the decomposition of leaves. We are going to see the various stages of decomposition firsthand and create a timeline of a leaf’s break down.”
- Before we go outside we need to review a few rules:
 - Do not speak when I, or another student is speaking.
 - Stay with the class and do not go anywhere you should not be. This is not break time. It is class time.
 - Listen and follow directions the first time they are given.
- To do this activity you must have access to a tree, preferably in the fall. Students will look underneath the tree to find leaves in various stages of decomposition. The leaves can be almost whole all the way to being a tiny bit left. Once every student has selected a decomposing leaf, they will sit and wait to be called upon to place it in a decomposition timeline. Students will place their leaf in relation to other’s decomposition. The left should be least decomposed and the right side should be almost completely decomposed. This timeline is meant to show changes over time and illustrate nature’s way of recycling. Use paper or poster board to make the leaves stand out.
- After students have all placed their leaves correctly, they will write in their science journals while sitting outside. They will draw pictures of leaves in various stages of decomposition, and answer these questions:
 - “Where did it happen?”
 - “What decomposed it?”
 - “What was the producer?”
 - “What consumes the leaves?” (bugs, bacteria)
- Students should draw a picture of the ecosystem that the leaf belongs to (this will likely be a small ecosystem like a residential landscape). They should label any organism that is present as consumer, decomposer or producer.
- Once the students have finished their journaling, bring them back into the classroom to complete the Venn diagram and finish the conversation.
- Within each circle write a student definition of the term as well as examples from the visit outside. Question students if animals can be fit two of these roles like the previous lesson where animals could be both predator and prey.
- “The activity is (to align with standard 5.3.2) model a comparison of decomposers to producers and consumers using a three circle Venn diagram.



C. Assessment (vocab cards/Science journal)

- Pass out an index card to each student and have the students create the blank card divided into the four squares as was done in the first lesson.
- Have the students fill in each of the four quadrants as they did yesterday.
- Today's vocabulary words are: consumer, producer, and decomposer.
- Return the vocabulary cards from the previous days.
- Students tape or glue their vocabulary words into their science journals.

<p>Definition: a living thing (as a green plant) that makes its food from simple inorganic substances (as carbon dioxide and nitrogen) and many of which are food sources for other organisms</p>	<p>Characteristics:</p>	
<p>Examples:</p>	<p>producer</p>	<p>NonExamples:</p>

<p>Definition: a plant or animal that requires complex organic compounds for food which it obtains by preying on other living things or eating particles of organic matter</p>	<p>Characteristics:</p>	
<p>Examples:</p>	<p>consumer</p>	<p>NonExamples:</p>

Definition: an organism (as a bacterium or a fungus) that feeds on and breaks down dead plant or animal matter	Characteristics:
Examples:	NonExamples:

decomposer

D. Extension Activities (Accommodations/Modifications)

- For advanced students who have extra time available, allow them to learn some additional vocabulary words by playing the Producers/Consumers online game at: <http://www.neok12.com/quiz/ECOSYS01>
- Students who are still struggling with creating the vocabulary cards can be paired with students who are proficient at it.

E. Closure

- Final review of the main ideas of this unit
Review the way ecosystems are interrelated.
Review the way predator and prey are interrelated.
Review the way producers, consumers and decomposers are interrelated.
Review the main questions the students are to pose when viewing an animal or organism:
 - “How does this organism contribute to its ecosystem?”
 - “What would happen if this organism was removed from the ecosystem?”
 - “What role does it play in the ecosystem? Predator or prey or both?”
 - “Is it a producer, consumer or decomposer?”

7. Annotated Bibliography of Books for Students:

Fleiser, Paul. *Forest Food Webs*. Minneapolis, Lerner Publications Company, 2008. Print.
This book is a perfect complement to the forest wood web being studied in this unit. It discusses forest habitats, forest plants, forest plant eaters, forest decomposers and how people affect the forest. It has a glossary and an index. Actual photographs are throughout the book. It is at a 3.3 reading level.

Kalman, Bobbie and Jacqueline Langille. *What Are Food Chains and Webs?* New York, Crabtree Publishing Company, 1998. Print.

This book has actual photographs of many organisms to illustrate the idea of the food chain, the food web, producers, consumers and decomposers. It introduces and

illustrates vocabulary such as herbivore, carnivore and omnivore. There are food webs found in the forest, on an ocean reef, in the arctic, and on a savannah. Index and glossary are at the end of the book. It is at a 6.3 reading level.

Parker, Steve. *Microlife That Rots Things*. Chicago, Raintree, 2006. Print.

Actual microscopic photographs are interwoven in this book about decomposers. It is about everything that is rotting and decaying. The reader learns about mites, maggots, grubs, worms, mold, fungus, mushrooms, spores and bacteria. The microscopic photographs are fabulous and captivating. The glossary and index helps the reader along. It is at a 4.8 reading level.

Pfeffer, Wendy. *A Log's Life*. New York, Simon & Schuster Books for Young Readers, 1997. Print.

This artistic picture book is written for students looking at rotting logs. The illustrations are made by pieces of watercolor paper that have been cut, painted, shaped and glued together. It will appeal to the more artistic student. It covers the life cycle of a tree and forest ecology. It is at a 3.5 reading level.

8. Annotated Bibliography of Websites for Students:

"Quiz Game: Ecosystems: Producers & Consumers." *neoK12 - Educational Videos, Lessons and Games for K-12 School Kids*. n.d. Accessed 07-13-11. <<http://www.neok12.com/quiz/ECOSYS01>>

This game allows students to match vocabulary words with their definitions. There is immediate feedback for answers. A picture is unveiled as the game is finished.

9. Resources Used for Writing this Lesson Plan:

Merriam-Webster's Student Dictionary. n.d. Accessed 07-13-11.

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=producer>>

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=consumer>>

<<http://www.wordcentral.com/cgi-bin/student?book=Student&va=decomposer>>