



A Lesson on Changing the Ecosystem by Sydney Pelletier

Grade Level: Grade 4

Subject Area: English Language Arts

Lesson Length: 2 hours

Lesson Keywords: Reading, Writing, Changing the Ecosystem

Lesson Description: The goal of this lesson is to allow students the opportunity to utilize the reading, writing, and critical thinking skills they have been developing to learn and be able to discuss the lessons from the reading "Changing the Ecosystem". After reading and rereading the article as needed, this lesson will focus students on being able to understand phrases and ideas presented in this reading through questions regarding vocabulary and discussions with peers on the topics presented within it. They will then be prompted to consider the text more deeply through their argumentative writing assignment in which they will use the text to support their claims.

Common Core Standards Covered with This Lesson

CCSS.ELA-Literacy.RL.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS.ELA-Literacy.W.4.1a: Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.

CCSS.ELA-Literacy.W.4.1b: Provide reasons that are supported by facts and details.

CCSS.ELA-Literacy.L.4.4a: Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.

Lesson Content: Book/Story/Reading Passage

Instructions: Please read the following reading passage as many times as needed (aloud and silent) before starting to go through other lesson pages. Understanding the content of this passage is very important since the lesson activities will be all about this content. Feel free to print the passage if needed.

Changing the Ecosystem

by

Content: A food chain is a link between plants and animals. It starts with a plant. The next part of the link is a plant eater. When the prairie plants were uprooted, the animals that depended on them lost their food source. So while the farmers produced more food for people, they broke the animals food chain.

A food chain is part of a bigger system called a food web. That web links the living things in an ecosystem. The herbivores in that system depend on the plants. If the plants are removed, the herbivores cannot survive. Then the carnivores, the animals that eat other animals, lose their food, too. Remove just one kind of plant from an environment and you disrupt the food web. Plow up the land and you destroy the whole system.

Read the following time-line and figure out the rate of population growth. To do that, divide the bigger number by the smaller number. You can estimate the answer. For example, one million is two times 500 thousand. For between 1880 and 1890 the population more than doubled.

1880 ? ? ? Population of the city is 503,185; farms continue to expand

1890 ? ? ? Population of the city is 1,099,850

1900 ? ? ? Population is 1,698,676

1910 ? ? ? Factories expand in the city; population is 2,185,283

1920 ? ? ? City population has grown to 2,701,705

1929 ? ? ? A farmer near Chicago reports plowing up several frogs as he

? ? ? ? ? got his field ready for planting this spring.

1930 ? ? ? City population is 3,376,438

We do not have population information on the butterflies, but we do know about the bison. By 1880, only a few hundred bison still live in this country. By 1900, Illinois and other Midwestern states were becoming known as the nations breadbasket. Millions of acres of land had been turned from prairie into farms. Read this letter from a farmer to understand what this change meant for the animals.

Dear Martha,

Today, I was plowing the new field, and I saw a meadowlark. I really like that kind of bird. I love its song. Its a good neighbor, too. It eats the insects, and you know we have too many of them. That bird kept flying back and forth. It seemed to be looking for something. Maybe it was looking for its nest from last year. Theres about ten acres of prairie that Ive left near the road. So I thought the bird would go there. But it flew away. Im not sure where it went.

I got the whole field plowed today. Tomorrow well put in the seed. This is going to be a great year. I hope you can come to visit this spring. Of course, well have some work for you to do, but it will be good to be together again.

Task 1: Vocabulary

Instructions: Please complete the following vocabulary activity by choosing the correct meaning of each word selected from the passage and use of each word correctly in a sentence.

Q: 1 WordPhrase: Depended **WordPhraseTier:** 2

Question: In the story, the author says "When the prairie plants were uprooted, the animals that depended on them lost their food source." What does the word "depended" mean in this sentence?

- A: Needs it to live
- B: Likes it
- C: Wants it
- D: Does not need it to live

Question: Which one of the sentences below uses the word "depended" correctly?

- A: Carl depended on vacations every weekend.
- B: Mia liked to have extra snacks during the day, she depended on them.
- C: The bird depended on eating bugs every day to survive.
- D: He depended on playing video games.

Q: 2 WordPhrase: Good Neighbor **WordPhraseTier:** 2

Question: In the story, the author says "It's a good neighbor, too. It eats the insects, and you know we have too many of them." What does "good neighbor" mean in this sentence?

- A: The person who lives in the house next to you
- B: Not helpful and breaking the person's things
- C: Someone who lives very far away
- D: Being helpful, like how neighbors share and help each other

Question: Which of the sentences below uses "good neighbor" correctly?

- A: The coyote is a good neighbor, it keeps eating the chickens I need for eggs.
- B: The lizards are good neighbors, they eat the flies and mosquitos that come in the house.
- C: Henry from down the street is a good neighbor, he talks rude and broke my mailbox.
- D: A bear dug up all of my roses, he is a good neighbor.

Q: 3 WordPhrase: Herbivores **WordPhraseTier:** 3

Question: The author of the story says "If the plants are removed, the herbivores cannot survive." What does the word "herbivores" mean in this sentence?

- A: Animals that only eat meat.
- B: Animals that only eat plants.
- C: Animals that eat meat and plants.
- D: Animals that eat a lot of different things.

Question: Which one of the sentences below uses the word "herbivores" correctly?

- A: Bears eat plants like fruit and also like to eat fish, they are herbivores.
- B: Lions only eat meat like birds and deers, they are herbivores.
- C: Foxes eat berries, worms, and birds, they are herbivores
- D: Rabbits only eat plants like grass and clovers, they are herbivores.

Q: 4 WordPhrase: Population **WordPhraseTier:** 3

Question: In the story, the author says "Read the following time-line and figure out the rate of population growth." What does "population" mean in this sentence?

- A: The location
- B: The age of people
- C: The amount of people living in an area
- D: The amount of houses that are in a certain place

Question: Which of the following sentences uses the word "population" correctly?

- A: The population of Tallahassee is 197,102 people.
- B: The population is Tampa.
- C: 130,000 houses is the population.
- D: The population is Sarasota, Florida.

Task 2: Forum Discussion

Instructions: This discussion forum will have questions for students to respond. Read the posted questions, and respond to each. Students are responsible for posting one initial and two peer responses for each topic.

1 - Importance of Food Chain and Web

The story speaks about the different parts of the food chain and food web in paragraphs 1 and 2. Why are they important and why should we study the effects on them? Explain your reasoning.

2 - Relationship between Animals and Humans

Look at the letter from the farmer to Martha that is at the end of the story. What does this tell you about the relationship between humans and animals? Do you think that they can help each other? Why?

3 - Population Growth

Take another look at the population growth table and the authors statement When the prairie plants were uprooted, the animals that depended on them lost their food source. So while the farmers produced more food for people, they broke the animals food chain.. Why is it important to be able to understand that the population has continued to grow over the past few years? How does that population growth affect the food chain and web? Explain your reasoning.?

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Task 3: Writing Activity

Instructions: Look at the following quote from the reading, We do not have population information on the butterflies, but we do know about the bison. By 1880, only a few hundred bison still live in this country. By 1900, Illinois and other Midwestern states were becoming known as the nations breadbasket. Millions of acres of land had been turned from prairie into farms.. From this reading, you learned about how farms and population growth can harm the food chain and web and this quote shows those effects. For your writing assignment, write two paragraphs or 250 words explaining what actions you think can be taken to help protect the food chain and web to prevent these harmful effects you read about. Write in an argumentative format to convince the reader of the importance of the situation and to take these actions. To make your argument strong, use supporting evidence from the reading. Submit your work using the box below.?

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