



Changing the Ecosystem

Reading Level: 4th Grade

CCSSR2—analyze a passage to identify relationships.

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 nation's 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. It's 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. There's about ten acres of prairie that I've left near the road. So I thought the bird would go there. But it flew away. I'm not sure where it went.

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

**Changing the Ecosystem QUESTIONS**

Read the questions. Re-read the text. Then think through the answers.

Choose the **best** answer for each item. After you answer the questions, check with another student to learn and why they chose their answers.

<p>1. What is the first part of a food chain?</p> <p>a. a flower b. a plant c. a prairie d. an animal</p>	<p>2. What do herbivores do?</p> <p>a. They help plants grow. b. They eat plants. c. They protect plants. d. They eat hebs.</p>
<p>3. At which time did Chicago's population grow at the greatest rate?</p> <p>a. 1880-1890 b. 1890-1900 c. 1900-1910 d. 1920-1930</p>	<p>4. What were the frogs doing before the farmer plowed them in 1929?</p> <p>a. eating b. hibernating c. resting d. hiding</p>
<p>5. Why did the farmer think the meadowlark would nest in the prairie?</p> <p>a. He didn't know it needed 20 acres. b. It was near the road. c. Meadowlarks never lived there before. d. Birds eat insects.</p>	<p>6. Why did the meadowlark leave the farm's field?</p> <p>a. There was too much noise. b. It didn't like corn. c. It needed at least 20 acres of prairie. d. It was too close to the road.</p>
<p>7. Which of the following is the best summary of this reading?</p> <p>a. One farmer changed the prairie a lot. b. More farming led to less prairie. c. Meadowlarks are moving. d. Prairies have changed for 50 years.</p>	<p>8. Population means</p> <p>a. How many animals there are in a place. b. How many plants there are in a place. c. How many people there are in a place. d. All of the above.</p>

Time-Line Connections

The time-line in the reading tells some changes that took place. Choose one, add one more change that you think probably also took place at that time. For example, if farms expanded in 1880, then prairies got smaller.

Year What happened

Another change that probably happened.

Then summarize the time-line. Write a one paragraph explanation of what it means to prairie history. Use information from the time-line, information you added, and what you know about prairies.