Lake Willow Links

Trace where people fit in a lake food web and how their choices affect it.

L.5.3B.4 "Communicate scientific or technical information that explains human positions in food webs and our potential impacts on these systems."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the food path from algae to people, circle two human actions that can change the web, and number the steps that show how catching too many perch could change the amount of algae.

People in the Lake Willow Food Web

1. At Lake Willow, green algae use sunlight to make food. Tiny water fleas eat the algae. Minnows eat water fleas and some insect larvae. Perch eat minnows, while herons and people both eat perch. These feeding links form a food web, not a single line, because many animals eat more than one kind of food. People belong in the web when they catch and eat perch.

2. Catching a few perch for dinner may change little. But if people catch too many, fewer perch remain to eat minnows. More minnows might then eat more water fleas. With fewer water fleas grazing on algae, algae could increase. Herons may also have fewer perch to eat. A catch limit, which restricts how many fish a person keeps, can help leave perch for other hunters.

3. People can affect the web without fishing. Rain can wash fertilizer from lawns into Lake Willow. Extra nutrients may cause algae to grow quickly. When large amounts of algae die, bacteria break them down and use oxygen in the water. Low oxygen can harm minnows and perch. Using less fertilizer and keeping a strip of grass near shore can reduce the nutrients washing into the lake.

2 ANSWER WITH EVIDENCE

Use the passage

1. Explain how people fit into Lake Willow's food web. Trace one food path from algae to people.

2. How could catching too many perch change the amount of algae in the lake? Explain the steps.

3. Explain how fertilizer washed from lawns could harm perch, even though perch do not eat fertilizer.

4. If algae increase, does that prove fertilizer washed into the lake? Explain using another possible cause from the passage.

3 YOUR TURN

Your own words

A neighbor plans to catch many perch and fertilize a lawn just before rain. Write a four-sentence note explaining why people are part of this food web, how each action could affect the lake, and one change you recommend.

ANSWER KEY

Lake Willow Links

GRADE 5 · L.5.3B.4

PART 1 · READ AND MARK

Underline the food path from algae to people, circle two human actions that can change the web, and number the steps that show how catching too many perch could change the amount of algae. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Explain how people fit into Lake Willow's food web. Trace one food path from algae to people.	**Water fleas eat algae, minnows eat water fleas, perch eat minnows, and people catch and eat perch.**
2	How could catching too many perch change the amount of algae in the lake? Explain the steps.	**Fewer perch may allow more minnows to survive. More minnows may eat more water fleas, leaving fewer water fleas to eat algae. Algae could increase.**
3	Explain how fertilizer washed from lawns could harm perch, even though perch do not eat fertilizer.	**Fertilizer adds nutrients that may cause algae to grow quickly. When much of the algae dies, bacteria break it down and use oxygen in the water. Low oxygen can harm perch.**
4	If algae increase, does that prove fertilizer washed into the lake? Explain using another possible cause from the passage.	**No. Catching too many perch could lead to more minnows and fewer water fleas eating algae, so algae could increase without fertilizer.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

People are part of Lake Willow's food web because they catch and eat perch. Catching too many perch could leave more minnows to eat water fleas, so algae might increase. Rain could wash lawn fertilizer into the lake, where extra algae growth could eventually lead to low oxygen that harms fish. Please keep fewer perch and use less fertilizer.

Accept other clear paths and cause-and-effect explanations supported by the passage. Students should describe possible effects, not claim that every change will happen.