Pond Web Changes

Trace feeding links to predict changes in a pond.

L.5.3B.3 "Design and interpret models of food webs to justify what effects the removal or the addition of a species (i.e., introduced, or invasive) would have on a specific population and/or the ecosystem as a whole."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the sentences that tell what eats what. Circle the species added in one imagined change and the species removed in the other.

Who Eats Whom at the Pond?

1. A food web shows how living things are connected by food. In a meadow, an arrow from clover to rabbit means energy moves from the plant to the animal that eats it. A pond food web works the same way. Green algae use sunlight to grow. Mosquito larvae and small snails both eat the algae. Arrows from the algae point toward these two pond animals.

2. Minnows eat mosquito larvae and small snails. Herons stand in shallow water and catch minnows. Larger fish called bass also eat minnows, but this pond has no bass yet. On a warm morning, you might see mosquito larvae wriggle near the surface while a heron waits along the bank. Each animal is connected to others by what it eats.

3. A change to one pond population can affect several others. Imagine that people release bass into this pond. The bass survive and feed on minnows. Now imagine a different change: herons leave the pond after their nesting trees are cut down. These are two separate possible changes, not events that happen together. The feeding links can help you predict what might happen next.

2 ANSWER WITH EVIDENCE

Use the passage

1. Write a chain of arrows from algae to herons that passes through snails and minnows. Point each arrow from food to eater.

2. If bass are added, what might happen to minnows and mosquito larvae? Explain using feeding links.

3. If herons leave and no bass are added, what might happen to minnows and mosquito larvae? Explain using feeding links.

4. If bass are added, how might the heron population change? Use the food web to explain.

3 YOUR TURN

Your own words

A new water beetle arrives and eats mosquito larvae. Draw a food web with the beetle and at least four pond species, using arrows from food to eater. Then write two sentences predicting how the beetle could affect minnows and algae.

ANSWER KEY

Pond Web Changes

GRADE 5 · L.5.3B.3

PART 1 · READ AND MARK

Underline the sentences that tell what eats what. Circle the species added in one imagined change and the species removed in the other. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Write a chain of arrows from algae to herons that passes through snails and minnows. Point each arrow from food to eater.	**Algae → snails → minnows → herons.**
2	If bass are added, what might happen to minnows and mosquito larvae? Explain using feeding links.	**Minnows may decrease because bass eat them. Mosquito larvae may increase because fewer minnows eat them.**
3	If herons leave and no bass are added, what might happen to minnows and mosquito larvae? Explain using feeding links.	**Minnows may increase because fewer are eaten by herons. More minnows may eat more mosquito larvae, so the larvae may decrease.**
4	If bass are added, how might the heron population change? Use the food web to explain.	**Herons may decrease because bass and herons both eat minnows. Bass may leave fewer minnows for herons to catch.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Algae → mosquito larvae → minnows → herons; mosquito larvae → water beetle. As beetles eat mosquito larvae, minnows may have less food and decrease. With fewer mosquito larvae eating algae, the algae may increase.

Accept other correctly connected food webs with at least four pond species plus the beetle. Predictions should follow the student's feeding links and allow for uncertainty because minnows also eat snails.