

Pond Life Links

Trace how living and nonliving factors support survival.

5.12.A “observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that tells how an organism uses, is helped by, or is harmed by a biotic or abiotic factor, then circle the factor named in that sentence.

Life at Willow Pond

- ① At the edge of Willow Pond, sunlight warms the shallow water in spring. Green algae use the sunlight, water, and carbon dioxide to make food. Tiny water fleas eat algae. Young bluegills eat water fleas, and a great blue heron may catch a bluegill. These living things are biotic factors. Sunlight, water, rocks, and temperature are nonliving, or abiotic, factors.
- ② Reeds grow near the shore, with roots in muddy soil. Their stems give dragonfly nymphs places to hide from bluegills. The nymphs eat mosquito larvae, and adult dragonflies later eat small flying insects. When pond water holds enough dissolved oxygen, bluegills can breathe with gills. Cool, moving water usually contains more oxygen than warm, still water.
- ③ A summer drought can lower Willow Pond's water level. Less water leaves fewer cool, shaded places for bluegills and may reduce dissolved oxygen. If algae grow too much, they can use oxygen at night, leaving less for fish. In a healthy pond, enough water, oxygen, plants, and food support many organisms. Each organism depends on both living and nonliving parts of its ecosystem.

2

ANSWER WITH EVIDENCE

Use the passage

1

Which three abiotic factors do green algae use to make food?

2

How do reeds help dragonfly nymphs survive?

3

Why does cool, moving water help bluegills survive?

4

Describe one way a summer drought can make survival harder for bluegills.

3

YOUR TURN

Your own words

Choose three organisms in a healthy forest ecosystem. For each organism, name one biotic factor and one abiotic factor that helps it survive, and describe how each factor helps.

ORGANISM	BIOTIC FACTOR AND HOW IT HELPS	ABIOTIC FACTOR AND HOW IT HELPS

PART 1 • READ AND MARK

Underline each sentence that tells how an organism uses, is helped by, or is harmed by a biotic or abiotic factor, then circle the factor named in that sentence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which three abiotic factors do green algae use to make food?	Sunlight, water, and carbon dioxide.
2	How do reeds help dragonfly nymphs survive?	Reed stems give dragonfly nymphs places to hide from bluegills.
3	Why does cool, moving water help bluegills survive?	Cool, moving water usually has more dissolved oxygen, which bluegills need to breathe with their gills.
4	Describe one way a summer drought can make survival harder for bluegills.	A drought can leave fewer cool, shaded places for bluegills or reduce dissolved oxygen in the pond water.

PART 3 • YOUR TURN (SAMPLE ANSWER)

ORGANISM	BIOTIC FACTOR AND HOW IT HELPS	ABIOTIC FACTOR AND HOW IT HELPS
Eastern gray squirrel	Oak trees provide acorns for food.	A tree cavity shelters it from rain and wind.
Earthworm	Dead leaves provide food.	Moist soil keeps its body from drying out.
Oak tree	Bees pollinate its flowers, helping it make acorns.	Sunlight helps it make food.

Accept any accurate organism, biotic factor, abiotic factor, and survival connection for a healthy forest. Biotic factors must be living or once-living, and abiotic factors must be nonliving.