

Stream Survival Roles

Trace how a stream organism's niche supports its survival.

LS.6.d "the niche of each organism supports survival."

NAME _____

DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline every mention of the three focal organisms: mayfly nymphs, rainbow trout, and great blue herons. For each organism, circle a food source, a place or condition, and a body feature or shelter that supports survival.

Life Along Clear Brook

- ① At the edge of Clear Brook, three focal organisms use the same stream in different ways: mayfly nymphs, rainbow trout, and great blue herons. A mayfly nymph lives underwater among stones. It clings to rocks in fast, oxygen-rich water and scrapes algae from their surfaces. This place gives the nymph food, shelter from the current, and dissolved oxygen for breathing. Its small body and gripping claws help it remain in this part of the stream.
- ② Rainbow trout hold positions in deeper, cooler pools near the stream's bottom. They eat mayfly nymphs and other small aquatic animals. Fallen logs and overhanging banks provide hiding places where trout can avoid predators and wait for food. Cool water holds more dissolved oxygen than warm water, which helps trout breathe through their gills. By using a pool's food, cover, and water conditions, trout survive in a role different from the nymph's along the brook.
- ③ Great blue herons hunt along the shallow shore, where their long legs let them wade without soaking their feathers. They watch quietly and spear fish or frogs with their long bills. Nearby trees offer nesting sites above ground. Each resource and body feature fits the heron's niche. If pollution reduced the stream's oxygen, mayfly nymphs and trout could decline. With fewer fish available, herons would have less food. Changes to one part of the stream can therefore affect several niches.

2

ANSWER WITH EVIDENCE

Use the passage

1

Which part of the mayfly nymph's niche provides food, and which part provides oxygen?

2

How do fallen logs and overhanging banks support rainbow trout survival?

3

Describe one way a great blue heron's body helps it hunt in its niche.

4

Explain the chain of effects if pollution reduced oxygen in the stream.

3

YOUR TURN

Your own words

Choose one focal organism from the passage. Complete all three rows of the table with different parts of its niche and explain how each part supports its survival.

FOCAL ORGANISM	NICHE PART FROM THE PASSAGE	HOW IT SUPPORTS SURVIVAL

PART 1 • READ AND MARK

Underline every mention of the three focal organisms: mayfly nymphs, rainbow trout, and great blue herons. For each organism, circle a food source, a place or condition, and a body feature or shelter that supports survival. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which part of the mayfly nymph's niche provides food, and which part provides oxygen?	Algae on rock surfaces provides food. Dissolved oxygen in the fast water provides oxygen for breathing.
2	How do fallen logs and overhanging banks support rainbow trout survival?	They provide hiding places that help trout avoid predators and wait for food.
3	Describe one way a great blue heron's body helps it hunt in its niche.	Its long legs let it wade in shallow water, or its long bill helps it spear fish or frogs.
4	Explain the chain of effects if pollution reduced oxygen in the stream.	Mayfly nymphs and trout could decline. With fewer fish, great blue herons would have less food.

PART 3 • YOUR TURN (SAMPLE ANSWER)

FOCAL ORGANISM	NICHE PART FROM THE PASSAGE	HOW IT SUPPORTS SURVIVAL
Rainbow trout	Deeper, cooler pool with dissolved oxygen	Provides water conditions that help the trout breathe through its gills.
Rainbow trout	Mayfly nymphs and other small aquatic animals	Provides food.
Rainbow trout	Fallen logs and overhanging banks	Provides hiding places to avoid predators and wait for food.

Accept accurate niche parts and survival explanations stated or directly supported by the passage. Students may choose any of the three focal organisms, and they may use different valid details than the sample.