Creekside Choices

Designing a healthier creek for wildlife and people

L.7.3.5 "Design solutions for sustaining the health of ecosystems to maintain biodiversity and the resources needed by humans for survival (e.g., water purification, nutrient recycling, prevention of soil erosion…"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two actions that protect water, circle two actions that support native wildlife, and number the three checks students can make to see whether the plan works.

A Plan for Willow Creek

1. At Willow Creek, rain runs off a school parking lot and rushes down a bare bank. The fast water carries soil into the creek. Mud can cover the gravel where insects live and fish lay eggs. Fewer insects mean less food for fish and birds. The town also draws water from the creek, and extra mud makes that water harder to clean. Along the bank, a fast-growing plant brought from another region has crowded out local flowers that feed bees.

2. A student team proposes a strip of native grasses, shrubs, and flowers between the parking lot and the creek. Their roots hold the bank, while stems slow runoff so some soil settles before water reaches the creek. The team also proposes a shallow rain garden near the lot to absorb some stormwater. These steps could reduce erosion and help protect the town's water supply. Native flowers offer food for bees, and shrubs give birds shelter. Planting only one kind of grass would provide fewer kinds of habitat.

3. Removing the spreading plant takes more than pulling it once. Workers must take out its roots, bag its seeds, and clean their tools so seeds do not travel to another site. They should replant bare spots with native species right away; otherwise, rain could wash away soil and the invader could return. Each month, students can check for new invaders, count different kinds of insects in the planted strip, and look for fresh soil deposits after storms. If the bank keeps losing soil, the team can add more plants to exposed areas.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which two parts of the team's plan would reduce muddy runoff, and how would each work?

2. Why should the team plant several kinds of native plants instead of only one kind of grass?

3. How should workers remove the spreading plant while lowering the chance that it returns or spreads?

4. After a storm, students find fresh soil deposits but no new invaders. What change should they make, and what human resource would it help protect?

3 YOUR TURN

Your own words

A neighborhood pond drains into a creek that supplies a town's water. Lawn fertilizer washes into the pond, and geese trample young native water plants. Design one action for each problem, explain how your actions would protect pond life and the town's water, and describe one way to check whether your plan works.

ANSWER KEY

Creekside Choices

GRADE 7 · L.7.3.5

PART 1 · READ AND MARK

Underline two actions that protect water, circle two actions that support native wildlife, and number the three checks students can make to see whether the plan works. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which two parts of the team's plan would reduce muddy runoff, and how would each work?	**The planted strip would hold the bank with roots and slow runoff with stems. The rain garden would absorb some stormwater.**
2	Why should the team plant several kinds of native plants instead of only one kind of grass?	**Different native plants provide more kinds of habitat, including food for bees and shelter for birds.**
3	How should workers remove the spreading plant while lowering the chance that it returns or spreads?	**They should remove its roots, bag its seeds, clean their tools, and promptly replant bare spots with native species.**
4	After a storm, students find fresh soil deposits but no new invaders. What change should they make, and what human resource would it help protect?	**They should add more plants to exposed areas of the bank. Reducing soil runoff would help protect the town's water supply.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would ask neighbors to sweep spilled fertilizer off sidewalks so less washes into the pond. This could limit excess algae, protecting pond animals and the creek water the town must clean. I would put protective cages around young native water plants so geese cannot trample them, giving small animals more shelter. Each month, I would check for new plant growth and algae blooms.

Accept other practical actions if the student explains how they address both problems and protect pond life and the water supply. The proposed check should provide evidence that at least one action is working.