Marsh Life Links

Trace how land, water, and air support a salt marsh.

E.4.9C.4 "Research and explain how systems (i.e., the atmosphere, geosphere, and/or hydrosphere) interact and support life in the biosphere."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one way water changes the ground, circle something the ground gives marsh grass, and write 1 and 2 beside two ways air supports living things. These marks will help you trace how Earth's systems support life.

Where the Tide Meets the Land

1. A salt marsh lies where land meets the sea. Twice a day, ocean tides push water into the marsh and then pull it back out. This moving water is part of the hydrosphere. It carries tiny bits of rock and soil, called sediment, onto the marsh. As the water slows, some sediment settles. Over time, it helps build the muddy ground where marsh grass grows.

2. That muddy ground is part of the geosphere. Marsh grass roots grip the mud, so less of it washes away when the tide returns. The roots also take in minerals from the ground. The tide brings water to the grass, but seawater contains salt. Marsh grass can live in this salty place. Its stems give small crabs places to hide from birds.

3. Air above the marsh is part of the atmosphere. Marsh grass takes in carbon dioxide from the air and uses sunlight to make its own food. Birds take in oxygen from the air to live. The grass, crabs, and birds belong to the biosphere. When water leaves sediment, mud holds roots, and air supplies gases, these systems work together to support life in the marsh.

2 ANSWER WITH EVIDENCE

Use the passage

1. How does the tide help build ground where marsh grass can grow?

2. How do marsh grass roots affect the ground when the tide returns? Why might this help crabs?

3. Name two different Earth systems that give marsh grass something it needs. What does each system give it?

4. How do the atmosphere and hydrosphere each support a different living thing in the marsh?

3 YOUR TURN

Your own words

Imagine a pond near a school has several weeks with little rain. Write three sentences explaining how this change in the atmosphere could affect the pond water, the ground, and one living thing there.

ANSWER KEY

Marsh Life Links

GRADE 4 · E.4.9C.4

PART 1 · READ AND MARK

Underline one way water changes the ground, circle something the ground gives marsh grass, and write 1 and 2 beside two ways air supports living things. These marks will help you trace how Earth's systems support life. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How does the tide help build ground where marsh grass can grow?	**The tide carries sediment into the marsh. Some settles and helps build muddy ground.**
2	How do marsh grass roots affect the ground when the tide returns? Why might this help crabs?	**The roots grip the mud so less washes away. This helps the grass stay in place, and its stems give crabs places to hide.**
3	Name two different Earth systems that give marsh grass something it needs. What does each system give it?	**Accept any two: the hydrosphere brings water, the geosphere provides minerals, and the atmosphere provides carbon dioxide.**
4	How do the atmosphere and hydrosphere each support a different living thing in the marsh?	**The atmosphere gives birds oxygen. The hydrosphere brings water to marsh grass.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

With little rain falling from the atmosphere, less water enters the pond, so its water level may drop. Mud along the edge may dry out. Frogs may have fewer wet places to lay their eggs.

For Part 3, accept a plausible chain from reduced rain to a change in pond water and ground, then to a living thing. Students may describe a different pond organism if the connection makes sense.