

# Shoreline Survivors

Connect body traits and behaviors to survival in a changing coastal ecosystem.

**LS.7.b** "physical and behavioral characteristics enable organisms to survive within a specific ecosystem."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## 1 READ AND MARK \_\_\_\_\_ Read it twice

**YOUR JOB** Underline each physical characteristic and circle each behavior that helps an organism survive in the mangrove shore. In the margin, write the environmental challenge that each marked trait or behavior helps with.

### Life at the Mangrove Edge

- ① Along Florida's salty mangrove shores, the tide changes the habitat several times each day. Mudskipper fish rest in shallow pools when water is low, then use strong pectoral fins to push across wet mud. Their skin stays moist, and they can take in oxygen through their skin and the lining of their mouth. These physical characteristics let mudskippers move and breathe in places where ordinary fish would struggle during low tide, when pools become warm and crowded.
- ② Above the waterline, mangrove trees have arching prop roots that spread through soft mud. The roots help anchor the trees against waves and tides. They also create protected spaces where young fish and crabs can hide from larger predators. Fiddler crabs live among these roots. At high tide, they retreat into burrows, avoiding fish that enter with deeper water. At low tide, they emerge to feed on tiny bits of decaying material in the mud.
- ③ One shore bird, the reddish egret, hunts in shallow coastal water. Its long legs keep most of its body above the water while it walks through pools. The bird also changes its behavior as it hunts. It may run, turn quickly, spread its wings to make shade, and jab at small fish that seek darker water. This hunting behavior helps the egret find food in bright, open shallows. On the same shore, an egret's long legs would be less useful in deep offshore water.

**2 ANSWER WITH EVIDENCE** \_\_\_\_\_ Use the passage

**1** Name one physical characteristic of a mudskipper. How does it help the fish survive when the tide is low?

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**2** How do mangrove prop roots help both the trees and young animals in the ecosystem?

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**3** Describe what fiddler crabs do at high tide and at low tide. Explain how these behaviors help them survive.

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**4** Why are the reddish egret's long legs useful in shallow pools but less useful in deep offshore water?

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**3 YOUR TURN** \_\_\_\_\_ Your own words

Choose an organism from an ecosystem other than a mangrove shore. Write two sentences that name one physical characteristic and one behavior, then explain how each helps the organism survive in that ecosystem.

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**PART 1 • READ AND MARK**

Underline each physical characteristic and circle each behavior that helps an organism survive in the mangrove shore. In the margin, write the environmental challenge that each marked trait or behavior helps with. Accept any marking that follows this job and points at the right text.

**PART 2 • ANSWERS**

| # | QUESTION                                                                                                    | ANSWER                                                                                                                                                         |
|---|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Name one physical characteristic of a mudskipper. How does it help the fish survive when the tide is low?   | <b>A mudskipper has strong pectoral fins that help it push across wet mud, or moist skin and a mouth lining that help it take in oxygen when water is low.</b> |
| 2 | How do mangrove prop roots help both the trees and young animals in the ecosystem?                          | <b>Prop roots anchor mangrove trees against waves and tides. They also create protected spaces where young fish and crabs can hide from predators.</b>         |
| 3 | Describe what fiddler crabs do at high tide and at low tide. Explain how these behaviors help them survive. | <b>At high tide, fiddler crabs retreat into burrows to avoid fish. At low tide, they emerge to feed on decaying material in the mud.</b>                       |
| 4 | Why are the reddish egret's long legs useful in shallow pools but less useful in deep offshore water?       | <b>Long legs keep most of the egret's body above shallow water as it walks through pools to hunt. They are less useful where offshore water is deep.</b>       |

**PART 3 • YOUR TURN (SAMPLE ANSWER)**

In the Arctic tundra, an Arctic fox has thick fur that keeps it warm and white winter fur that helps it blend with snow. It shelters in a den during severe storms, reducing heat loss and exposure to wind.

Accept accurate examples that identify both a physical characteristic and a behavior and clearly connect each one to a survival challenge in the named ecosystem. Wording may vary if the survival connections are scientifically sound.