

Name: _____ Class: _____

Clownfish and Sea Anemone

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Clownfish and sea anemone have a special relationship—a “symbiotic relationship.” As you read, take notes on the specific ways in which clownfish and sea anemones contribute to their symbiotic relationship.

- [1] Clownfish are among the few species of fish that can avoid the potent poison of a sea anemone. These two species have a symbiotic, mutualistic relationship, each providing a number of benefits to the other. The sea anemone protects the clownfish from predators, and provides food through the scraps left from the anemone's meals and occasional dead anemone tentacles.



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In return, the clownfish defends the anemone from its predators and parasites. The anemone also picks up nutrients from the clownfish's excrement, and functions as a safe nest site. The nitrogen excreted from clownfish increases the

amount of algae incorporated into the tissue of their hosts, which aids the anemone in tissue growth and regeneration. Marine biologists have theorized that clownfish use their bright coloring to lure small fish to the anemone, which the anemone then kills and consumes.

Another theory is that the activity of the clownfish results in greater water circulation around the sea anemone. Studies on anemones have found that clownfish alter the flow of water around sea anemone tentacles through certain behaviors and movements such as "wedging" and "switching." More water circulation increases aeration of the host anemone tentacles and benefits the metabolism of both partners, mainly by increasing anemone body size and both clownfish and anemone respiration.

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. How do clownfish contribute to the survival of the sea anemone? [RI.3]
- A. By eating dead anemone tentacles
 - B. By protecting the anemone against other clownfish
 - C. By defending the anemone from predators
 - D. By nesting in the anemone

2. How do sea anemones contribute to the survival of clownfish? [RI.3]
- A. By defending the clownfish from predators
 - B. By increasing clownfish respiration
 - C. By luring in food for clownfish
 - D. By creating a supportive flow of water

3. What is a symbiotic relationship, and how do clownfish and sea anemone embody that relationship? [RI.2]

4. PART A: What does the word “aeration” mean as it is used in Paragraph 3? [RI.4]
- A. The circulation of air
 - B. The circulation of water
 - C. Habitual or patterned movement
 - D. Bulking or increase in body size

5. PART B: Which detail from the text best supports the answer to Part A? [RI.1]
- A. “alter the flow of water” (Paragraph 3)
 - B. “wedging’ and ‘switching” (Paragraph 3)
 - C. “metabolism of both partners” (Paragraph 3)
 - D. “clownfish and anemone respiration” (Paragraph 3)

