

## Reading 7

Coral reefs are among the most productive ecosystems on Earth despite being located in nutrient-poor tropical waters. Their success relies heavily on a unique symbiotic relationship between coral polyps and microscopic algae known as zooxanthellae. The algae live within the coral's tissues, where they perform photosynthesis and generate nutrients such as glucose and amino acids. In return, the coral provides the algae with carbon dioxide, shelter, and access to sunlight.

This relationship is so efficient that up to 90 percent of the coral's energy can come from the algae. As a result, corals can build extensive calcium-carbonate structures that form complex reef systems. These structures support thousands of marine species and protect coastlines by absorbing wave energy.

However, the partnership is highly sensitive to changes in water temperature. When ocean temperatures rise even slightly, corals may expel their algae in a process known as bleaching. Without their symbiotic partners, corals become vulnerable to disease and starvation. If stressful conditions persist, entire reef systems can collapse, threatening biodiversity and the livelihoods of millions of people who depend on fishing and tourism.

### Questions

1. **What is the main idea of the passage?**

- A. Coral reefs survive mainly through competition among species.
- B. Coral reefs depend on a fragile symbiotic relationship for survival.
- C. Coral growth is unaffected by environmental changes.
- D. Tourism is the primary cause of coral degradation.

**Answer: B**

2. **According to the passage, what do the algae gain from the coral?**

- A. Access to nutrients produced by the reef
- B. A protected environment in which to photosynthesize
- C. Protection from predators through toxins
- D. Minerals necessary for forming shells

3. **The word “extensive” in paragraph 2 is closest in meaning to:**
- A. small
  - B. temporary
  - C. widespread
  - D. fragile
4. **What can be inferred about coral bleaching?**
- A. It is reversible if conditions improve.
  - B. It always results in immediate coral death.
  - C. It increases biodiversity in reef systems.
  - D. It occurs only during storms.
5. **Why does the author mention fishing and tourism at the end of the passage?**
- A. To show that coral reefs are valued mainly for recreation
  - B. To illustrate the economic consequences of reef decline
  - C. To compare natural and human-made ecosystems
  - D. To introduce a solution for coral bleaching

**ANSWERS: BBCAB**