Reef Words Uncovered

Use context and connotation to interpret a coral reef text.

ELA.9.V.1.3 "Apply knowledge of context clues, figurative language, word relationships, reference materials, and/or background knowledge to determine the connotative and denotative meaning of words and phrases, appropriate to grade level."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the words or phrases bleaching, stress, underwater city, fragile, and resilience. Circle nearby details that help you infer each meaning, and number each word or phrase and its clues with the same number.

When Reefs Turn Pale

(1) Coral reefs are built by tiny animals called coral polyps, which make hard skeletons of calcium carbonate. The polyps share their tissues with algae called zooxanthellae. In return for shelter and nutrients, the algae use sunlight to make food that helps feed the coral. When ocean water stays unusually warm, this partnership can break down. The coral expels many algae, and its colorful tissue becomes pale because the white skeleton shows through. Scientists call this change bleaching, although no chemical cleaner is involved in the process.

(2) Bleached coral is not always dead, but it is under severe stress. Without enough algae, a coral colony has less energy for growth, reproduction, and defense against disease. If cooler conditions return soon, some corals can regain algae and recover. If heat lasts for weeks or months, however, the weakened colony may die. A reef that once looked like an underwater city, crowded with fish and branching structures, can become ghostly and quiet. The word ghostly does not describe actual ghosts. It suggests loss, emptiness, and an unsettling change in a place that was once busy.

(3) Researchers monitor reefs with underwater surveys, temperature records, and satellite images. These sources help them distinguish a brief warm spell from a long marine heat wave, a period when ocean temperatures remain unusually high for an extended time. In 2016, a major heat wave contributed to severe bleaching on parts of Australia's Great Barrier Reef. Protecting reefs includes reducing local pollution and fishing pressure, while global action to limit warming addresses the larger cause. Calling a reef "fragile" can warn readers that it is easily harmed, but the word can also hide the reef's resilience, its ability to recover after damage.

2 ANSWER WITH EVIDENCE

Use the passage

1. In paragraph 1, what does bleaching mean in the context of coral reefs? Give one detail from the paragraph that supports your answer.

2. What does stress mean as it is used in paragraph 2? How is this meaning different from the common meaning of stress?

3. Why does the author compare a reef to an underwater city? What does this comparison suggest about a healthy reef?

4. How do the words fragile and resilience create a contrast in paragraph 3?

3 YOUR TURN

Your own words

Write exactly two sentences about a forest after a wildfire. Use one precise word with a denotative meaning and one figurative phrase with a connotation, then underline the precise word and circle the figurative phrase.

ANSWER KEY

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GRADE 9 · ELA.9.V.1.3

PART 1 · READ AND MARK

Underline the words or phrases bleaching, stress, underwater city, fragile, and resilience. Circle nearby details that help you infer each meaning, and number each word or phrase and its clues with the same number. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	In paragraph 1, what does bleaching mean in the context of coral reefs? Give one detail from the paragraph that supports your answer.	**Bleaching is the loss of algae that makes coral tissue pale because its white skeleton shows through. The paragraph says the coral expels algae and that no chemical cleaner is involved.**
2	What does stress mean as it is used in paragraph 2? How is this meaning different from the common meaning of stress?	**Stress means a harmful physical strain on the coral caused by heat and too few algae. It does not mean the emotional worry that people may feel.**
3	Why does the author compare a reef to an underwater city? What does this comparison suggest about a healthy reef?	**The comparison is figurative. It suggests that a healthy reef is crowded, active, complex, and full of fish and branching structures.**
4	How do the words fragile and resilience create a contrast in paragraph 3?	**Fragile means easily harmed, while resilience means the ability to recover after damage. The contrast shows that reefs can be vulnerable but may also recover.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

After a wildfire, _erosion_ carried loose soil into the stream. The (scarred hillside) held only blackened trunks, suggesting that the land had been injured.

Accept equivalent explanations that use relevant context from the passage. For Part 3, accept any two-sentence response about a post-wildfire forest that includes correctly marked denotative and figurative language.