

Tide Pool Connections

Trace how living and nonliving parts affect one another.

4.3.a "interrelationships exist in populations, communities, and ecosystems;"

NAME _____

DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each pair of living or nonliving parts that affects, helps, feeds, shelters, or is needed by the other, and write a different number beside each circled pair, even if a sentence has more than one pair.

Life Between the Tides

- ① At the edge of a rocky shore, a tide pool holds seawater between low and high tides. Green algae use sunlight to make food. Periwinkle snails scrape algae from the rocks. A group of periwinkle snails in this pool is a population. The snails and every other kind of living thing in the pool make up a community.
- ② Small fish hide among the rocks, where they may avoid larger fish that eat them. Herons sometimes catch the small fish when the tide is low. When a heron eats a fish, the fish population can decrease. With fewer fish eating tiny animals, more tiny animals may survive. One change in a population can affect other populations in the community.
- ③ Water, sunlight, rocks, and the changing tide are nonliving parts of the tide-pool ecosystem. Algae need sunlight and seawater to grow. Snails need algae for food, and fish need the rocky spaces for shelter. If pollution harms the algae, fewer snails may have food. That change can also leave less food for animals that eat snails.

2 ANSWER WITH EVIDENCE _____ Use the passage

- 1** Which two populations are connected when fewer fish lead to more tiny animals? Explain how they are connected.

- 2** What could happen after pollution harms the algae? Describe the chain of effects named in the passage.

- 3** Name one relationship between a living part and a nonliving part of the tide pool. Tell how the nonliving part helps the living part.

- 4** Why is the tide pool an ecosystem, not only a community?

3 YOUR TURN _____ Your own words

Choose an ecosystem you know. Write exactly three sentences: one sentence about how two populations are connected, one sentence about how a living thing depends on a nonliving part, and one sentence explaining how a change to one part could affect another.

PART 1 • READ AND MARK

Circle each pair of living or nonliving parts that affects, helps, feeds, shelters, or is needed by the other, and write a different number beside each circled pair, even if a sentence has more than one pair. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which two populations are connected when fewer fish lead to more tiny animals? Explain how they are connected.	The fish population and the tiny-animal population are connected. Fish eat tiny animals, so fewer fish can mean more tiny animals survive.
2	What could happen after pollution harms the algae? Describe the chain of effects named in the passage.	Fewer snails may have food because algae are harmed. Then animals that eat snails may have less food.
3	Name one relationship between a living part and a nonliving part of the tide pool. Tell how the nonliving part helps the living part.	Answers may include: Algae need sunlight and seawater to grow. Fish use rocky spaces for shelter.
4	Why is the tide pool an ecosystem, not only a community?	A community includes the living things. The tide-pool ecosystem includes the living things and nonliving parts such as water, sunlight, rocks, and the changing tide.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A bumblebee population and a sunflower population are connected because bumblebees collect nectar and carry pollen between sunflowers. Sunflowers need sunlight, a nonliving part of the garden, to grow. If a long drought dries the soil, fewer sunflowers may grow, and bumblebees may have less nectar.

Accept equivalent cause-and-effect explanations that match the passage. For the open response, accept any accurate ecosystem example with exactly three sentences that includes all three required relationships.