Tide Pool Connections

Compare how interactions affect each organism.

SC.7.L.17.2 "Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each pair of organisms and circle the name of its relationship. Write a +, −, or 0 above each organism to show whether it benefits, is harmed, or is not affected.

Life at the Rocky Shore

1. On a rocky shore, living things affect one another in several ways. A sea anemone shelters a tiny crab among its tentacles, and the crab may bring food scraps to the anemone. Both organisms can benefit, so this is mutualism. A shorebird that catches and eats a mussel is a predator, while the mussel is prey. Predation benefits one organism but harms the other by killing and eating it. These relationships can shape which organisms survive in the tide pool.

2. Not every close relationship gives both organisms food or safety. A tick feeds on a raccoon's blood over time. The tick gains nutrients, but the raccoon loses blood and may become ill. This is parasitism, which harms a host without usually killing it quickly. In contrast, barnacles attached to a whale ride through nutrient-rich water and filter food. The barnacles benefit, while the whale is generally neither helped nor harmed. That pattern is commensalism.

3. Competition happens when organisms need the same limited resource, such as space, water, light, or food. Two male elephant seals may fight for a breeding area, and each uses energy and risks injury. Neither seal receives the easy benefit seen in mutualism. Competition can occur between members of the same species or different species. To compare relationships, track the result for each organism. Mutualism helps both, commensalism helps one without affecting the other, and predation, parasitism, and competition include at least one harmed organism.

2 ANSWER WITH EVIDENCE

Use the passage

1. Which organisms show mutualism in the passage? Explain how each organism benefits.

2. How is the shorebird's relationship with the mussel different from the tick's relationship with the raccoon?

3. Compare commensalism between barnacles and a whale with competition between the elephant seals.

4. Name the three relationships in the passage that include at least one harmed organism. How does the harm differ among them?

3 YOUR TURN

Your own words

Fill the five rows with original examples of mutualism, predation, parasitism, competition, and commensalism. For each example, state the effect on both organisms using +, −, or 0 and a brief phrase.

RELATIONSHIP	ORIGINAL ORGANISM PAIR AND ACTION	EFFECT ON FIRST ORGANISM; EFFECT ON SECOND ORGANISM

ANSWER KEY

Tide Pool Connections

GRADE 7 · SC.7.L.17.2

PART 1 · READ AND MARK

Underline each pair of organisms and circle the name of its relationship. Write a +, −, or 0 above each organism to show whether it benefits, is harmed, or is not affected. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Which organisms show mutualism in the passage? Explain how each organism benefits.	**The sea anemone and tiny crab show mutualism. The anemone shelters the crab, and the crab may bring food scraps to the anemone.**
2	How is the shorebird's relationship with the mussel different from the tick's relationship with the raccoon?	**In predation, the shorebird kills and eats the mussel. In parasitism, the tick gains nutrients while harming the raccoon without usually killing it quickly.**
3	Compare commensalism between barnacles and a whale with competition between the elephant seals.	**Barnacles benefit while the whale is generally unaffected. In competition, both elephant seals use energy and risk injury while fighting for a breeding area.**
4	Name the three relationships in the passage that include at least one harmed organism. How does the harm differ among them?	**Predation, parasitism, and competition include harm. Predation kills and eats prey, parasitism harms a host while feeding on it, and competition costs organisms energy or may cause injury.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

RELATIONSHIP	ORIGINAL ORGANISM PAIR AND ACTION	EFFECT ON FIRST ORGANISM; EFFECT ON SECOND ORGANISM
Mutualism	A bee drinks nectar from a flower and carries pollen.	Bee: + food; flower: + pollen transfer
Predation	An owl catches and eats a mouse.	Owl: + food; mouse: − killed
Parasitism	A flea drinks a dog's blood.	Flea: + nutrients; dog: − blood loss and irritation
Competition	Two oak seedlings grow close together and need the same sunlight.	First seedling: − less light; second seedling: − less light
Commensalism	A remora rides with a shark and eats food scraps.	Remora: + transport and food; shark: 0 unaffected

Accept scientifically accurate original examples when the effects match the relationship. For competition, accept an effect showing that both organisms are limited, spend energy, or risk harm while seeking the same resource.