

Reef Relationship Effects

Trace how close species interactions affect survival.

LS.6.c "symbiotic relationships support the survival of different species; and"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle each phrase that tells what happens to a species. Write B, H, or N above each circled phrase: B means benefit, H means harm, and N means no clear benefit or harm. If one sentence describes effects on two species, circle and label each effect separately.

Close Partners on a Reef

- ① On a coral reef, cleaner wrasses set up stations where larger fish pause. The wrasses eat tiny parasites and dead tissue from a visitor's skin. The visitor loses parasites that can weaken or infect it, while the wrasses gain a dependable meal. Because both species benefit, this relationship is mutualism. The meal gives the wrasses energy for swimming and growth. Each partner's benefit can improve its chances of surviving long enough to reproduce during its life.
- ② Other close relationships do not affect both partners in the same way. Remoras use a suction disc to ride alongside sharks. A remora saves energy while traveling and may eat scraps from the shark's meals. The shark usually receives no clear benefit or harm from the remora. This is commensalism: one species benefits, and the other is mostly unaffected. Riding with a shark can also keep a remora near open-water food sources in the ocean, increasing the remora's chance of survival.
- ③ Parasitism benefits one species but harms the other. A tick attaches to a deer and drinks its blood. The tick gains food, which can help it survive and produce eggs. The deer loses blood and may develop irritation or disease, especially when many ticks feed. Even though the deer is harmed, the tick depends on a host for resources. Symbiotic relationships therefore shape survival in different ways: they can help both species, help one without changing the other, or help one while harming the other.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Why is the cleaner wrasse and visiting fish relationship mutualism? Give one benefit for each species.

2 What effect does the remora have on the shark, and what type of symbiotic relationship is this?

3 How does parasitism affect the tick and the deer differently?

4 Why is the tick's relationship with the deer still symbiotic even though the deer is harmed?

3 YOUR TURN _____ Your own words

Complete the table with two real symbiotic relationships that are not described in the passage. Choose two different relationship types, describe the effect on each species, and explain how an effect supports survival.

RELATIONSHIP TYPE	SPECIES 1 AND EFFECT	SPECIES 2 AND EFFECT	SURVIVAL LINK

PART 1 • READ AND MARK

Circle each phrase that tells what happens to a species. Write B, H, or N above each circled phrase: B means benefit, H means harm, and N means no clear benefit or harm. If one sentence describes effects on two species, circle and label each effect separately. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Why is the cleaner wrasse and visiting fish relationship mutualism? Give one benefit for each species.	The wrasse gains a dependable meal. The visiting fish loses parasites that can weaken or infect it.
2	What effect does the remora have on the shark, and what type of symbiotic relationship is this?	The shark receives no clear benefit or harm. The relationship is commensalism.
3	How does parasitism affect the tick and the deer differently?	The tick gains blood as food, helping it survive and produce eggs. The deer loses blood and may develop irritation or disease.
4	Why is the tick's relationship with the deer still symbiotic even though the deer is harmed?	The tick depends on the deer, its host, for resources. The tick gains food that supports its survival, while the deer is harmed.

PART 3 • YOUR TURN (SAMPLE ANSWER)

RELATIONSHIP TYPE	SPECIES 1 AND EFFECT	SPECIES 2 AND EFFECT	SURVIVAL LINK
Mutualism	Honeybee gets nectar as food.	Flower receives pollen transfer that aids reproduction.	Nectar helps the bee survive, and pollination helps the flower produce seeds.
Parasitism	Mistletoe takes water and minerals from an oak tree.	Oak tree loses resources and may grow less well.	The resources help mistletoe survive and grow.

Accept accurate examples of mutualism, commensalism, or parasitism if both species' effects are correctly identified. For commensalism, the unaffected species may be described as having no clear benefit or harm.