Ecological relationships are the ways organisms interact in an environment.
▶ Relationships are **positive**, **neutral**, or **negative** for **survival of each organism.**

Ecological Relationships	Example		
Predation	one organism (predator) hunts and eats another (prey)	**Orca whales (positive)** hunt **seals (negative)**	
Competition	two or more organisms need the same resource	**Sharks (negative)** and **dolphins (negative)** eat the same type of fish	

CFU

Predation: one organism hunts and eats another.

Which is an example of predation? Explain.

A frogs extend their long tongues to snatch flying insects
B two male birds compete for a mate in the same area

Competition: two or more organisms need the same resource.

Which is an example of competition? Explain.

A a pride of lions attacks and eats an elephant
B vultures and wolves both go after a fresh moose carcass

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

1. A lynx tracks a snowshoe hare through the snow. The lynx catches the hare and eats it. With enough hares to eat, the lynx can survive and raise its young.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

2. A Venus flytrap is a plant with leaves that snap shut. Tiny hairs on each leaf sense when an insect lands. The leaf closes, traps the insect, and digests it for nutrients.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

3. A wolf kills a moose. While the wolf feeds, vultures land and eat from the same moose. The wolf and the vultures each get less meat.





Analyze the wolf and the vultures.

Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

4. Pavement ants attack nearby ant colonies to take over their land and food. Both colonies need the same space and food, and many ants on each side die in the fight.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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Ecological relationships are the ways organisms interact in an environment.
▶ Relationships are **positive**, **neutral**, or **negative** for **survival of each organism.**

Ecological Relationships	Example		
Mutualism	both organisms benefit from each other	**Clownfish (positive)** provide food and protection **Anemones (positive)** provide a home	
Commensalism	one organism benefits; the other is not helped or harmed	**Cattle egrets (positive)** feed on insects stirred when **cattle (neutral)** move	

CFU

Mutualism: both organisms benefit.

Which is an example of mutualism? Explain.

A bacteria in the gut help humans digest food, and the bacteria get food and a home
B a remora rides on a shark and eats its scraps; the shark is not helped or harmed

Commensalism: one benefits; the other is not helped or harmed.

Which is an example of commensalism? Explain.

A a golden jackal follows a tiger to eat leftovers from its kills
B bees collect nectar from flowers, and the flowers get pollinated

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▶ Relationships are **positive**, **neutral**, or **negative** for **survival of each organism.**

Competition

Example
Hawks and foxes both hunt the rabbits in one field.

Why? They need the same food.

Non-example
A hawk catches and eats a rabbit.

Why not? One organism eats the other. This is predation.

Mutualism

Example
In a lichen, a fungus gives algae shelter and water. The algae make food for the fungus.

Why? Both organisms benefit.

Non-example
Spanish moss hangs from an oak tree. The moss gets support. The tree gets nothing.

Why not? Only the moss benefits. This is commensalism.

CFU

Mutualism: both organisms benefit.
Commensalism: one benefits; the other is not helped or harmed.

Which is mutualism? Explain.

A Ants protect an acacia tree, and the tree gives the ants food and shelter.
B A bird builds a nest in a tree, and the tree is not helped or harmed.

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

5. Corals look like rocks, but they are animals. Tiny algae live inside the coral. The coral gives the algae a safe home. The algae make sugars from sunlight and share them with the coral.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

6. Fig trees need tiny fig wasps to carry pollen from one fig to another. A female wasp crawls inside a fig, drops pollen, and lays her eggs. The fig is pollinated, and the young wasps have a safe place to grow.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

7. Some orchids grow high on the branches of rainforest trees, where there is more sunlight. Their roots take water from rain and air, not from the tree. The tree is not helped or harmed.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

8. An adult monarch butterfly drinks nectar from milkweed flowers. As it feeds, pollen sticks to its legs. When it flies to the next milkweed plant, it carries the pollen to new flowers.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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Skill Closure

1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

1. A barn owl hunts at night. It uses its sharp hearing and eyesight to find a mouse on the forest floor. The owl swoops down, catches the mouse, and eats it.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

2. A pitcher plant traps insects in a slippery cup. Small woolly bats sleep safely inside the cup during the day. The bats' droppings give the plant nutrients it needs.



Analyze the pitcher plant and the woolly bat.

Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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Concept Closure

Write an explanation. Melanie said dolphins chasing and eating fish was an example of mutualism. Why is she incorrect?



Summary Closure

What did you learn today about describing ecological relationships among organisms?

Word Bank

interactions
predation
competition
mutualism
commensalism

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

1. A remora fish attaches to a shark with a sucker on its head. It gets a free ride and eats scraps from the shark's meals. The shark is not helped or harmed.



Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

2. Barnacles cannot move on their own. They attach to a whale's skin and filter tiny plankton from the water as the whale swims. They do not feed on the whale.



Analyze the barnacles and the whale.

Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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1 Read the scenario. Identify the two organisms. (underline)
2 Describe the effect on each organism. (write)
3 Identify the relationship. (write)

3. A male cardinal guards an area with food and nesting spots. When another male flies in, the two birds chase and fight over the space. Both use energy they need to find food.



Analyze the male cardinal and the other male cardinal.

Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

4. A herd of deer eats the low plants and berries in a forest. Small forest birds need the same berries for food. With fewer berries, the deer and the birds have less to eat.



Analyze the deer and the small birds.

Organisms: _____

Effects: _____

_____

Relationship: _____

"The ___ and the ___ show ___ because…"

_____

_____

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Listen to the scenario. Which relationship does it describe? Explain.

A predation **B** competition **C** mutualism **D** commensalism

"The relationship is _____ because…"

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A student observed four interactions in a pond ecosystem. Match each interaction to its relationship.

1 Frogs and dragonflies both eat the mosquitoes in the pond.

2 A heron catches a frog and swallows it.

3 Algae live inside tiny green hydras. The algae make food for the hydras, and the hydras give the algae a safe home.

4 A frog sits on a lily pad to wait for insects. The lily pad is not helped or harmed.

Write the number of the interaction next to its relationship.

Predation _____ **Competition** _____

Mutualism _____ **Commensalism** _____

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In the ocean, clownfish and sea anemones help each other survive. Which two desert interactions show the same pattern? Select two.

A Yucca moths carry pollen from flower to flower on yucca plants. Their caterpillars eat some of the yucca seeds, but many seeds are left to grow.

B A roadrunner catches and eats a lizard.

C Coyotes and hawks hunt the same rabbits.

D Bats drink nectar from saguaro cactus flowers and carry pollen to other cactus flowers.

"___ and ___ show the same pattern because…"

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