

What is going on in this picture?

(Turn and talk.)



Was the animal in that last slide a crocodile or alligator?

It's a crocodile!

In nature, organisms live together in long-term relationships. **SYMBIOSIS** is a term used to describe close, long-lasting interactions between two different species.



SYM = TOGETHER

BIOSIS = LIVING

There are 3 types of
Symbiotic relationships ...

Parasitism



Commensalism



Mutualism



Parasitism

Definition: One organism benefits from the relationship and the other is harmed

Clue:



Example:

Heartworm living in the heart or lungs of dogs or cats. The parasite is transmitted by mosquitoes.

Commensalism

Definition: One organism benefits from the relationship and the other organism is not helped OR harmed.



Clue:



Example: A cattle egret (bird) follows the cattle and eats the insects that are stirred up by the movement of the cattle through the grass.

Mutualism

Definition: Both organisms benefit from relationship.

Clue:



Example:

The clown fish is protected from predators by the sea anemone and the anemone is cleaned by the clown fish.

Is a sea anemone a plant or animal?

- A [sea anemone](#) (uh-NEM-uh-nee) looks a lot like a flower, but it's actually a marine animal. In fact, it's named after the beautifully-colored [anemone flower](#).
- The oceans of the world contain over 1,000 different species of sea anemones. The largest sea anemones can usually be found in coastal tropical waters, though. They come in just about any color, and they can range in size from a half-inch to more than six feet in diameter.
- Sea anemones are close relatives of coral and [jellyfish](#). Their bodies are hollow columns with a mouth and stinging tentacles at the top.
- Sea anemones mostly live attached to rocks on the sea floor or on coral reefs. They wait for small fish and other prey to swim close enough to get caught in their stinging tentacles.
- When prey gets close enough, a sea anemone will use its tentacles to eject venomous stinging threads that paralyze its prey. Once its prey is subdued, a sea anemone uses its tentacles to grasp the prey and sweep it into its mouth.
- Sea anemones don't always stay in one place, though. They can slide slowly along the ocean floor or swim by moving their tentacles. They can also hitch a ride from time to time with other sea creatures.

More will
follow after our
ACTIVITY . . . 😊

Example B

A tapeworm can grow up to 40 feet inside of a host organism! The tape worm lives off of undigested or partly digested food. The growth of the tapeworm can make the host organism extremely sick.



Why type of symbiotic
relationship is this?

Parasitism

The caribou tends to dig in the snow to get its food, which is in the form of lichen plants. Once it digs up the soil, then the arctic fox comes and hunts some of the mammals that have come closer to the surface due to the digging action of the caribou. Thus, the caribou remains unaffected, whereas the arctic fox benefits from it's actions.

Example E



Why type of symbiotic
relationship is this?

Commensalism

Example C

Aphids are tiny, green insects that feed on plant sap. The aphids feed on the plant sap by inserting a straw-like structure into a leaf or stem and removing the sap. Sometime after the aphid is finished feeding, sap continues to seep out of the plant. Ants find aphid colonies and feed on the extra sap. In turn, the ants protect the aphids.



Why type of symbiotic
relationship is this?

Mutualism

Example H



Barnacles are very sedentary crustaceans, and so, they usually attach themselves to a substrate in the sea like rocks or preferably whales, sea turtles, etc. When whales and such creatures travel, the barnacles get access to nutrient rich waters and often, the morsels of food that are left behind by the whale, the barnacle catches it and eats it. These barnacles do the same thing when they attach themselves to the bodies of green sea turtles.

Why type of symbiotic
relationship is this?

Commensalism

Example D

Bees play an important role in the pollination of plants (which must occur for plant reproduction). As bees feed on the nectar of flowers, some pollen sticks to the tiny hairs on their legs. When they move to the next flower, some of the pollen drops off and the plants are pollinated.



What type of symbiotic
relationship is this?

Mutualism

Example I

Ticks feed on the blood of mammals, birds, and reptiles throughout the world. The tick is benefited by the nutrients in the blood, however, the organisms that the tick is feeding upon is harmed.



Why type of symbiotic
relationship is this?

parasitism

Example G

Goby fish and shrimp happily live together. The shrimp digs and cleans up a burrow in the sand in which both the goby fish and shrimp live together. The shrimp is almost blind, which makes it vulnerable for predators when above ground.



In case of danger, the goby fish touches the shrimp with its tail to warn it and they both retract into the burrow.

Why type of symbiotic
relationship is this?

mutualism

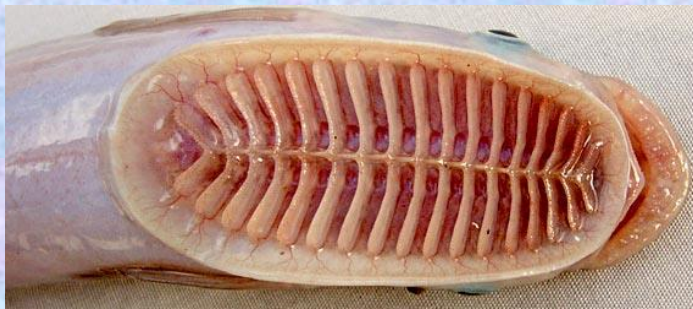
Botflies lay eggs on the skin of a host. The larvae bury beneath the skin. This allows the larvae a safe and warm place to live and grow. However, the growing larvae creates an infection in the host.

Example F



Why type of symbiotic
relationship is this?

parasitism



Remora sharks have an adhesive disk on their dorsal surface, with the help of which they attach themselves to whales and then feed on the remains from the whale's food. The shark benefits from the food and the whale is not harmed.



Example A



Why type of symbiotic
relationship is this?

commensalism

Now . . . what is going on in this picture?

