

## Starter: Name the relationship...

Ants feeding on a dead cricket

Frogs feeding on insects

Mould growing on bread and absorbing nutrients from it.

Reef fish living amongst the branches of coral

Fleas living in the fur of a cat

Weeds and lettuce growing together in a garden

Alga and fungus which make up lichen **symbiosis**

saprophytism

commensalism

Competition

scavenging

parasitism

grazing

predation

Jul 21-10:41 a.m.

## SUMMARY OF RELATIONSHIPS

Relationship	Species A	Species B
Interspecific Competition	-	-
Antibiosis/Amensalism	0	-
Parasitism	+	-
Exploitation	+	-
Commensalism	+	0
Mutualism	+	+

-

0

+


Jul 21-10:54 a.m.

<b>Mutualism</b>	Both species (A & B) benefit from the association
<b>Commensalism</b>	One species benefits while the other species is not itself affected.
<b>Amensalism</b>	One species is harmed while the other species is not itself affected.
<b>Exploitation</b>	One species benefits at the expense of the other species.
<b>Antibiosis</b>	One species (A) produces a compound that inhibits the other species (B). Species A is unaffected or <i>may</i> benefit.
<b>Competition</b>	Both species are harmed from the association

Sep 28-6:55 p.m.


## Parasitism

Parasites live in or on a **host** organism. The host is always harmed by the presence of the parasite, but it is not usually killed. Both parasite and host show adaptations to the relationship




Sucker


Hooks and suckers attach the worm to the host's gut wall



Many birds and mammals use dust bathing to rid themselves of external parasites



Tick ectoparasite on bird wing



Mosquito vector for Dengue fever (*Aedes albopictus*)

Sep 28-6:56 p.m.

# Exploitation

● **Exploitation** describes relationships where one species benefits at the expense of another. It includes several familiar interactions:

- **Predation:** Predator kills the prey outright, e.g. lions hunting zebra.
- **Herbivory:** The herbivore feeds on, but usually does not kill, the plant, e.g. zebra grazing on grass.
- **Parasitism:** The parasite does not usually kill its host, e.g. ticks feeding on the blood of a zebra.



Sep 28-7:02 p.m.

# Commensal Relationships

● In commensal relationships, one party (the **commensal**) benefits, while the **host** is unaffected.

● **Epiphytes** (perching plants) gain access to a better position in the forest canopy, with more light for photosynthesis, but do no harm to the host tree.

● Commensal anemone shrimps (*Periclimenes* spp.) live within the tentacles of host sea anemones. The shrimp gains protection from predators, but the anemone is neither harmed nor benefitted.



**Commensalism**

Sep 28-7:04 p.m.



## Mutualistic Relationships

- Mutualistic relationships occur between some birds (such as oxpeckers) and large herbivores (such as zebra, Cape buffalo, and rhinoceros). The herbivore is cleaned of parasites and the oxpecker gains access to food.
- Lichens are an **obligate mutualism** between a fungus and either a green alga or a cyanobacterium. The fungus obtains organic carbon from the alga. The alga obtains water and nutrient salts from the fungus.



Cape buffalo and oxpecker birds



Lichen: an obligate mutualism

Sep 28-7:05 p.m.

## Amensalism

- **Amensalism** describes the situation where the presence of one species has a harmful effect on the other, but is not itself affected by the association.
- In this respect, it is opposite to the relationship between a commensal and its host.
- Grazing mammals trample and destroy vegetation around waterholes, creating bare zones. The mammals are unaffected by the loss as they go there primarily to drink and not to feed.



Sep 28-7:03 p.m.

# QUIZ



Mar 2-10:38 a.m.

## **ACTIVITY:**

Revision GO Fish!!!

Write the word on one card.

Write the definition on another card.

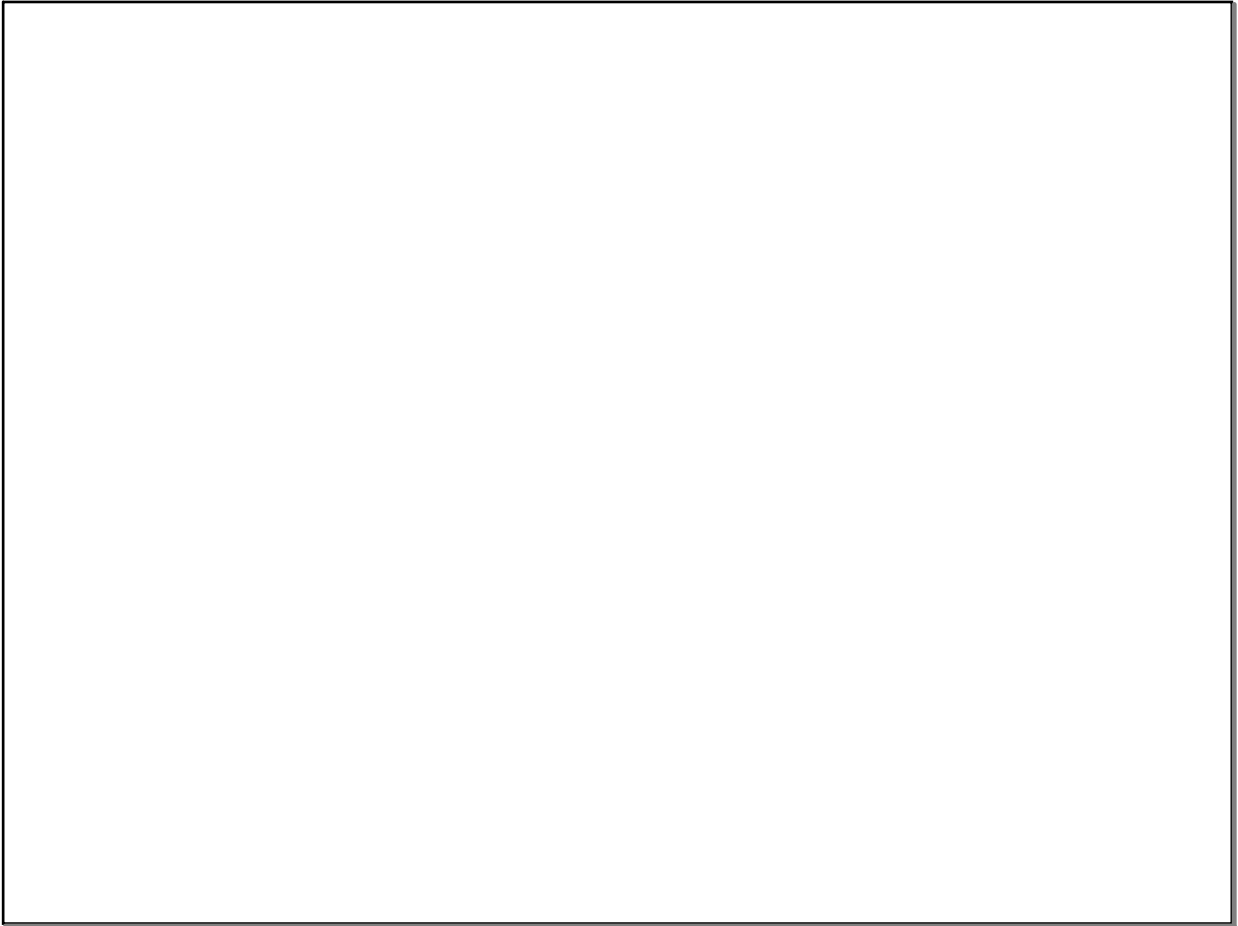
Repeat for all vocab words.

Shuffle the cards and play GO Fish!!

## **Activity:**

Pathfinder 12 Page 21# 6, 7

Jul 21-11:43 a.m.



Mar 2-10:38 a.m.