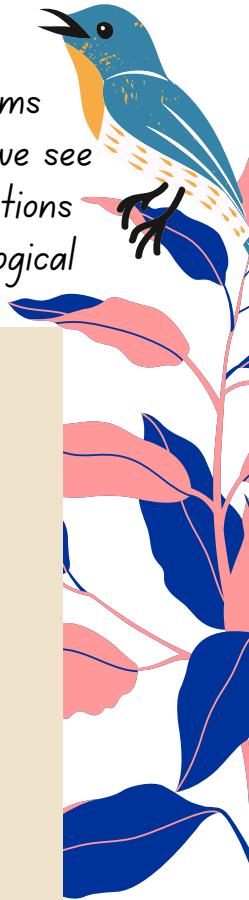


~SYMBIOSIS~

Symbiosis is the interaction or relationship between two DIFFERENT organisms living in close association. There are 3 main types of symbiotic relationships we see in nature: *Mutualism*, *Commensalism*, and *Parasitism*. Other organism interactions like *Predation* and *Competition* are also common and important kinds of Ecological Relationships.



5 types of Ecological Relationships:

MUTUALISM

In this relationship, BOTH organisms benefit! Sometimes one organism gets nutrients while the other organism gets protection, pollination, or some other vital resource in return!

Example: Bats can drink nectar from a cactus, who then gets pollinated!

COMMENSALISM

In this relationship, only one organism benefits and the other organism, the host, is unaffected either way! Many times, smaller animals live on or around larger animals and gain shelter and safety.

Example: How many animals can you name that live in a tree?

PARASITISM

This relationship is similar to predation where one organism in the relationship is harmed, but instead of a quick end, parasitism is a slow drain, and the host often suffers and dies over time.

Example: Some wasps lay eggs onto caterpillars. Yikes!

PREDATION

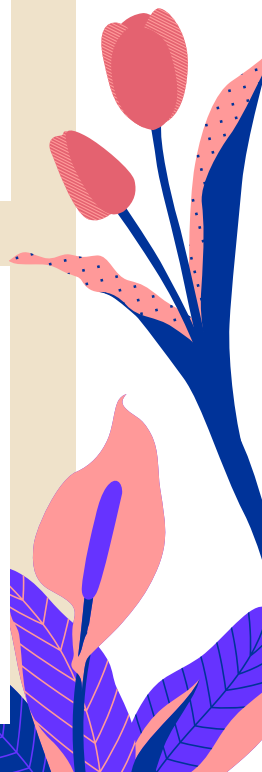
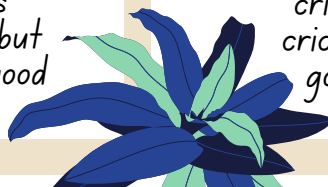
In this relationship, there is always one organism [the predator] that seeks out or hunts another organism [the prey] to consume for energy. This includes herbivores who consume plants.

Example: Almost all animals consume other organisms, but grass > rabbit > fox is a good example!

COMPETITION

In this relationship, both organisms share a limited resource and live within a shared ecosystem. This can lead to struggles and new adaptations or behaviors.

Example: Lots of birds eat crickets, but when the crickets run low, someone goes hungry.



FIND SYMBIOSIS!

Using the list below, find their symbiotic partner in the park! For some animals, there may be a specific answer, and for others, there can be many!

1. Bumblebee

My relationship gives me nectar and pollen to make honey, and my colorful partners get pollinated in return!



2. Mistletoe

In my relationship, I get all the benefits. My host is tall and strong, and I pull nutrients from them. The only thing I don't like is neighbors.



3. White tailed Deer

My word for my relationship is often used for meat eaters, but includes the ways I find soft and green things to eat!



4. Ball Moss

I grow on tall and strong things, but I cause no harm! I don't mind neighbors as long as we live in peace!



-Name the type of relationship each of these pairs has!

- | | |
|----|----|
| 1. | 3. |
| 2. | 4. |

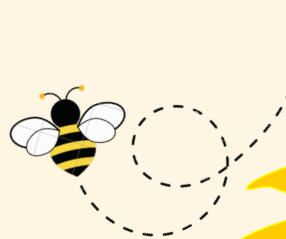
-Name the primary partner for these animals based on the clue!

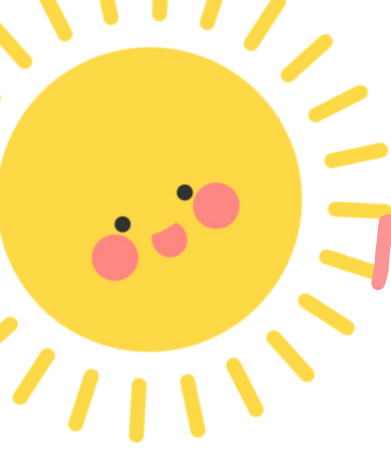
- | | |
|----|----|
| 1. | 3. |
| 2. | 4. |

- Name one organism for each that could be considered a competitor.

- | | |
|----|----|
| 1. | 3. |
| 2. | 4. |

- Answers:
1. Mutualism/Flowers/Butterfly,
 2. Parasitism/tree/neighborhood trees,
 3. Predation/Leaves/Herbivores,
 4. Commensalism/tree/trueMoss & Lichen





NATURE SURVEY

symbiosis

In the space provided, you will see 'Producers' or Plants, the base of every food chain where energy is harnessed from light. Add various animals you might see in the park by drawing them and their symbiotic relationships to the plants and each other!



SYMBIOSIS SNACK

FOOD CHAIN TRAILMIX

Ingredients:

- Animal Crackers
- Goldfish Crackers
- Mini Pretzels
- M&Ms or Gummy Bears
- Teddy Grahams
- Iced Animal Cookies
- Raisins



Directions:

This snack is easy! Just add all your favorite ingredients to make an ecosystem! The M&Ms will act as the 'plants' and will be eaten by the raisin 'bugs' that can then be gobbled up by the gold fish who can be chomped on by the bears and other critters!!!

Learning Note:

This snack is all about play and making connections! Every animal eats something else to gain energy, and many of these relationships are different kinds of symbiosis. Talk about them, and arrange the snacks into a food chain, with you as the final predator!