What Do They Need?

Engage

What To Do:
1. Think about the basic needs of living things.
2. Share with your partners and list what you came up with below.

3. Watch the first part of this third grade video to remind you of what the basic needs are.
https://www.youtube.com/watch?v=2HLbNvoX9pA

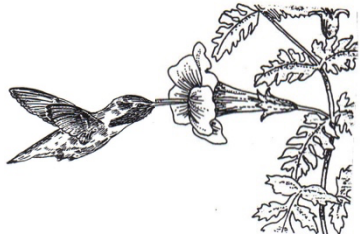
And list what the basic needs of living thing is mentions.

4. How do your lists compare?

Explore

What To Do:
1. Read about the plants and animals below.
2. Determine which of the basic needs are being met in the interactions between them.

1. Hummingbirds gain nectar from flowers and flowers are pollinated by hummingbirds as they move from flower to flower.



a. What basic need does the hummingbird get from the flower?

_____

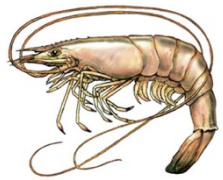
b. How does the flower benefit?

_____

c. Is the flower or hummingbird harmed in their interaction?

_____

2. Snapping shrimp have poor vision and depend on Goby fish to give the danger signal when predators come. Goby fish also guide them back home if they wander too far away. Goby fish, who don't have a place to hide are quickly eaten. They find a Snapping shrimp roommate who digs a hole for both to live in.

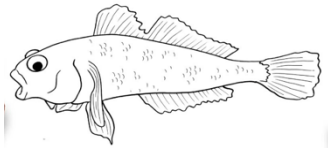


a. What basic need is the Goby fish getting from the Snapping shrimp? _____

b. How does the Snapping shrimp benefit?

_____

c. Is the shrimp or fish harmed in their interaction? _____



3. Orchids typically live on the trunks and branches of trees. Orchids attach themselves to the higher surfaces of trees and are able to get sunlight and rainwater to make their food. The flowers take nothing from the tree.

a. What basic need is the Orchid getting from the tree?

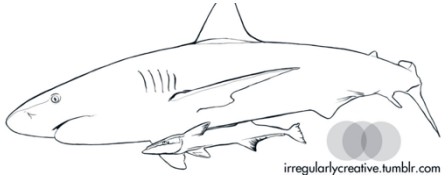
_____

b. How does the tree benefit?

_____

c. Is the orchid or tree harmed in their interaction? _____

4. Remoras are small marine fish that grow to a length of about one meter. They have a succer disc enables them to stick themselves to larger marine animals, such as sharks. The remora uses the shark for transportation, and they also are able to feed on food scraps left by the sharks. The shark is not bothered by the remora and is not hurt by it in any way.



a. What basic need is the remora getting from the shark?

_____

b. How does the shark benefit?

_____

c. Is the remora or shark harmed in their interaction? _____

What To Do:

1. Cut out the foldable below and glue it into your notebook using the Ecological Relationships tab.
2. Work with your teacher to write the definitions under the flaps.
3. Cut out the living things names at the bottom and glue them on the back of the flaps to show which relationships are which.

Ecological Relationships

Explain

Commensalism

Mutualism

Hummingbirds and flowers	Gobi fish and Snapping Shrimp	Orchids and trees	Remora and sharks

Elaborate

The ecological relationships we have learned about are parasitism, mutualism and commensalism. These relationships are called symbiotic relationships.

In the box below put a + if the organism is helped in the relationship and a – if the organism is harmed in the relationship. If an organism is neither helped or harmed place a 0 in the box.

Type of Symbiosis	Organism 1	Organism 2
Mutualism		
Commensalism		
Parasitism		

Read the following descriptions. Determine if the first organism mentioned is helped, harmed or neither and place a check mark in the box. Then name the symbiotic relationship.

1. Oxpecker and zebras: Oxpeckers are a type of small bird that land on zebras and eat ticks and other parasites that live on the zebra's skin. The oxpeckers get food and the zebras get pests removed.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

2. Tapeworm and animals: Tapeworms are segmented flatworms that attach themselves to the insides of the intestines of animals such as cows, pigs, and humans. Tapeworms get food by eating the host's (animal) partly digested food, depriving the host (animal) of nutrients.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

3. Spider crab and algae: Spider crabs live in shallow areas of the ocean floor, and greenish-brown algae lives on the crabs' backs, making the crabs blend in with their environment, and unnoticeable to predators. The algae get a good place to live, and the crab gets camouflage.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

4. Remora and the shark: Remora fish are small fish that make their niche by picking up the scraps that sharks leave behind while feeding. The shark makes no attempt to prey on the remora fish.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

5. Bee and the flower: Bees fly from flower to flower-gathering nectar, which they make into food. When they land in a flower, the bees get some pollen on their hairy bodies, and when they land in the next flower, some of the pollen from the first one rubs off, pollinating the plant.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

6. Bacteria and the human colon: Bacteria live in the colon of humans and are able to feed off the indigestible food that the human body cannot break down (cellulose of plants). In the process of breaking down the food, the bacteria also make much-needed vitamins that the human body in turn can use to keep healthy.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

7. Dog and the tick: Ticks live on dogs and feed off the dog's blood. They may also infect the dog with a parasite that can cause the dog to become quite sick. Dogs also are sometimes found to be very tired because a large volume of their blood has been drained.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

8. Ostriches and gazelles: They feed next to each other and watch for predators, alerting each other to danger. Since the visual abilities of the two species are different, they each can identify threats the other animal would not as readily see.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

9. Hermit crabs and snails: Hermit crabs live in shells made and abandoned by snails.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

10. Cuckoo and warbler: A cuckoo may lay its eggs in a warbler's nest. The cuckoo's young will displace the warbler's young and will be raised by the warbler.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

11. Mistletoe and spruce tree: Mistletoe takes water and nutrients from the spruce, harming the tree.

Organism 1: □ helped □harmed □not harmed/not helped
Organism 2: □ helped □harmed □not harmed/not helped
Symbiotic Relationship: _____

Evaluate

Name _____ period _____

EXIT TICKET

Mutualism and Commensalism

Identify each type of symbiotic relationship is described below. Place an M for mutualism, and C for commensalism and a P for parasitism.

____ 1. A tick living on a dog.

____ 2. A tapeworm living in a 6th grade student's intestines.

____ 3. A bird building their nest in a tree.

____ 4. Head lice living on a human scalp.

____ 5. The ants protecting the acacia tree and tree provides food for the ants.

____ 6. Orchids growing in tall tropical trees, the trees are not harmed but the orchids get sunlight.

____ 7. A sixth grader and their pet.

____8. Algae growing on the fur of a sloth, giving it camouflage and the algae getting sunlight to make food.

____9. Small mites live on your skin, eating dead skin cells. You don't even notice.

____10. Honey guide birds alert and direct badgers to bee hives. The badgers then break open the hives and feed on the honey first. Then the honey guide birds eat.