

Community Worksheet

1. The table below lists the contents of two aquariums, A and B, both with a capacity of 50 L. Answer the following questions.

Aquarium A	Aquarium B
5 goldfish	8 goldfish
3 striped fish	2 striped fish
2 snails	0 snails
0 bottom feeder	2 bottom feeders
4 green algae	2 green algae
1 fern	2 ferns

- a) Find the relative abundance of each of the species in the two aquariums.

Aquarium A	Aquarium B
$5/15 = 33\%$	$8/16 = 50\%$
$3/15 = 20\%$	$2/16 = 13$
$2/13 = 13\%$	$0/16 = 0$
$0/15 = 0\%$	$2/16 = 13$
$4/15 = 27\%$	$2/16 = 13$
$1/15 = 7\%$	$2/16 = 13$

- b) Which aquarium has the greater biodiversity? Why
A - both have 5 types of species, but A more equally dispersed.

2. Yellow-billed oxpeckers are African birds that perch on the backs of large mammals of the savanna, such as giraffes. The birds search the animal's skin for ticks to eat, even going so far as to explore the inside of its ears.

- a) What type of interaction exists between giraffes and oxpeckers? Explain your answer.

mutualism - both benefit

- b) What effect will this interaction have on the density of the two populations?

increases, both have food & health

3. Two forests, A and B, contain the following trees: forest A is composed of 28 birches, 30 firs, 27 poplars, 26 spruce and 3 pines; forest B is composed of 20 birches, 60 firs, 15 poplars and 3 spruce. Answer the following questions.

- a) What is the relative abundance (in percentages rounded to the nearest whole number) of the different species in the two communities?

A
 $\left\{ \begin{array}{l} 25\% \\ 26\% \\ 24\% \\ 23\% \\ 3\% \end{array} \right.$

 B
 $\left\{ \begin{array}{l} 20\% \\ 61\% \\ 15\% \\ 3\% \end{array} \right.$

b) Which forest has the greater biodiversity? Explain your answer.

A- has 1 more specie & species more equally distributed

4. Lichen, which have no roots, live on trees. The lichen attach themselves to the branches of spruce and fir trees, which ensures them a position high enough to receive light and capture moisture from the air. Contrary to popular belief, lichen are not harmful to trees.

What type of interaction exists between lichen and trees? Explain your answer.

Commensalism - lichen benefit, branches not helped or hurt.

5. Some wasps lay their eggs inside the body of another insect, such as the fly. When the eggs develop into larvae, the larvae eat their host (for example, the fly) to free themselves from its body.

What type of interaction exists between the wasp larvae and the host insect (the fly)? Explain your answer.

Parasitism: living off of host & eventually kill it.

6. True or false?

a) The biodiversity of a community can be qualified as high when one species in the community is much more abundant than other species. **F**

b) In a relationship of parasitism, one of the living organisms is a parasite, and the other is its prey. **F**

c) When populations in a community interact through mutualism, this interaction tends to increase their population densities. **T**

d) Competition has a positive impact on population density. **T**

e) Parasitism and predation refer to exactly the same phenomenon. **F**

7. Identify the type of interaction between the living organisms in each of the following situations. (competition, predation, parasitism, mutualism and commensalism)

In winter, moose and deer look for the same food	Competition
A hummingbird builds its nest in a tree	Commensalism
A louse feeds on a dog's blood	Parasitism
People do volunteer work	Mutualism
A carnivorous plant feeds on small insects	Predation
Lynx and coyotes hunt groundhogs	Competition
Ticks attach themselves to cows	Parasitism
A spider spins a web to catch insects	Predation
An eagle hunts a hare	Predation