Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Fred and Theresa Holtzclaw

AP Biology

Chapter 41-Species Interactions

***41.1 Community interactions are classified by whether hey help, harm, or have no effect on the species involved***

1) Define a community. Explain how a community is different from a population.

2) This section will look at *interspecific* interactions. Be clear on the meaning of the prefix! To begin, distinguish between *intraspecific competition* and *interspecific competition.* Give an example of each.



3) What is G. F. Gause’s *competitive exclusion principle*? Explain how his experiment with the paramecium shows this principle.

4) Define *ecological niche.* What is the difference between the *fundamental niche* and the *realized niche*?

6) What is *herbivory*? Describe several defense mechanisms to predation that have evolved in plants.

9) Define and give an example of the following animal defenses:

a. **Cryptic coloration**:

ex.

**b. Aposematic :**

ex.

**c. Batesian mimicry:**

ex.

**d. Mullerian:**

ex.

10) Fill out the chart below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of interaction** | **Description** | **Example** | **+/+, +/–, –/–, +/0**  |
| *Parasitism* |  |  |  |
| *commensalism*  |  |  |  |
| *mutualism*  |  |  |  |

***41.2 Diversity and trophic structure characterize biological communities***

11) What is *species diversity*? What are its two components? Why is it important?



12) For the organisms in the pictured food chain, and label with the following terms:. (some may be used more than once or not at all) *producer, consumer, decomposer, autotroph, heterotroph, carnivore, herbivore, omnivore etc*.

13) According to the *energetic hypothesis*, why are food chains limited in length? How much energy is typically transferred to each higher level?

14) How is a *keystone species* different from a dominant species?

***41.3 Disturbance influences species diversity and composition***

17) *Ecological succession* is the changes in species that occupy an area after a disturbance. What is the difference between *primary succession* and *secondary succession*?

***41.4 Biogeographic factors affect community diversity***

18) Explain *latitudinal gradients* in terms of species richness. Where is species richness greatest?

19) Renowned American ecologists Robert MacArthur and E. O. Wilson developed a model of *island biogeography*. While the model can be demonstrated with islands, any isolated habitat represents an island. What are the two factors that determine the number of species on the island?