

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

Miller and Spoolman's Living in the Environment 16<sup>th</sup> ed.

Chapter 5-1, 5-2,5-4 Reading Guide – Biodiversity and Evolution

Case Study – Southern Sea Otters: Are They Back from the Brink of Extinction?

1. Describe how sea otters are a keystone species in their ecosystem.
2. Why is it important for us to care about saving the southern sea otter species?

Section 5-1 – How Do Species Interact?

3. Describe the following types of interactions between species.

|                           |  |
|---------------------------|--|
| Interspecific competition |  |
| Predation                 |  |
| Parasitism                |  |
| Mutualism                 |  |
| Commensalism              |  |

4. What is the competitive exclusion principle?
5. What is a predator-prey relationship? Describe an example.
6. Use the second law of thermodynamics to explain why predators are generally less abundant than their prey.
7. Describe the different ways prey evade or keep away their predators.
8. Describe how predator and prey species can lead each other's evolution.
9. Explain examples of parasitism, mutualism, and commensalism.

## Section 5-2 – How Can Natural Selection Reduce Competition between Species?

10. What is resource partitioning and what is its purpose?

## Section 5-4 – How Do Communities and Ecosystems Respond to Changing Environmental Conditions?

11. Differentiate between primary succession and secondary succession, and describe the process of each.
12. Explain how tolerance can increase biodiversity by increasing species diversity and functional diversity in an ecosystem.
13. What is a climax community and what does it indicate?