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**Unit 7 Reading Guide - Ecology**

Chapter 13.1-13.2 and Chapters 14, 15, & 16

**Chapter 13 – Principles of Ecology**

Section 13.1 & 15.1 -

1. LT 7.1 - What are the five levels of organization studied by ecologists?
2. LT 7.2 -Describe three general methods used by ecologists to study organisms.
3. LT 7.2 - Give an example of how each research method could be used to study an organism or a population?

Section 13.2

1. LT 7.3.A - Distinguish biotic factors from abiotic factors and give 2 examples of each.
2. LT 7.3.C - Explain biodiversity and its importance.
3. LT 7.3.B - Explain how a change in an abiotic factor such as sunlight would affect biodiversity.

**Chapter 14 – Interactions in Ecosystems**

Section 14.1

1. LT 7.5.A - Explain the difference between Habitat and Ecological Niche? What 3 factors does an organism’s niche include?
2. LT 7.5.B - What does the principle of competitive exclusion say will happen when two species compete for the same resource?

Section 14.2

1. Explain the difference between interspecific competition and intraspecific competition. Give an example of each.
2. LT 7.6.B - Define and give an example of each of the three types of symbiotic relationships.
3. LT 7.6.B – How are predation and parasitism similar? How do they differ?

Section 14.3

1. LT 7.1 & 7.7 - Contrast the terms population size and population density.
2. LT 7.7.A - Calculate the population density for the following example. 4,300 American Bison live in Yellowstone National Park which has a total area of 3,468mi2. What is the population density of Bison in Yellowstone?

Section 14.4

1. LT 7.8.A - What four factors determine the growth rate of a population?
2. LT 7.8.A - If a population were declining, what two factors are likely outpacing what other two factors?
3. LT 7.8.B - Describe the pattern of exponential growth. Under what conditions might a population undergo exponential growth?
4. LT 7.8.B - Describe the pattern of logistic growth. Under what conditions might a population undergo logistic growth?
5. LT 7.8.C - Explain how limiting factors relate to carrying capacity.
6. LT 7.8.C - Describe two situations that could happen as a population reaches its carrying capacity.
7. LT 7.7.B - Compare density-dependent factors and density-independent factors, and give an example of each.
8. LT 7.8.D – What type of population growth is represented by the human population? Give three examples of how technology has influenced human population growth.

Section 14.5

1. LT 7.9 - Give two examples of disturbances to a community.
2. LT 7.9 - Explain ecological succession. What is the main difference between primary and secondary succession?

**Chapter 15 – The Bioshpere**

Section 15.2

1. LT 7.10.A - What is the difference between climate and weather?
2. LT 7.10.A - Describe microclimate. Where in a forest might you find different microclimates?
3. LT 7.10.B - What factors contribute to Earth’s surface being heated unevenly? How does this uneven heating affect the different climate zones and different ecosystems?

Section 15.3

1. LT 7.10.C - Earth has 6 major biomes. What is a biome and what factors do we use to classify biomes?

**Chapter 16 – Human Impacts on Ecosystems**

Section 16.1

1. LT 7.11.A - What is an ecological footprint?
2. LT 7.11.B - Describe the greenhouse effect and how it relates to climate change.
3. LT 7.11.C – What is an introduced species? What type of damage can an introduced species cause?

Section 16.5

1. LT 7.12.A - Explain sustainable development and how it relates to conservation biology.