**Environmental Science Unit 1 Review Sheet**

Ecology: Chapters 5-6, 11

**Review Questions** (Answer all parts of each question using complete sentences on your own separate paper.)

**Chapter 5: Interactions: Environments & Organisms**

***Section 5.1: Ecological Concepts***

1. Contrast biotic and abiotic factors in an ecosystem.
2. Identify and describe the levels of organization in ecology.
3. Define an organism’s habitat. How is it different from the niche?

***Section5.2: Role of Natural Selection & Evolution***

1. Demonstrate the importance of adaptation by describing the steps by which a population of insects becomes resistant to a pesticide.

**Section 5.4: Community & Ecosystem Interactions**

1. Describe one way in which consumers depend on producers.
2. What is the ultimate source of energy?
3. Describe the different types of consumers.
4. Explain how energy transfer in a food web is more complex than energy transfer in a food chain.
5. Explain how trophic levels are represented on food pyramids.
6. How much energy gets transferred from trophic level to the next? Explain why.
7. Describe the processes taking place in the carbon cycle.
8. Identify one way that humans are affecting the carbon cycle.
9. How do plants play a crucial role in the carbon cycle?
10. List the three stages of the nitrogen cycle.
11. Describe the role that nitrogen-fixing bacteria play in the nitrogen cycle.
12. Explain how the use of excess fertilizer can affect the nitrogen and phosphorus cycles.
13. Describe how each of the following is involved in the phosphorus cycle: phosphorus in rock, producer, consumer, animal waste respiration & decomposer.

***Chapter 6: Kinds of Ecosystems & Communities***

***Section 1: Succession***

1. Describe the two types of ecological succession (primary and secondary).
2. Give examples of the two types of ecological succession.
3. Which type of succession takes less time? Why is this true?
4. Explain the role of pioneer species in ecological succession.
5. Describe the characteristics of the climax community.

***Section 2: Biomes are Determined by Climate***

1. What factors contribute to the characteristics within different types of biomes?
2. Describe why vegetation is used to name a biome.
3. Explain how latitude and altitude affect which plants grow in an area.

**Chapter 11: Biodiversity Issues**

1. Define biodiversity and explain at least four ways in which biodiversity is important to ecosystems and humans.
2. Analyze the importance of a keystone species.
3. Analyze the potential value of a single species (population survival, medical, agricultural, recreational uses, etc.).
4. Compare the terms endangered, threatened and extinct.
5. Define and give three examples of endangered and threatened species.
6. Describe several ways that species are being threatened with extinction globally.

**Draw the following table on your OWN paper and complete.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Temperature** | **Rainfall** | **Biotic Factors** | **Characteristics**  **or Functions** | **Threats to Biomes** |
| Tundra |  |  |  |  |  |
| Taiga |  |  |  |  |  |
| Temperate Deciduous Forest |  |  |  |  |  |
| Temperate Grasslands |  |  |  |  |  |
| Desert |  |  |  |  |  |
| Tropical Rain Forest |  |  |  |  |  |
| Savanna |  |  |  |  |  |
| Lakes and Ponds |  |  |  |  |  |
| Wetlands |  |  |  |  |  |
| Rivers |  |  |  |  |  |
| Estuaries |  |  |  |  |  |
| Marine (Oceans) |  |  |  |  |  |
| Coral Reefs |  |  |  |  |  |