**(AP) ENVIRONMENTAL SCIENCE 2022-23 October 21, 2022**

**Today’s Agenda (Day 41)**

1. Housekeeping Items

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1. Homework Check:

🡪 Chapter 5 Vocabulary

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1. Class Activity:

🡪**SLC: a) Exemplar by the Seniors**

**b) Mock SLC**

🡪MONDAY: Chapter 5 PPT Review

1. Section 5.1 – Ecological Concepts
2. Section 5.2 – The Role of Natural Selection and Evolution
3. Section 5.3 – Kinds of Organism Interactions
4. Section 5.4 – Community and Ecosystem Interactions

HOMEWORK:

* READ: Chapter 5 – Interaction: Environments & Organisms
* COMPLETE: Chapter 5 Reading Guide
* **STUDY**: Chapter 5 Vocabulary Quiz and Test

CHAPTER 5 – Interaction: Environments & Organisms

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| Abiotic factors | Biogeochemical cycles | Biomass | Biotic factors | Carbon cycle | Carnivores |
| Coevolution | Commensalism | Community | Competition | Competitive exclusion principle | Consumers |
| Decomposers | Denitrifying bacteria | Ecology | Ecosystem | Ectoparasites | Endoparasites |
| Environment | Evolution | Extinction | Food chain | Food web | Free-living nitrogen-fixing bacteria |
| Genes | Habitat | Herbivores | Host | Interspecific competition | Intraspecific competition |
| Keystone species | Limiting factor | Mutualism | Mycorrhizae | Natural selection | Niche |
| Nitrifying bacteria | Nitrogen cycle | Nitrogen-fixing bacteria | Omnivores | Parasite | Parasitism |
| Phosphorus cycle | Phytoplankton | Polyploidy | Population | Predation | Predator |
| Prey | Primary consumers | Producers | Range of tolerance | Secondary consumers | Speciation |
| Species | Symbiosis | Symbiotic nitrogen-fixing bacteria | Trophic level |  |  |

REMINDERS

* Chapter 5 Reading Guide – Oct. 24
* **QUIZ: Ch 5 Vocabulary 🡪 October 25**
* **TEST: Ch 5 🡪 Oct. 27**

**(AP) ENVIRONMENTAL SCIENCE 2022-23 READING GUIDE**

**CHAPTER 5**

REVIEW QUESTIONS

1. List three abiotic and three biotic factors of your environment.

2. Describe a primary limiting factor for reptiles.

3. How is an organism’s niche different from its habitat?

4. Describe, in detail, the niche of a human.

5. How are the concepts of population and species similar?

6. Describe how genetic differences, number of offspring, and death are related to the concept of natural selection.

7. How is natural selection related to the concept of niche?

8. What is speciation and why does it occur?

9. Why does extinction occur?

10. Give an example of coevolution.

11. List five predators and their prey organisms.

12. Describe the difference between interspecific and intraspecific competition.

13. What do parasitism, mutualism, and commensalism have in common? How are they different?

14. How do the concepts of ecosystem and community differ?

15. What roles do producers, consumers, and decomposers fulfill in an ecosystem?

16. Give examples of organisms that are herbivores, carnivores, and omnivores.

17. What distinguishes a keystone species from other species in an ecosystem?

18. How is the concept of trophic levels related to energy flow in an ecosystem?

19. Describe a food chain and a food web.

20. Describe how each of the following is involved in the carbon cycle: carbon dioxide, producer, organic compounds, consumer, respiration, and decomposer.

21. List three changes to the carbon cycle caused by human activity.

22. Describe how each of the following is involved in the nitrogen cycle: atmospheric nitrogen, nitrogen-fixing bacteria, nitrifying bacteria, denitrifying bacteria, producer, protein, consumer, and decomposer.

23. List three ways humans have altered the nitrogen cycle.

24. Describe how each of the following is involved in the phosphorus cycle: phosphorus in rock, producer, consumer, animal waste, respiration, and decomposer.

CRITICAL THINKING QUESTIONS [for APES students only]

1. Many people in the world have very little protein in their diet. They are often able to grow crops to feed themselves but do not raise cattle or other sources of meat. Describe why these people are not likely to use some of the crops they raise to feed to cattle.

2. Some people predict that the available sources of phosphorus from mines will be exhausted in the next 50 years. Describe what changes are likely to occur in ecosystems if phosphorus is not available.

3. Polar bears hunt seals from ice and have been placed on the endangered species list due to warming temperatures. Why has the habitat of the polar bear changed?