**(AP) ENVIRONMENTAL SCIENCE 2022-23 November 4, 2022**

**Today’s Agenda (Day 50)**

1. Housekeeping Items

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1. Homework Check:

🡪 Chapter 6 Vocabulary

🡪 Ch 6 Reading Guide

1. Class Activity:

🡪 DAY 2: Chapter 6 PPT Review

1. **Section 6.2 – Biomes are determined by climate**
2. Section 6.3 – Major biomes of the world
3. Section 6.4 – Major aquatic ecosystems

HOMEWORK:

* READ: CHAPTER 6 – Kinds of Ecosystems & Communities
* COMPLETE: Chapter 7 Vocabulary
* **STUDY**: Chapter 6 Test

CHAPTER 6 – Kinds of Ecosystems & Communities

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Abyssal ecosystem | Alpine tundra | Benthic ecosystem | Biochemical oxygen demand | Biomes  | Boreal forest |
| Chaparral | Climax community | Coral reef ecosystem | Deserts | Emergent plants | Estuary |
| Euphotic zone | Eutrophic lake | Freshwater ecosystems | Limnetic zone | Littoral zone | Mangrove swamp ecosystem |
| Marine ecosystem | Marsh | Mediterranean shrublands |  Oligotrophic lake | Pelagic ecosystem | Periphyton  |
| Permafrost | Phytoplankton | Pioneer community | Plankton | Primary succession | Savanna |
| Secondary succession | Seral stage | Sere | Steppes | Submerged plants | Succession |
| Successional stage | Swamps | Taiga | Temperate deciduous forest | Temperate grasslands | Temperate rainforests |
| Tropical dry forest | Tropical rainforests | Tundra | Zooplankton |  |  |

CHAPTER 7 – Populations

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| --- | --- | --- | --- | --- | --- |
| Affluence | Age distribution | Asexual reproduction  | Biotic potential | Birth rate | Carrying capacity |
| Death phase | Death rate | Deceleration phase | Demography | Density-dependent limiting factors | Dispersal |
| Doubling time | Ecological footprint | Emigration | Environmental resistance | Exponential growth phase (log phase) | Extrinsic limiting factors |
| Gross national income | Immigration  | intrinsic limiting factors | K-strategists | Lag phase | Less-developed countries |
| Limiting factors | More-developed countries | Mortality | Natality | Population | Population density |
| Population growth rate | R-strategists | Replacement fertility | Sex ratio | Sexual reproduction | Stable equilibrium phase |
| Standard of living  | Survivorship curve | Total fertility rate | Zero population growth |  |  |

REMINDERS

* **TEST: Ch 6 🡪 Nov. 8**
* Ch 7 Vocabulary – Nov. 8
* **QUIZ: Ch 7 Vocabulary – Nov. 10**
* **TEST: Ch 7 🡪 Nov. 15**

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

**CHAPTER 6**

REVIEW QUESTIONS

1. Describe the process of succession. How does primary succession differ from secondary succession?

2. How does a climax community differ from a successional community?

3. List two abiotic characteristics typical of each of the following biomes: tropical rainforest, desert, tundra, taiga, savanna, Mediterranean shrublands, tropical dry forest, temperate grassland, temperate rainforest, and temperate deciduous forest.

4. List two biotic characteristics typical of each of the following biomes: tropical rainforest, desert, tundra, taiga, savanna, Mediterranean shrublands, tropical dry forest, temperate grassland, temperate rainforest, and temperate deciduous forest.

5. What two primary factors determine the kind of terrestrial biome that will develop in an area?

6. How does height above sea level affect the kind of biome present?

7. What areas of the ocean are the most productive?

8. What is the role of each of the following organisms in a marine ecosystem: phytoplankton, zooplankton, algae, coral animals, and fish?

9. Which of the following organisms functions only in the euphotic zone: seaweed, crabs, phytoplankton, fish?

10. List three differences between freshwater and marine ecosystems. 11. What is an estuary? Why are estuaries important?

CRITICAL THINKING QUESTIONS [for APES students only]

1. Does the concept of a “climax community” make sense? Why or why not?

2. What do you think about restoring ecosystems that have been degraded by human activity? Should it be done or not? Why? Who should pay for this reconstruction?

3. Identify the biome in which you live. What environmental factors are instrumental in maintaining this biome? What is the current health of your biome? What are the current threats to its health? How might your biome have looked 100, 1,000, 10,000 years ago?

4. Imagine you are a conservation biologist who is being asked by local residents what the likely environmental outcomes of development would be in the tropical rainforest in which they live. What would you tell them? Why do you give them this evaluation? What evidence can you cite for your claims?

5. The text says that about half of the old-growth temperate rainforest in the Pacific Northwest has been logged. What to do with the remaining forest is still a question. Some say it should be logged, and others say it should be preserved. What values, beliefs, and perspectives are held by each side? What is your ethic regarding logging old-growth in this area? What values, beliefs, and perspectives do you hold regarding this issue?

6. Much of the old-growth forest in the United States has been logged, economic gains have been realized, and second-growth forests have become established. This is not the case in the tropical rainforests, although they are being lost at alarming rates. Should developed countries, which have already “cashed in” on their resources, have anything to say about what is happening in developing countries? Why do you think the way you do?