

Ecology Study Guide

1. What is ecology? Identify and describe the various levels of organization that are studied in the field of ecology.
2. Describe j-curve vs. s-curve population growth patterns. What are examples of the factors that affect population growth (physical and biological)? List some population limiting factors. What is the difference between density dependent and density independent limiting factors? Give examples.
3. Describe R and K life history strategies. Give examples of organisms in each category. What is the significance of carrying capacity? Describe human population growth patterns.
4. What is a community? What are ecological dominants? What are keystone species? what biotic factors influence community structure?
5. What does biodiversity mean? What are the three components of biodiversity?
6. What are habitats? What is an ecological niche? What is a food web?
7. Describe the difference between interspecific interactions vs intraspecific interactions?
8. Describe the various kinds of community interactions: competition, predation, parasitism, mutualism and commensalism. Give examples for each.
9. How do predator-prey relationships affect the populations of each?
10. What is succession? What's the difference between primary and secondary succession. Describe the typical pattern of succession.
11. Identify and describe the various abiotic factors that affect/maintain ecosystems. Diagram water and carbon cycles.
12. Describe the energy cycle and trophic levels in an ecosystem. Approximately how much energy from each level is transferred to the next one up?
13. Describe the roles of primary producers, primary consumers, secondary consumers, tertiary consumers and decomposers in an ecosystem.
14. Describe the layers of the atmosphere. How do these affect the climate of the Earth?
15. What's a biome? For each of the world's biomes give a brief description of the climate, locations and organisms.