Biodiversity Study Guide

1. What is biological diversity? What are three components? Describe them.
2. What is the difference between a community and a population?
3. Describe variation and list an example of variation among species and an example within a species.
4. What are 3 types of symbiotic relationships? Give an example of each.
5. Describe the relationship between a species and a population.
6. Give the definition and state an example of a niche.
7. Describe how variation plays a role in species’ ability to survive in specific niches/habitats.
8. Give an example of how species can be dependent on other species (ie. A predator-prey relationship).
9. Why is variation important when considering environmental changes?
10. What is the difference between asexual and sexual reproduction?
11. List the types of asexual reproduction. Provide examples of organisms that undergo each type.
12. How is an embryo and a zygote formed in a plant? An animal?
13. What is an example of discrete variation? Continuous variation?
14. Draw a diagram of mitosis and meiosis. Show the differences between them.
15. What is incomplete dominance? Give an example.
16. What is the difference between heritable and non-heritable characteristics?
17. Give an example of a characteristic that is affected by both heredity and the environment.
18. What is the relationship between chromosomes, genes, and DNA?
19. What are the advantages and disadvantages of asexual reproduction?
20. What are the advantages and disadvantages of sexual reproduction?
21. What is the difference between natural and artificial selection?
22. What are examples of natural and artificial selection?
23. Name a technology used for genetic engineering and discuss the issues associated with it.
24. Where on Earth is the greatest species diversity? Explain.
25. What is the difference between extinction and extirpation? Can you name a species that have faced each of these?
26. Describe an environmental factor that causes the changes above.
27. Name the strategies used to minimize species loss and list the advantages and disadvantages associated with each.
28. What are the advantages and disadvantages of biotechnologies (such as cloning, genetic engineering, etc.).
29. What impacts can biotechnology’s use have on the environment or on society?

