Name _____

Our Planet Of Life (p. 200 – 206)

I. Biodiversity

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1. Define the term biodiversity.

Biodiversity – the variety of life across all levels of ecological organization

2. What are the three types of biodiversity?

1. Species 2. Genetic 3. Ecosystem

3. Match each term with the correct definition.

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1. C. Ecosystem Diversity
2. A Genetic Diversity (Eternal Life)?
3. B. Species Diversity

A. Differences in DNA among individuals
B. Number or variety of species in a particular area
C. Number & variety of ecosystems in an area

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4. How does each of the following scenarios develop?

New Species Generated : Speciation (Divergence) (San Joaquin Valley)

Loss Of Species : Extinction (Cretaceous, Permian, Holocene)

5. Define the term taxonomy.

Taxonomy – science of grouping + naming organisms (developed by Carolus Linneaus)

6. List the traditional order of taxonomic classification. *(We will complete the example in class.*

Kingdom	=	Animalia	[GENERAL]
Phylum	=	Chordata	
Class	=	Mammalia	
Order	=	Carnivora	
Family	=	Felidae	
Genus	=	Felis	
Species	=	*Felis concolor*	[SPECIFIC]

7. How is a subspecies different than a species?

- Genetically different characteristics (size, color) among members of the same species

E.g. Cats + dogs – Homo sapiens sapiens

Name _____

II. Biodiversity Distribution

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1. **Worldwide, how many species have been identified?**

   a. 2 million b. 20 million c. 2 billion d. 20 billion

2. **What is the estimated total number of species worldwide?**

   a. 2-5 million b. 5-6 million c. 10-20 million d. 5-30 million

3. **Why do biodiversity estimates vary significantly?**

   1. Some ecosystem are unexplored (ocean, mountains, islands)
   2. Some organisms are small (bacteria, fungi)
   3. Difficult to identify (microbes, fungi, small insects)

4. **What are two natural patterns of biodiversity?**

   1. Latitudinal gradient (Equator = more species) 2. Habitat Diversity (More diverse = more species)

III. Benefits Of Biodiversity

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1. **High levels of biodiversity tend to increase stability of communities & ecosystems.**

   Circle One : True False

2. **How can ecosystems be resistant and resilient?**

   Leads to stability

   Resistant : Resist change without losing function

   Resilient : Affected by change, but can bounce back

3. **How has *Zea diploperennis* been agriculturally beneficial?**

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   - It is resistant to disease and perennial (Crossbred to make stronger hybrids)

4. **List 4 medicines that are derived from naturally occurring organisms?**

   1. Rosy periwinkle (leukemia) 2. Colchicine (cancer) 3. Digitoxin (heart medicine) 4. Quinine (malaria)

5. **Define the term ecotourism.**

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   Ecotourism – environmentally responsible travel to protected natural areas for the purpose of appreciating nature, promoting conservation + providing economic benefit

6. **Do you believe that the white-tailed deer has rights? Be able to justify your answer.**

   - Answers vary!