SG Ch.1 APES Name _____

AFTER YOU READ THE MODULE

Review Key Terms

Match the Key Terms on the left with the definitions on the right.

_____1. Ecosystem services	a. The diversity of life forms in an environment
_____2. Environmental indicator	b. A measure of the genetic variation among individuals in a population
_____3. Biodiversity	c. Development that balances current human well-being and economic advancement with resource management for the benefit of future generations
_____4. Genetic diversity	d. Love of life
_____5. Species	e. Improvement in human well-being through economic advancement
_____6. Species diversity	f. An indicator that describes the current state of an environmental system
_____7. Speciation	g. A group of organisms that is distinct from other groups in its morphology, behavior, or biochemical properties
____8. Background extinction rate	h. Living on Earth in a way that allows humans to use its resources without depriving future generations of those resources
_____9. Greenhouse gasses	i. A measure of how much an individual consumes, expressed in an area of land
_____10. Anthropogenic	j. The evolution of new species
_____11. Development	k. The number of species in a region or in a particular type of habitat
_____12. Sustainability	l. Derived from human activities
_____13. Sustainable development	m. The average rate at which species become extinct over the long term
_____14. Biophilia	n. Gasses in Earth's atmosphere that trap heat near the surface
_____15. Ecological footprint	o. The processes by which life-supporting resources such as clean water, timber, fisheries, and agricultural crops are produced

Review Key Terms

Match the key terms on the left with the definitions on the right.

_____1. Fracking	a. Field of study that includes environmental science, environmental policy, economics, literature, and ethics
_____2. Environment	b. Living
_____3. Environmental Science	c. Nonliving
_____4. Ecosystem	d. A person participates in environmentalism, a social movement that seeks to protect the environment through lobbying, activism, and education
_____5. Biotic	e. A particular location on Earth distinguished by its mix of interacting biotic and abiotic components
_____6. Abiotic	f. The field of study that looks at interactions among human systems and those found in nature
_____7. Environmentalist	g. The sum of all the conditions surrounding us that influence life
_____8. Environmental Studies	h. A method of oil and gas extraction that uses high-pressure fluids to open cracks in rocks deep underground

Review Key Terms

Match the key terms on the left with the definitions on the right.

_____1. Scientific method	a. A statement or idea that can be falsified, or proven wrong
_____2. Hypothesis	b. An objective method to explore the natural world, draw inferences from it, and predict the outcome of certain events, processes, or changes
_____3. Null hypothesis	c. An estimate of how much a measured or calculated value differs from a true value
_____4. Replication	d. The data collection procedure of taking repeated measurements
_____5. Sample size	e. A natural event that acts as an experimental treatment in an ecosystem
_____6. Accuracy	f. A hypothesis that has been repeatedly tested and confirmed by multiple groups of researchers and has reached wide acceptance
_____7. Precision	g. In a scientific investigation, a group that experiences exactly the same conditions as the experiment group, except for the single variable under study
_____8. Uncertainty	h. How close a measured value is to the actual or true value
_____9. Theory	i. The number of times a measurement is replicated in the data collection process
_____10. Control group	j. A testable theory or supposition about how something works
_____11. Natural experiment	k. How close the repeated measurements of a sample are to one another

Complete the table below to identify how human activities have affected the environment and to identify relevant environmental indicators that can help us evaluate the current state of the system.

Human Activity	Environmental Impact	Environmental Indicator
Increased numbers of human population		
Land use changes/ Increased urbanization/ agriculture		
Increased rate of species extinctions		
Food production		
Burning fossil fuels		
Overfishing		

Short Answer Questions

1. What disciplines are incorporated into the study of environmental science?

2. List the 5 key global-scale environmental indicators?

3. Describe the following:

genetic diversity -

species diversity -

ecosystem diversity -

4. Give an example of an anthropogenic activity.

5. Currently, what is the size of the human population? _____

6. What is a person's ecological footprint?

7. List the steps of the scientific method.

Practice the Math: Converting Between Hectares and Acres

Read "Do the Math: Converting Between Hectares and Acres" on page 11. Try "Your Turn." For more math practice, do the following problems. Remember to show your work. Use a separate sheet of paper if necessary.

2.5 acres = 1 hectare (ha)
1 acre = 0.40 ha

Convert the following from acres to hectares.

50,000 acres = _____ hectares

75,000 acres = _____ hectares

150,000 acres = _____ hectares

Practice the Math: Rates of Forest Clearing

Read "Do the Math: Rates of Forest Clearing" on page 14. Try "Your Turn." For more math practice, do the following exercise. Remember to show your work. Use a separate sheet of paper if necessary. (1 acre = 0.40 ha)

Environmental organizations have yielded a range of estimates of the amount of forest clearing that is occurring in the Brazilian Amazon. Convert the first two estimates into hectares per day and compare the three estimates

- Estimate 1: 15 acre per minute
- Estimate 2: 22,000 acre per day
- Estimate 3: 8,000 ha per day