

Student: _____

1. Evidence that the universe originated in a "big bang" includes
 - A. The differences in compositions of the planets
 - B. The observation that stars are all moving apart
 - C. The fact that stars radiate energy
 - D. All of the choices are correct
2. The planets
 - A. Formed from the same cloud of gas and dust as the sun
 - B. Formed in different places in space and were drawn to the sun by gravity
 - C. Formed billions of years after the sun
 - D. Were ejected from the sun as molten matter early in its history
3. The age of the earth is estimated to be 4.5 billion years based on the analysis of these
 - A. Moon rocks should also include meteorites
 - B. Martian rocks
 - C. rocks found in Australia
 - D. Rocks found in the Canadian Rockies
4. The compositions of the planets
 - A. Are all very similar, so other planets may be able to support life or provide needed resources
 - B. Are entirely unknown; geologists cannot judge their similarity to earth
 - C. Were originally the same but have been changed by radiation from the sun over the life of the solar system
 - D. Were controlled by the distance from the sun at which each formed, except for the largest planets
5. Sources of heat in the early earth included
 - A. Compression by gravity
 - B. The impact of colliding particles as they came together to form the earth
 - C. Decay of radioactive elements
 - D. All of the choices are correct
6. Which of the following was not a consequence of the early heating of the earth?
 - A. Internal differentiation, forming core, mantle and crust
 - B. Formation of the oceans
 - C. Release of abundant, free oxygen into the atmosphere
 - D. Formation of an atmosphere
7. The age of the earth is estimated to be ____ billion years.
 - A. 4.5
 - B. 4.0
 - C. 5.0
 - D. 5.5
8. The presence of free oxygen in the atmosphere is attributed mainly to
 - A. Volcanic activity
 - B. Development of plant life, especially algae
 - C. Formation of the inner core
 - D. Formation of the outer core

9. Human beings, as the species *Homo sapiens*, have existed on earth for approximately
 - A. 0.00012 (0.12 thousandths) of the earth's history
 - B. 1 percent of the earth's history
 - C. 10 percent of the earth's history

Homo sapiens originated on Mars, which was much warmer when the sun was younger and its luminosity was greater. Our ancestors colonized Earth as Mars became too cold for habitation, just as we will colonize Venus when Earth becomes colder as the sun's energy fades
10. Which of the following has existed unchanged from the time of the earth's formation to the present?
 - A. Continents
 - B. The sea floor
 - C. The atmosphere
 - D. None of the choices are correct
11. Considerations that complicate the search for understanding of geologic processes include
 - A. The very long times required for some kinds of changes to occur
 - B. The fact that many different events may have affected one rock during its history
 - C. The fact that it may be difficult to relate the results of controlled laboratory experiments to natural systems
 - D. All of the choices are correct
12. Which of the following aspects of human interaction with earth is not true
 - A. Human activity has caused some species to become extinct
 - B. Humans have the ability to eradicate entire rain forests
 - C. Humans are able to correct some of their environmental mistakes
 - D. Humans have the ability to alter plate tectonics
13. Which of the following statements is not true?
 - A. Human activities may increase the dangers from certain geologic hazards
 - B. Many geologic hazards have existed throughout human history
 - C. Certain problems, such as resource shortages, will become less severe when other planets or the moon are colonized in the next few decades
 - D. Some environmental problems, such as those related to pollution, were unrecognized until very recently
14. A scientific hypothesis that is subsequently extensively tested and continues to appear valid may be called a
 - A. Scientific method
 - B. Theory
 - C. Fact
 - D. Prediction
15. ____ are developed to provide explanations of data or observations
 - A. Scientific methods
 - B. Theories
 - C. Hypotheses
 - D. None of the choices are correct
16. The hypothesis that these evolved into birds is now considered to be a theory (Science, vol. 316, no. 5822, April 13, 2007)
 - A. Trilobites
 - B. Dinosaurs
 - C. Jurassic mammals
 - D. Ammonites

17. As population increases,
 - A. Demand for resources will tend to increase
 - B. Growing demand for resources will ensure that more will always be found
 - C. Natural systems will continue to compensate adequately for such disruptions as pollution; the earth is a big place
 - D. All of the choices are correct
18. The maximum population of a species that an ecosystem can sustain is called
 - A. Carrying capacity
 - B. Limiting capacity
 - C. Maximum limiting population
 - D. Maximum sustaining population
19. A population's doubling time
 - A. Increases as life expectancy increases
 - B. Is the length of time required for that population to double
 - C. Will be fifty years if the population grows at 2 percent per year
 - D. All of the choices are correct
20. In which of the following areas is population growth at present most rapid?
 - A. North America
 - B. the former Soviet Union
 - C. Europe
 - D. Africa
21. The average global population growth rate as of 2005 was about
 - A. 10 percent per year
 - B. 3 percent per year
 - C. 1.2 percent per year
 - D. zero; world population has stabilized
22. Which of the following statements is not true?
 - A. If all of the world's people enjoyed a standard of living similar to that in the United States, resource consumption would increase dramatically
 - B. People are unevenly distributed around the world, but resources are uniformly distributed among nations
 - C. Political considerations may affect resource availability
 - D. Increasing resource use is generally accompanied by increasing production of waste
23. The population size changes by the difference between the birth rate and death rate of individuals. What factors influence these rates?
 - A. Environment
 - B. Fertility
 - C. Nutrition
 - D. All of the choices are correct
24. The population of this continent is expected to double by 2050? (this is repetitive with question 21-have one or the other)
 - A. North America
 - B. Asia
 - C. South America
 - D. Africa
25. It is impossible to estimate the age of the universe.
True False
26. Many compositional features of the earth, including its abundant surface water, are unique in the solar system.
True False

27. The starting composition of the solar nebula can be inferred from studies of stars.
True False
28. It is impossible to know the internal composition or structure of the earth because geologists cannot sample the interior.
True False
29. The least dense minerals are found in earth's core.
True False
30. Once internal differentiation was complete, the earth's surface remained essentially unchanged to the present.
True False
31. The best records of ancient life are those for the last 600 million years, when organisms with hard parts became widespread.)
True False
32. Human ancestral remains appear quite late in the geologic record, within only the last 3 to 4 million years.
True False
33. Mammoths became extinct during the most recent "mass extinction" approximately 10,000 years ago.
True False
34. The scientific method cannot be applied to the study of the earth, because we cannot experiment on the earth.
True False
35. Humans can, to some extent, control their surroundings, disease and other factors, so human populations are subject to fewer checks than animal populations.
True False
36. World population has been growing more and more rapidly over the past several millennia.
True False
37. Population growth rates are very non-uniform worldwide, with the fastest rates of increase in the technologically advanced countries.
True False
38. At present (2005) growth rates, the doubling time of the world's population is about 58 years.
True False
39. Exporting U.S. agricultural production methods to the rest of the world might increase food production but would also increase energy demands.
True False
40. Land—both to live on and to grow food on—is in abundant supply on earth, though other resources are limited.
True False
41. Because of agricultural impact on soil nutrients, crops grown in the U.S. are less nutritious compared to 50 years ago.
True False
42. World population has now stabilized because of limitations imposed by resource shortages.
True False
43. The carrying capacity for humans is not known. (understand)
True False

44. Lack of habitable land on earth is a problem that could readily be alleviated by colonization of nearby planets or of the earth's moon.
True False
45. The seriousness of many environmental problems is a direct result of the large number of humans interacting with the environment.
True False
46. When a population is growing exponentially, it is increasing by a fixed percentage per unit time.
True False
47. Earth's population will be stabilized when its growth rate becomes constant.
True False
48. The massive size of continents contributes to their permanence; they have remained stable and virtually unchanged since they formed.
True False
49. Geologic processes can be described in a series of distinct and independent cycles of air, water and rock.
True False

1 Key

1. Evidence that the universe originated in a "big bang" includes
- A. The differences in compositions of the planets
 - B. The observation that stars are all moving apart**
 - C. The fact that stars radiate energy
 - D. All of the choices are correct

Montgomery - Chapter 01 #1

2. The planets
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Montgomery - Chapter 01 #2

3. The age of the earth is estimated to be 4.5 billion years based on the analysis of these
- A. Moon rocks should also include meteorites**
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Montgomery - Chapter 01 #3

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Montgomery - Chapter 01 #4

5. Sources of heat in the early earth included
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Montgomery - Chapter 01 #5

6. Which of the following was not a consequence of the early heating of the earth?
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Montgomery - Chapter 01 #6

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Montgomery - Chapter 01 #7

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Montgomery - Chapter 01 #8

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Montgomery - Chapter 01 #9

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Montgomery - Chapter 01 #10

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Montgomery - Chapter 01 #11

12. Which of the following aspects of human interaction with earth is not true
A. Human activity has caused some species to become extinct
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Montgomery - Chapter 01 #12

13. Which of the following statements is not true?
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Montgomery - Chapter 01 #13

14. A scientific hypothesis that is subsequently extensively tested and continues to appear valid may be called a
A. Scientific method
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Montgomery - Chapter 01 #14

15. _____ are developed to provide explanations of data or observations
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Montgomery - Chapter 01 #15

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Montgomery - Chapter 01 #16

Montgomery - Chapter 01 #17

Montgomery - Chapter 01 #18

Montgomery - Chapter 01 #19

Montgomery - Chapter 01 #20

Montgomery - Chapter 01 #21

Montgomery - Chapter 01 #22

Montgomery - Chapter 01 #23

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Montgomery - Chapter 01 #24

Montgomery - Chapter 01 #25

Montgomery - Chapter 01 #26

Montgomery - Chapter 01 #27

Montgomery - Chapter 01 #28

Montgomery - Chapter 01 #29

Montgomery - Chapter 01 #30

Montgomery - Chapter 01 #31

Montgomery - Chapter 01 #32

Montgomery - Chapter 01 #33

Montgomery - Chapter 01 #34

Montgomery - Chapter 01 #35

Montgomery - Chapter 01 #36

37. Population growth rates are very non-uniform worldwide, with the fastest rates of increase in the technologically advanced countries.
FALSE
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FALSE *Montgomery - Chapter 01 #46*
48. The massive size of continents contributes to their permanence; they have remained stable and virtually unchanged since they formed.
FALSE *Montgomery - Chapter 01 #47*
49. Geologic processes can be described in a series of distinct and independent cycles of air, water and rock.
FALSE *Montgomery - Chapter 01 #48*

1 Summary

<u>Category</u>	<u># of Questions</u>
Montgomery - Chapter 01	49