# Earth Science - Chapter 1 Study Guide

#### **Multiple Choice**

*Identify the choice that best completes the statement or answers the question.* 

Write the letter that best answers the question or completes the statement on the line provided.

1. Which of the following is NOT one of the main areas of Earth science?

- a. geology c. astrology
- b. oceanography d. astronomy
- The area of Earth science that examines the physical and biological changes that have occurred in Earth's past is called
  - a. meteorology. c. oceanography.
  - b. physical geology. d. historical geology.
- 3. According to the nebular hypothesis, our solar system formed from a huge rotating cloud made mostly of
  - a. carbon and hydrogen. c. oxygen and helium.
  - b. helium and hydrogen. d. nitrogen and oxygen.
- 4. Which of Earth's spheres includes the oceans, groundwater, lakes, and glaciers?

a.	atmosphere	c.	hydrosphere
b.	biosphere	d.	geosphere

- 5. The asthenosphere and lithosphere are parts of Earth's
  - a. geosphere. c. hydrosphere.
  - b. biosphere. d. atmosphere.
- \_\_\_\_6. What are the three main parts of the geosphere?
  - a. atmosphere, crust, core c. crust, mantle, core
  - b. lithosphere, mantle, core d. asthenosphere, lithosphere, atmosphere
- 7. The theory of plate tectonics helps scientists explain
  - a. how ocean currents move over Earth's surface.
  - b. why hurricanes occur.
  - c. how earthquakes and volcanic eruptions occur.
  - d. why Earth's mantle is more dense than its crust.
  - 8. On the global grid, the prime meridian is at

a.	0° latitude.	с.	90°	latitude.
b.	0° longitude.	d.	90°	longitude.

 9.	A Mercator projection map shows accurate				
	directions, but has distorted sizes and distances. distances, sizes, and shapes, but has distortions around the edges. size, but has distorted distances. size and accuracy only at the center of the map.				
 10.	Which type of map best shows differences in elevat	/hich type of map best shows differences in elevation?			
		gnomonic topographic			
 11.	On a topographic map, contour lines that form a cir	n a topographic map, contour lines that form a circle indicate			
	b. a hill. d.	an ocean. a depression.			
 12.	On a topographic map, the elevation of an area wit	h contour lines that are very far apart is			
		constantly changing. mountainous.			
 13.	We can say that Earth is a system because all of its	Ve can say that Earth is a system because all of its parts			
	,	were formed at the same time. are powered by the same energy source.			
 14.	Which of the following would be one of the interac	Vhich of the following would be one of the interacting parts in a weather system?			
		tectonic plate GPS unit			
 15.	Vhich of the following are powered by energy from Earth's interior?				
		volcanoes weather			
 16.	Which of the following is an example of a renewabl	Vhich of the following is an example of a renewable resource?			
		aluminum plants			
 17.	Which of the following is an environmental hazard	Vhich of the following is an environmental hazard created by humans?			
	•	hurricane drought			

- 18. A scientific hypothesis can become a theory if
  - a. the entire scientific community accepts it.
  - b. the hypothesis is tested extensively and competing hypotheses are eliminated.
  - c. there are no other competing hypotheses.
  - d. the hypothesis can be tested at least once.

### Completion

Complete each statement.

Complete each statement on the line provided.

- 19. Agroup of sciences called \_\_\_\_\_\_\_ science deals with Earth and its neighbors in space.
- 20. The \_\_\_\_\_\_ hypothesis suggests that our solar system evolved from a huge rotating cloud.
- 21. Earth can be divided into four major spheres: the hydrosphere, the atmosphere, the \_\_\_\_\_\_, and the biosphere.
- 22. Earth's lower mantle lies below the \_\_\_\_\_\_.
- 23. According to the theory of plate tectonics, \_\_\_\_\_\_ forces such as volcanism and mountain building receive energy from Earth's interior.
- 24. Lines of \_\_\_\_\_\_are used to measure distances north or south of the equator.
- 25. A(n) \_\_\_\_\_\_map projection is a rectangular representation of Earth that shows accurate directions, but distorts sizes and distances.
- 26. The major difference between a topographic map and other maps is that a topographic map shows
- 27. Earth as a system is made up of many \_\_\_\_\_\_ that interact.
- 28. A(n) \_\_\_\_\_\_\_ is a group of interacting parts that form a complex whole.
- 29. A major problem caused by humans is the contamination and depletion of \_\_\_\_\_resources.
- 30. Water, wind, and solar energy are considered \_\_\_\_\_\_ resources because they can be replenished over relatively short time spans.
- 31. Only after a hypothesis has been tested extensively can it become a scientific \_\_\_\_\_\_.

### **Short Answer**

32. Give two examples of human activities that affect Earth systems.

33. **Applying Concepts** Explain why oil, natural gas, and coal are considered nonrenewable resources, whereas water and wind are considered renewable resources.

## Essay

*In complete sentences, write the answer to the question on the lines provided.* 

34. Earth as a System Discuss how human activities can affect natural processes such as landslides and flood.