

Earth Science Study Guide

Multiple Choice

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

- _____ 1. Tectonic plates consist of
a. continental crust. c. both continental and oceanic crust.
b. oceanic crust. d. mesosphere.
- _____ 2. Evidence for sea-floor spreading has come from
a. fossils in South America and Africa. c. ancient climatic conditions.
b. magnetic minerals on the ocean floor. d. the breakup of Pangaea.
- _____ 3. What is the outermost layer of the Earth called?
a. core c. asthenosphere
b. lithosphere d. mesosphere
- _____ 4. What type of boundary is formed when plates separate?
a. convergent c. divergent
b. horizontal d. transform
- _____ 5. Changes in density in the asthenosphere are caused by
a. thermal energy. c. ridge push.
b. slab pull. d. seismic waves.
- _____ 6. What waves of energy from earthquakes do scientists use to study Earth's interior?
a. earthquake waves c. gap waves
b. transform waves d. seismic waves
- _____ 7. An active volcano
a. has never erupted.
b. will blow smoke but never erupt.
c. is currently erupting or will erupt very soon.
d. will erupt in 100 years.
- _____ 8. Molten rock deep underground often gathers in a
a. vent. c. landslide.
b. magma chamber. d. caldera.
- _____ 9. Pyroclastic material forms when
a. lava flows calmly from a crack in Earth's crust.
b. magma remains underground too long.
c. magma explodes into the air and hardens.
d. lava flows underwater.
- _____ 10. The depression created when the roof of a magma chamber collapses is called a
a. caldera. c. lava plateau.
b. crater. d. lapilli.

- _____ 11. Volcanic activity is common along the Mid-Atlantic Ridge. This activity occurs at a
a. mantle plume. c. divergent boundary.
b. subducted plane. d. break in the continental crust.
- _____ 12. What is most likely to happen if the water content of magma is high?
a. A nonexplosive eruption will occur. c. An explosive eruption is likely.
b. No eruption will occur. d. Pressure will decrease.
- _____ 13. Which kind of volcano will probably never erupt again?
a. an active volcano c. a dormant volcano
b. an extinct volcano d. a chamber volcano
- _____ 14. The main elements in stars are
a. carbon and nitrogen. c. helium and hydrogen.
b. oxygen and nitrogen. d. calcium and iron.
- _____ 15. What distance equals a light-year?
a. 1 trillion kilometers c. 9.5 trillion kilometers
b. 6 trillion kilometers d. 15 trillion kilometers
- _____ 16. What element creates the energy that causes the sun to shine?
a. sulfuric acid c. hydrogen
b. carbon dioxide d. methane
- _____ 17. A giant body of hot gases that is held together by gravity and produces its own light is
a. a planet. c. a star.
b. a nebula. d. a comet.
- _____ 18. The theory that the universe began with a huge explosion is called the
a. light-year. c. big bang.
b. Oort cloud. d. cosmic snowball.
- _____ 19. The moon has a cratered surface because
a. it has strong gravity. c. it rotates around Earth.
b. it has cold temperatures. d. it has no atmosphere.
- _____ 20. A galaxy that stopped making new stars more than 10 billion years ago is a(n)
a. irregular galaxy. c. elliptical galaxy.
b. spiral galaxy. d. nebula.
- _____ 21. What kind of atoms fuse on stars to make helium?
a. methane c. oxygen
b. hydrogen d. nitrogen
- _____ 22. What color are the hottest stars, such as Rigel?
a. blue c. yellow
b. red d. orange
- _____ 23. Each planet moves around in the sun in
a. a path the shape of a circle. c. a path the shape of a spiral.
b. a path the shape of an ellipse. d. similar-sized orbits.

- _____ 24. The closer a planet is to the sun,
a. the slower it travels around the sun. c. the smaller the angle of its axis.
b. the faster it travels around the sun. d. the greater the angle of its axis.
- _____ 25. The time required for Earth to rotate once on its axis is called a(n)
a. day. c. revolution.
b. night. d. eclipse.
- _____ 26. The gravitational attraction between two objects increases if
a. the distance between them increases and their mass increases.
b. the distance between them decreases and their mass decreases.
c. the distance between them increases and their mass decreases.
d. the distance between them decreases and their mass increases.
- _____ 27. The amount of time that a planet takes to complete a single trip around the sun is called a(n)
a. orbit. c. period of rotation.
b. ellipse. d. period of revolution.
- _____ 28. Which of the following is the cause of the change of seasons?
a. the distance of a place from the Equator
b. prevailing winds blowing across land or water
c. the tilt of Earth's axis
d. the rotation of Earth
- _____ 29. Bacteria break down organic matter and return carbon dioxide and water to the environment. This is an example of
a. combustion. c. nitrogen fixation.
b. transpiration. d. decomposition.
- _____ 30. Most animals get nitrogen from
a. the atmosphere. c. performing nitrogen fixation.
b. the soil. d. eating other organisms.
- _____ 31. A forest grows back after a forest fire. This is an example of
a. primary succession. c. biodiversity.
b. secondary succession. d. mature community.
- _____ 32. Why is the carbon cycle important to living things?
a. It transports the materials cells use for energy.
b. It converts nitrogen to a usable form.
c. It converts carbon from a liquid to gas.
d. It transports wastes in organisms.
- _____ 33. Which of the following statements about cycles of matter is true?
a. Matter is lost in each cycle.
b. Human activity has little or no impact on cycles.
c. Each cycle involves evaporation and condensation.
d. Matter moves between the nonliving parts of the environment and organisms.
- _____ 34. Besides water, what do all organic molecules contain?
a. oxygen c. gold
b. nitrogen d. carbon

- _____ 35. What plant will most likely grow first in secondary succession?
- a. pine tree
 - b. lichen
 - c. crab grass
 - d. hardwood tree
- _____ 36. The dry prairie ecological community of Florida is found mostly in
- a. coastal areas.
 - b. Central Florida.
 - c. North Florida.
 - d. South Florida.
- _____ 37. A byproduct of sugar cane processing that can generate electricity is called
- a. bagasse.
 - b. phosphates.
 - c. melaleuca.
 - d. cabbage palms.
- _____ 38. Which of the following organizations manages 31 Florida state forests?
- a. the National Park System
 - b. the Florida Land Owners Incentive Program
 - c. Florida's State Park System
 - d. the Junior Ranger Organization
- _____ 39. An underground layer of rock or sediment that allows water to flow through it is called a(n)
- a. watershed.
 - b. wetland.
 - c. well.
 - d. aquifer.
- _____ 40. Which is NOT an example of habitat restoration?
- a. using TEDs
 - b. building artificial reefs
 - c. planting salt grass in wetlands
 - d. removing invasive species
- _____ 41. A negative effect of agriculture on Florida's environment is
- a. tourism.
 - b. pollution from pesticides.
 - c. urban sprawl.
 - d. sugar cane byproducts.
- _____ 42. Which of the following is an example of ocean habitat restoration?
- a. using dredge-and-fill construction
 - b. constructing artificial reefs
 - c. limiting the use of lawn chemicals
 - d. installing scrubbers on smokestacks
- _____ 43. An ecological community in Florida that includes beech and cabbage palms is the
- a. dry prairie.
 - b. beach.
 - c. woodland forest.
 - d. wetlands.
- _____ 44. When he wrote *Principles of Geology*, between 1830 and 1833, Charles Lyell believed geologic changes occurred
- a. gradually over time.
 - b. suddenly because of unpredictable events.
 - c. because of temperature changes.
 - d. because of pollution from fossil fuels.
- _____ 45. When paleontologists find fossils of trilobites in rock layers anywhere on Earth, they assume these rock layers are approximately
- a. 400 thousand years old.
 - b. 4 million years old.
 - c. 40 million years old.
 - d. 400 million years old.

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- _____ 46. Which of the following is the largest division of geologic time?
- a. eon
 - b. epoch
 - c. era
 - d. period
- _____ 47. The time it takes for half of the unstable atoms in a sample to decay is the atom's
- a. stable decay.
 - b. absolute age.
 - c. half-life.
 - d. life span.
- _____ 48. What did marine fossils found on a mountaintop in Canada tell scientists?
- a. The rocks were pushed up from below sea level.
 - b. Marine species once lived on land.
 - c. The fossils were moved by volcanic activity.
 - d. The mountains are about one million years old.
- _____ 49. What are fossils of things that lived for a short geologic time called?
- a. trace fossils
 - b. molds
 - c. coprolites
 - d. index fossils
- _____ 50. A paleontologist is studying a rock layer that contains fossils from reptiles, amphibians, and large mammals. The rock layer the paleontologist is studying belongs to which division of geologic time?
- a. Mesozoic era
 - b. Proterozoic era
 - c. Paleozoic era
 - d. Cenozoic era