

ELEMENTARY SCIENCE : TEST #103

- In the process of coal formation, what happens after the bits of dead plants are squeezed together ?
 - All the water is removed from the plant material, and carbon is left behind.
 - The plant material becomes heated and melts the carbon.
 - All the water creates a pool in which the carbon will form.
 - All the water becomes solid, and carbon is formed in the solid water.
 - None of these
- What do scientists sometimes learn about from sedimentary rocks ?
 - How Earth was formed
 - The temperature of Earth's inner core
 - How magma is released from Earth
 - The living things that existed when the rocks were formed
 - None of these
- Metamorphic changes are NOT caused by __?__.
 - cementation
 - heat
 - pressure
 - chemicals
 - None of these
- When metamorphic rocks are found near Earth's surface, what does that tell you about the history of the area where they were found ?
 - It was once a volcano.
 - The area was at one time underwater.
 - The area was once buried far beneath Earth's surface.
 - Lava was never in contact with the rocks in the area.
 - None of these
- Which happens first when a plant becomes a fossil ?
 - The woody parts of the plant are replaced by minerals.
 - The plant decays, leaving an imprint in soft sediment.
 - The rock containing the fossil is exposed.
 - The plant dies.
 - None of these
- What type of fault occurs when forces on rock pull in opposite directions ?
 - Normal fault
 - Reverse fault
 - Strike-slip fault
 - Butte fault
 - None of these
- Which of the following statements about synclines is true ?
 - The oldest rocks are found closest to the center.
 - The youngest rocks are found closest to the center.
 - They are never found on Earth's surface.
 - The layers always erode and weather at the same rate.
 - None of these
- Which is NOT a kind of fossil ?
 - Igneous
 - Imprint
 - Cast
 - Mold
 - None of these

9. Which characteristic allows scientists to use trilobites as index fossils ?
- (A) They became extinct relatively recently.
 - (B) They formed in sedimentary rock.
 - (C) They can undergo metamorphism.
 - (D) Certain kinds lived only at certain times.
 - (E) None of these
10. How do scientists learn about the inner core of Earth ?
- (A) By studying fossils
 - (B) By taking samples of the core
 - (C) By studying the behavior of earthquake waves
 - (D) By analyzing igneous rocks
 - (E) None of these
11. Which of the following is NOT a cause of erosion ?
- (A) Sunlight
 - (B) Wind
 - (C) Rain
 - (D) Gravity
 - (E) None of these
12. What is the part of electromagnetic radiation that we can see ?
- (A) Ultraviolet rays
 - (B) Infrared rays
 - (C) Visible light
 - (D) Gamma rays
 - (E) None of these
13. Which kind of mirror would be best for seeing up close ?
- (A) Rectangular
 - (B) Plane
 - (C) Convex
 - (D) Concave
 - (E) None of these
14. Which are capable of reflecting most or all light ?
- (A) Aluminum foil and tree bark
 - (B) Paper and aluminum foil
 - (C) Mirror and aluminum foil
 - (D) Mirror and velvet cloth
 - (E) None of these
15. Light and sound are both waves. Why do you see a very high commercial jetliner before you hear it ?
- (A) People can see farther than they can hear.
 - (B) The frequency of visible light is higher than sound.
 - (C) Light travels faster than sound.
 - (D) Light and sound have different wavelengths.
 - (E) None of these
16. The speed of light traveling through a vacuum is ___?__.
- (A) 225,000 kilometers per second
 - (B) 300,000 kilometers per second
 - (C) 150,000 kilometers per second
 - (D) 124,000 kilometers per second
 - (E) None of these

17. What will happen if you mix red light and blue light ?
- (A) They will make purple light.
 - (B) The red light will cover the blue light.
 - (C) Both colors of light will turn white.
 - (D) You will only be able to see the blue light.
 - (E) None of these
18. What type of lens is needed to correct nearsightedness ?
- (A) Concave
 - (B) Optic nerve
 - (C) Retina
 - (D) Convex
 - (E) None of these
19. At what point do light rays passing through a lens come together ?
- (A) Focal point
 - (B) Retina
 - (C) Prism
 - (D) Compound
 - (E) None of these
20. What is one difference between a compound microscope and an electron microscope ?
- (A) A compound microscope magnifies objects and an electron microscope makes them smaller.
 - (B) A compound microscope uses two lenses and a mirror, while an electron microscope uses only one lens.
 - (C) A compound microscope and an electron microscope are the same.
 - (D) A compound microscope uses light and an electron microscope uses beams of electrons.
 - (E) None of these
21. What gives an object its color ?
- (A) The color that is absorbed by the object
 - (B) The color that is filtered through an object
 - (C) The color that is reflected or passes through the object
 - (D) The color that is scattered from the object
 - (E) None of these
22. Why are scientists able to observe objects in greater detail from telescopes in space than from telescopes on Earth ?
- (A) They use concave lenses.
 - (B) The objects are larger in space.
 - (C) There is less atmosphere in space.
 - (D) The telescopes are closer to the objects.
 - (E) None of these
23. How are camera and your eye similar ?
- (A) They both have lenses that change shape in order to focus.
 - (B) They both have convex lenses.
 - (C) They are both used to record one image at a time.
 - (D) They both have diaphragms that control the amount of light that enters the lens.
 - (E) None of these
24. On a guitar, thicker strings produce ___?___.
- (A) lower notes
 - (B) higher notes
 - (C) louder notes
 - (D) quieter notes
 - (E) None of these

25. What do all wind instruments have in common ?
- (A) They all cover several octaves.
 - (B) They all have a column of air vibrates to produce sound.
 - (C) They all produce sounds that can travel through a vacuum.
 - (D) They all produce only high pitched sounds.
 - (E) None of these
26. Hertz (Hz) refers to units used to measure ___?__.
- (A) octaves
 - (B) timbre
 - (C) frequency of a sound wave
 - (D) amplitude
 - (E) None of these
27. A low sound has ___?__.
- (A) a high frequency
 - (B) a low frequency
 - (C) many waves
 - (D) a low amplitude
 - (E) None of these
28. A high-pitched sound produces ___?__.
- (A) many different frequencies
 - (B) only a few frequencies
 - (C) many sound waves per second
 - (D) few sound waves per second
 - (E) None of these
29. At a baseball game, which person would hear the sound of a bat striking a ball first ?
- (A) Pitcher
 - (B) Outfielder
 - (C) A fan close to the field
 - (D) A fan high in the bleachers
 - (E) None of these
30. Why does sound generally travel faster in a solid than in a liquid ?
- (A) The molecules in liquids absorb sound.
 - (B) The molecules in solids are closely packed.
 - (C) The molecules in solids are spaced far apart.
 - (D) The molecules in solids have greater energy.
 - (E) None of these
31. What are you changing when you turn the volume knob on a radio ?
- (A) The sound wave's frequency
 - (B) The sound wave's amplitude
 - (C) The sound wave's wavelength
 - (D) The sound wave's overtones
 - (E) None of these
32. How did Emile Berliner change the way music was recorded ?
- (A) He developed stereo recording.
 - (B) He sold over a million records.
 - (C) He invented the disc record.
 - (D) He invented the audiocassette.
 - (E) None of these

33. What is the best material for muffling the sound of a ticking clock ?
- (A) Cotton balls (B) Concrete (C) Paper
(D) Marbles (E) None of these
34. Movement of the hairs in the cochlea cause nerve impulses to travel along the auditory nerve to the brain. How does the brain interpret these impulses ?
- (A) As sound (B) As pain (C) As pressure
(D) As noise pollution (E) None of these
35. What part of the inner ear helps you keep your balance ?
- (A) Hair cells in the cochlea
(B) The auditory nerve
(C) Hair cells in the semicircular canal
(D) Fluid in the eustachian tube
(E) None of these
36. A laser that reads pits and flat areas to produce electrical signals is part of ___?__.
- (A) a CD player (B) a phonograph (C) a hearing aid
(D) an audiocassette recorder (E) None of these
37. What are the three tiny bones in the middle ear ?
- (A) Anvil, hammer, wrench
(B) Stirrup, saddle, anvil
(C) Anvil, wrench, stirrup
(D) Hammer, anvil, stirrup
(E) None of these
38. Why would playing an audiocassette near a bar magnet erase or distort the sound on the tape ?
- (A) The tape is melted.
(B) The magnet changes the pattern of the iron oxide crystals on the tape.
(C) The tip of the stylus touches a sheet of metal foil wrapped around a cylinder.
(D) A master copper plate contains all the patterns of a recording.
(E) None of these
39. What type of building material would be best used in the walls of a gymnasium to help muffle sound ?
- (A) Concrete (B) Metal (C) Plaster (D) Glass (E) None of these
40. As water flows through rivers and streams. it carries bits of soil, sand, gravel, and rocks. These materials are called ___?__.
- (A) glaciers (B) sediments (C) boulders (D) erosion (E) None of these

41. Wind and waves constantly change __?__.
- (A) tides (B) river depths (C) valleys (D) shorelines (E) None of these
42. Weathering is a natural process through which __?__.
- (A) rocks are broken into smaller pieces
(B) jetties are created
(C) headlands are formed
(D) glaciers grow as snow turns into ice
(E) None of these
43. What do glaciers deposit when they melt ?
- (A) Glacier grooves (B) Sediment (C) River systems
(D) Steep land (E) None of these
44. When a river empties into the ocean, its sediments form __?__.
- (A) a large, flat plain (B) many uneven mounds (C) steep hills
(D) dunes of sand (E) None of these
45. Large boulders are present throughout a mountain range where a glacier once existed. The boulders are probably __?__.
- (A) moraine (B) headlands (C) deltas (D) erratics (E) None of these
46. How is wind more likely to cause erosion during a drought ?
- (A) It flows very hard.
(B) It blows unpredictably.
(C) It causes higher waves.
(D) When most plants have died off, wind easily blows away light, dry soil.
(E) None of these
47. Which statement about erosion is TRUE ?
- (A) It occurs only during storms.
(B) It can be caused by moving ice.
(C) It is responsible for forming sea walls.
(D) It took place only during the Ice Age.
(E) None of these
48. Which of the following helps form sand dunes ?
- (A) Waves (B) Wind (C) Melting glaciers
(D) Buttes (E) None of these

49. What could be done to bare soil to slow erosion ?
- (A) Water can be poured on top of the soil.
 - (B) Grass can be planted in the soil.
 - (C) The soil can be moved to a different location.
 - (D) The top surface of the soil can be loosened.
 - (E) None of these
50. Plants receive the nutrients they need for growth when ___?__.
- (A) gullies form after a hard rain
 - (B) the soil is thin and dry
 - (C) topsoil contains large amounts of humus
 - (D) they are planted directly in the subsoil
 - (E) None of these