

2023 Science Challenger D1 Earth Science/Astronomy QUESTIONS

1. What is the order of Earth's layers, from center to surface?
 - a. Core, lithosphere, mantle
 - b. Core, mantle, crust
 - c. Crust, mantle, core
 - d. Core, mantle, crust
2. Our sun is currently also a
 - a. Star
 - b. Supernovae
 - c. Black hole
 - d. Planet
3. Astronomers often use the *light year* as a unit of measurement. A light year is actually
 - a. A time interval slightly shorter than a standard year
 - b. The time the Earth takes to orbit around the sun once
 - c. The distance light travels in a year
 - d. How much energy a 1-Watt lightbulb produces in a year
4. In our solar system, which planets are all gas giants?
 - a. Jupiter, Saturn, Uranus, Neptune
 - b. Mercury, Venus, Mars
 - c. Mercury, Venus, Earth, Mars
 - d. Saturn, Uranus
5. Which has the strongest gravitational pull?
 - a. Neutron star
 - b. Black hole
 - c. Star
 - d. Cloud
6. What are people who study the Earth and its features called?
 - a. Biologists
 - b. Geologists
 - c. Astronomers
 - d. Chemists
7. What is the main gas found in the Earth's atmosphere?
 - a. Oxygen
 - b. Nitrogen
 - c. Carbon Dioxide
 - d. Hydrogen
8. Which planet is known as the "Red Planet"?
 - a. Venus
 - b. Mars
 - c. Mercury

- d. Jupiter
9. How long does it take for the Earth to revolve once around the Sun?
- a. One day
 - b. One month
 - c. One year
 - d. One week
10. Which planet is known for its beautiful rings?
- a. Mars
 - b. Venus
 - c. Saturn
 - d. Mercury
11. What is the name of our galaxy?
- a. Andromeda
 - b. Whirlpool
 - c. Milky Way
 - d. Triangulum
12. Which of these is a feature of terrestrial planets like Mercury, Venus, Earth, and Mars?
- a. Have high temperatures
 - b. Made of rocky material
 - c. Have moons
 - d. Are able to support life
13. The largest circular storm in our solar system has raged on for a few hundred years, on the surface of which of the following planets?
- a. Jupiter
 - b. Venus
 - c. Uranus
 - d. Earth
14. Stars are ginormous spheres of hot burning gasses that give out heat and light; which color of them is the hottest?
- e. Red
 - f. White
 - g. Yellow
 - h. Blue
15. Why does the moon shine at night?

- a. The Sun's light reflects off the Moon
 - b. The moon emits its own light
 - c. Human-built moon bases emit powerful light
 - d. The moon's surface minerals glow in the dark
16. How many stars are there in our solar system?
- a. 5,000
 - b. 16
 - c. 3
 - d. 1
17. Which planet is the second closest to the sun?
- a. Earth
 - b. Mercury
 - c. Mars
 - d. Venus
18. Where are metamorphic rocks commonly formed?
- a. Near the Earth's crust
 - b. Where tectonic plates meet
 - c. Both A and B
 - d. On top of volcanoes
19. What kind of rock is basalt?
- a. Igneous
 - b. Sedimentary
 - c. Metamorphic
 - d. Phyllite
20. What is the Earth's mantle mainly composed of?
- a. Solid rock
 - b. Magma
 - c. Water
 - d. Soil
21. Which planet has a stronger gravitational force than Earth?
- a. Mars
 - b. Venus
 - c. Jupiter
 - d. Uranus
22. What does consistent exposure to water lead to?
- a. Melting
 - b. Erosion

- c. Evaporation
 - d. Condensation
23. Which of the following is not a mineral?
- a. Topaz
 - b. Iodine
 - c. Calcium
 - d. Obsidian
24. What causes the earth's tides?
- a. The gravitational force of the moon on Earth
 - b. Earth's orbit pattern
 - c. The magnetic attraction of the Sun
 - d. Earth's distance from the other planets in our solar system
25. How many rings does Jupiter have?
- a. 0
 - b. 13
 - c. 7
 - d. 4
26. What is the most common mineral found in rocks?
- a. Calcium
 - b. Sodium
 - c. Phosphorous
 - d. Quartz
27. What is the Sun primarily composed of?
- a. Oxygen
 - b. Nitrogen
 - c. Hydrogen
 - d. Carbon
28. Which of the following is a volcanic rock that is so lightweight that it can sometimes float on water:
- a. Obsidian
 - b. Pitchstone
 - c. Basalt
 - d. Pumice
29. Why do glaciers float?
- a. Ice is less dense than water
 - b. Water is less dense than ice
 - c. There is less gravity in water

d. Ice has a stronger magnetic force than water

30. Which is not one of the four elements of nature?

e. Water

f. Fire

g. Air

h. Space