Georgia Online Formative Assessment Resource (GOFAR)

15-16_DMS_EarthScience_Diagnostic

Name:_____

Date: _____

1. A solar eclipse occurs when

A)Earth blocks the Moon from the Sun.

B)the first four planets are in a line.

C)the Moon blocks Earth from the Sun.

D)the last four planets are in a line.

2. We can be sure that the Milky Way galaxy we live in is a spiral galaxy rather than an elliptical galaxy because

A)it has curved arms.

B)it does not show any rotation.

C)its stars are all about the same age.

D)new stars are no longer forming.

3. When a star like the Sun runs out of hydrogen in its center, it evolves into a

A)red giant.

B)blue straggler.

C)supernova.

D)yellow dwarf.

4. Cold air masses that form at high latitudes are called

A)polar air masses.

B)continental air masses.

C)warm air masses.

D)maritime air masses.

5. Nearly 100 years ago, a large volcano erupted in the South Pacific. The following year, some northeastern cities in the United States recorded measurable snowfall every month of the year. Most of the Northern Hemisphere experienced a cold summer. Which explains how these events were related?

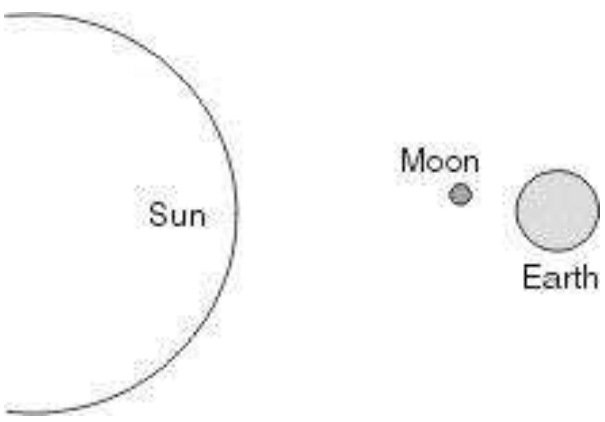
A)The eruption temporarily intensified the greenhouse effect.

B)Thermal energy released during the eruption caused a decrease in Earth's total heat energy.

C)The eruption damaged the ozone layer, causing a decrease in the amount of solar energy reaching Earth.

D)Atmospheric dust from the eruption caused a decrease in the amount of solar energy reaching Earth.

6.
Use the diagram below to answer this question.



When the Sun, the Moon, and Earth are in the same line as shown, which of the following could occur?

A)an eclipse of the Sun

B)an eclipse of the Moon

C)The Moon could be pulled closer to Earth.

D)The spin of Earth could be increased.

7. Places on Earth's surface where tectonic plates meet are characterized by

A)more severe earthquake activity.

B)long formations of sea arches.

C)stable temperate climate conditions.

D)a lack of plant and animal life.

8.

Use the chart below to answer this question.

mineral	hardness	way it breaks	luster	streak	color
Galena	2.5	cleavage	metallic	gray-black	silver, gray
Magnetite	6	fracture	metallic	black	black
Hematite	6	fracture	metallic-dull	red-brown	red-brown, silver, black

Susan wants to identify a dark, heavy mineral sample she found in the classroom collection. She notices there are three minerals in a chart in a reference book that might match her sample.
Susan next observes that her sample mineral has flat, reflective surfaces that break into boxlike steps. She infers

A)hardness

B)luster

C)streak

D)color

9. Terry was learning about an object in the Solar System that is made of frozen gases and solid rock. Which of these objects was she learning about?

A)a star

B)a comet

C)a meteor

D)an asteroid

10. Daylight in the Northern Hemisphere lasts longer in summer than in winter, and the change in the length of day happens in a predictable pattern. Which statement correctly explains this condition of Earth's environment?

A)The Sun moves closer to Earth in summer and farther away in winter.

B)Earth, with its tilted axis, moves around the Sun in a predictable way.

C)There is a predictable change in the amount of heat and light given off by the Sun.

D)Earth turns slower in summer than it does in winter.

11. Suppose you are swimming in a lake when a thunderstorm approaches. Which of the following would be the **best** way to protect yourself from lightning?

A)diving underwater

B)going fishing instead of swimming

C)taking shelter in an automobile

D)taking shelter under a tree

12. The salts in the sea come from

A)weathering and erosion of rocks.

B)acid rain.

C)particles falling from space.

D)organisms that live in the sea.

13. Which term refers to the area at the seashore that is underwater during high tide and exposed during low tide?

A)intertidal zone

B)neritic zone

C)open-ocean zone

D)mid-ocean zone

14. Which is a mineral?

A)glass

B)graphite

C)magma

D)marble

15. Most modern cities obtain their drinking water from

A)surface reservoirs.

B)rivers and streams.

C)underground reservoirs.

D)desalinated ocean water.

16. Ridges, tectonic plate boundaries, and hydrothermal vents are physical features found on our planet. Where are these features found MOST OFTEN?

A)in the middle of huge lakes

B)around the edges of deserts

C)at the bottom of Earth's oceans

D)on top of mountains on continents

17. When limestone is exposed to enough heat and pressure, it goes through physical changes. These changes can turn limestone into a different kind of rock called marble. Which of these BEST describes marble?

A)It is an igneous rock.

B)It is a synthetic rock.

C)It is a sedimentary rock.

D)It is a metamorphic rock.

18. Meteorologists often look at differences in air pressure when they are trying to predict the weather. Why

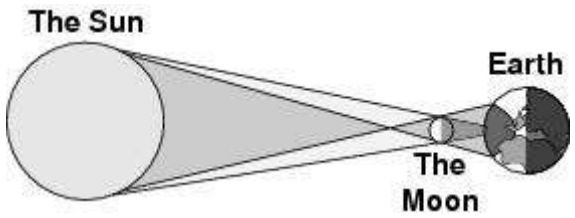
do these differences occur?
A)The Sun heats different places at different rates.

B)The Moon's gravity has a different strength at different places.

C)Earth's rotation makes different places move at different speeds.

D)Volcanoes add different amounts of heat and gas to the air in different places.

19. Look at the picture below.



What event does the picture show?

A)full moon

B)solar eclipse

C)lunar eclipse

D)quarter moon

20. Which of these objects was made from a nonrenewable resource?
A)paper bag

B)motor oil

C)cotton shirt

D)wooden table

21.

Warm air rising at the equator and cold air sinking a the poles is one reason for which event?

A)hurricanes

B)Coriolis force

C)earth's rotation

D)convection currents

22.

Jordan researched the hourly temperatures of an ocean and a land mass near each other. Each morning Jordan discovered the ocean and land had a similar temperature. For the rest of the day the sun continues to warm the ocean and land. During the day, which direction will the wind MOST LIKELY blow?

A)toward the land

B)toward the ocean

C)the air will remain still

D)Jordan does not have enough data to tell.

23.

When ice forms in the oceans, what happens to the water found directly underneath the newly formed ice?

A)it becomes colder

B)it becomes warmer

C)it becomes denser

D)it becomes more salty

24.

Tropical seas have a high rate of evaporation. **Because of this**, the water in tropical seas will have higher:

A)wave crests.

B)amounts of algae.

C)daily temperatures.

D)salt concentrations.

25.

Oceans contain many dissolved elements like calcium, sodium, and chlorine and these elements plus others combine to form the salts in the oceans. Which of the following sources is a major source of calcium and sodium in oceans?

A)gases from active volcanoes

B)weathering and erosion of rocks

C)pollutants from industrial wastes

D)acid rain caused by air pollution

26.

Limestone is a sedimentary rock found in South Georgia and North Florida. Limestone is easily weathered and eroded because the main mineral found in limestone reacts acid rain and ground water. What type of mineral likely makes up limestone?

A)calcite

B)gypsum

C)quartz

D)silica

27.

Which statement describes why the Earth has seasons?

A)Its axis is tilted as it revolves around the sun.

B)The distance changes as it revolves around the sun.

C)The moon revolves around it.

D)The sun's axis is tilted.

28.

Why is the sun is responsible for making a car operational?

A)Sunlight grew the plants long ago that became the fossil fuels for cars.

B)Infrared radiation from the sun provides a pushing affect on cars.

C)The sun provides a gravitational pull that assists the cars motion.

D)The heat from the sun creates energy to power the cars.

29. Which of these BEST explains the reason that thunderstorms are likely to form on a hot day?
A)Warm, humid air rises quickly and then cools.

B)As air slowly rises it loses humidity and causes rain.

C)The air is usually calm and allows the clouds to form.

D)The air rises quickly and forms low-level cloud layers.

30. The pull of gravity on Earth is a direct result of the

A)mass of Earth.

B)magnetic field of Earth.

C)rotation of Earth on its axis.

D)weight of Earth's atmosphere.

31. How would the measurable properties of a golf ball change if it were moved from Earth to the Moon?

A)It would have the same mass, but a different weight.

B)It would have the same weight, but a different mass.

C)It would have the same density, but a different mass.

D)It would have the same mass, but a different density.

32. The Moon orbits Earth at a speed of approximately one kilometer per second. The Moon is kept in orbit by which of the following?

A)gravity

B)lunar phases

C)magnetism

D)ocean tides

33. Extrusive rocks are formed by

A)magma cooling on Earth's surface.

B)pressures inside Earth.

C)the attraction of magnetic particles.

D)tidal deposits of sediment.

34.

This landform was probably caused by —

A)high tides.

B)wind.

C)human activity.

D)running water.

35. **What element is the main component of most stars?**

A)Nitrogen

B)Iron

C)Hydrogen

D)Oxygen

36. **Which of the following is a renewable source of energy?**

A)Natural gas

B)Coal

C)Oil

D)Falling water

Answer Key :

1. C)the Moon blocks Earth from the Sun.
2. A)it has curved arms.
3. A)red giant.
4. A)polar air masses.
5. D)Atmospheric dust from the eruption caused a decrease in the amount of solar energy reaching Earth.
6. A)an eclipse of the Sun
7. A)more severe earthquake activity.
8. A)hardness
9. B)a comet
10. B)Earth, with its tilted axis, moves around the Sun in a predictable way.
11. C)taking shelter in an automobile
12. A)weathering and erosion of rocks.
13. A)intertidal zone
14. B)graphite
15. A)surface reservoirs.
16. C)at the bottom of Earth's oceans
17. D)It is a metamorphic rock.
18. A)The Sun heats different places at different rates.
19. B)solar eclipse
20. B)motor oil
21. D)convection currents
22. A)toward the land
23. D)it becomes more salty
24. D)salt concentrations.
25. B)weathering and erosion of rocks
26. A)calcite
27. A)Its axis is tilted as it revolves around the sun.
28. A)Sunlight grew the plants long ago that became the fossil fuels for cars.
29. A)Warm, humid air rises quickly and then cools.
30. A)mass of Earth.
31. A)It would have the same mass, but a different weight.
32. A)gravity
33. A)magma cooling on Earth's surface.
34. B)wind.
35. C)Hydrogen

36. D)Falling water

