

Direction: Read each question carefully, and choose the best answer from the options provided.

1. What are the 3 ways in which the sun's energy is transferred through Earth's systems?

- A. radiation, conduction, convection
- B. condensation, freezing, evaporation
- C. absorption, reflection, attraction
- D. reduction, recession, refraction

2. What happens to water when heat energy is absorbed?

- A. Ice melts.
- B. Liquid water freezes.
- C. Water vapor condenses.
- D. Nothing happens.

3. What do you call the transfer of thermal energy by the movement of matter from one place to another?

- A. conduction
- B. convection
- C. radiation
- D. reflection

4. Which of the following statements account for the occurrence of land breeze, sea breeze and monsoons?

- I. Warm air goes up.
- II. Different locations warm up or cool down differently.
- III. Cold air moves towards the place where warm air is rising.

- A. I and III
- B. II and III
- C. I and II
- D. III only

5. Sea breezes occur during hot, summer days because of the unequal heating rates of land and water. During the day, the land surface heats up faster than the water surface. How would you describe the air above the land?

- A. The air above the land is cooler than the air above the ocean.
- B. The air above the land is warmer than the air above the ocean.
- C. The air above the air and ocean are both cool.
- D. The air above the ocean cools.

6. How does the air move in a sea breeze?

- A. wind moves from north to south
- B. wind moves from ocean to land
- C. wind moves from land to the ocean
- D. wind moves from south to west

7. What layer of the atmosphere contains the ozone layer?

- A. troposphere
- B. stratosphere
- C. exosphere
- D. mesosphere

8. What is the most common gas in the atmosphere which is about 78%?

- A. Nitrogen
- B. Oxygen
- C. Carbon Dioxide
- D. Helium

9. Which order is correct from the Earth to Space?

- A. thermosphere, troposphere, exosphere, mesosphere, stratosphere, ionosphere
- B. stratosphere, thermosphere, mesosphere, ionosphere, exosphere, troposphere
- C. exosphere, troposphere, stratosphere, thermosphere, mesosphere, ionosphere
- D. exosphere, ionosphere, thermosphere, mesosphere, stratosphere, troposphere

10. Nella wants to determine if there is a trend in air temperature changes during April. Which of the following should Nella follow?

- A. measure the temperature every hour everyday
- B. measure the temperature at noon everyday in April
- C. measure the temperature at the same time each Monday
- D. measure the temperature everyday for 1 hour a day

11. A weather forecaster predicts that there will be high humidity and high levels of precipitation in an area. How does humidity differ from precipitation?

- A. Humidity describes water conditions related to climate, and precipitation describes those related to weather.
- B. Humidity comes from gaseous water mixed in air, and precipitation is liquid or solid water.
- C. Humidity is water that falls as a liquid, and precipitation is water that falls as a solid.
- D. Humidity is falling out of the sky to earth while precipitation is the amount of water vapor in the air.

12. A cold front forms when a mass of cold air moves under warm air. As a cold front passes over an area, the air pressure drops and the area becomes a low-pressure zone. Which type of weather are you most likely to see when a cold front passes over an area?

- A. thunderstorms
- B. clear skies
- C. light winds
- D. tornadoes

13. What causes wind?

- A. differences in gravity
- B. differences in precipitation
- C. differences in oxygen
- D. differences in air pressure

14. In India, which direction do monsoon winds blow during the winter?

- A. from the land towards the sea
- B. from the sea towards the land
- C. down from the mountain ranges
- D. from the mountains to the land

15. Monsoon refers to _____.

- A. a storm that can only be experienced in Southeast Asia
- B. a severe drought caused by no wind at all for a period of time
- C. a seasonal winds that bring moist or dry air to a region
- D. a seasonal storm on the coastal lands of Asia

16. ITCZ stands for?

- A. Intertropical Cyclone Zone
- B. Intertropical Convergence Zone
- C. International Convergence Zone
- D. Independent Cyclone Zone

17. Tropical cyclones rotate _____ in the northern hemisphere.

- A. clockwise
- B. counterclockwise
- C. northwest
- D. southeast

18. Which of the following is true about the cause of ITCZ?

- A. It is caused by the convergence of northeast and southeast trade winds in the area encircling Earth near the equator.
- B. It is caused by clouds forming together making a storm.
- C. It is the process when warm moist air cools and becomes clouds.
- D. None of the above.

19. Michael observes the air pressure daily. Over the last couple of days, the air pressure has been dropping (getting lower). What weather will Michael most likely observe as a result?

- A. increasingly clear skies and dry weather
- B. lessens cloudy skies then results to dry weather
- C. increasingly cloudy skies and cooler temperatures
- D. increasingly cloudy skies and possible storms

20. Why is it hard to breathe at high altitudes?

- A. There is a low density of air molecules
- B. There is a high density of air molecules
- C. The percentage of oxygen in the air is lower

21. When climbing up a mountain, your ears 'pop' because the air pressure _____.

- A. remains the same
- B. decreases
- C. increases
- D. none of the above

22. Which of the following is NOT a type of fossil fuel?

- A. coal
- B. sand
- C. oil
- D. wood

23. How are fossil fuels formed?

- A. They are made in factories
- B. By chemicals that were not used before
- C. Dead plants and animals extract fossil fuels
- D. Dead plants and animals died millions of years ago and were buried under heat and pressure

24. Fossil fuels need a saturated environment which means to be underwater in order to form, but why?

- A. Water is life.
- B. The water creates pressure.
- C. They need to be hydrated.
- D. Water causes dehydration.

25. What is the Greenhouse Effect?

- A. The cooling of the planet due to ice melting.
- B. The destruction of the lungs.
- C. The heating of a solid, such as rock.
- D. The warming of a planet due to trapped radiation.

26. What happens to the temperature if more greenhouse gases are released into the atmosphere?

- A. Temperature remains the same.
- B. Temperature goes up.
- C. Temperature goes down.
- D. Temperature vanishes into thin air.

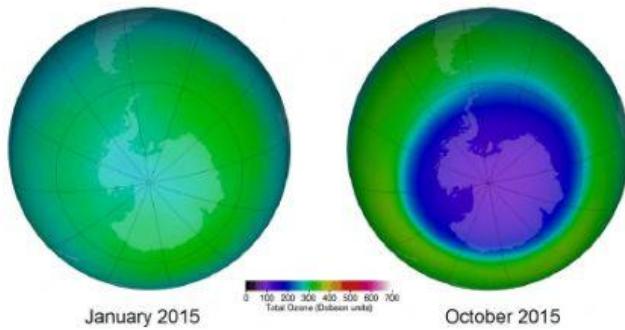
27. Increased carbon dioxide may cause global warming by _____.

- A. trapping more heat in the atmosphere
- B. allowing more sunlight into the atmosphere
- C. reflecting more sunlight from the clouds
- D. dehydrating leaves

28. Why is the ozone layer important to life on Earth?

- A. The ozone reflects all the ultraviolet radiation.
- B. The ozone provides all oxygen on Earth.
- C. The ozone protects the Earth's atmosphere from and the life on Earth from harmful radiant energy emitted by the Sun.
- D. It has nothing to do with the Earth.

29. The concentration of ozone is measured in _____ units. The blue and purple colors represent the _____ levels of ozone.



- A. Dobson, Low
- B. Dobson, High
- C. Dobson, Zero
- D. None of the above