

**1. What are the two main gases found in air?**

- (A) helium and oxygen
- (B) carbon and nitrogen
- (C) nitrogen and oxygen
- (D) carbon dioxide and hydrogen

**2. Mountain climbers usually require oxygen tanks in the upper altitudes. Which best explains why the extra oxygen is needed?**

- (A) No oxygen is available at high altitudes
- (B) The extra oxygen at high altitudes increases body temperature
- (C) The decrease in air pressure at high altitudes reduces the amount of available oxygen
- (D) The increase in air pressure at high altitudes reduces the amount of available oxygen

**3. Which atmospheric layer is the thinnest?**

- (A) mesosphere
- (B) stratosphere
- (C) thermosphere
- (D) troposphere

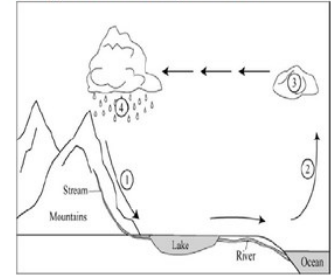
**4. Clouds form when which happens?**

- (A) The air is dry
- (B) The wind blows hard
- (C) Temperatures are very high
- (D) Moist air rises and then cools.

5. Which process in the water cycle does 3 represent?

- A condensation
- B evaporation
- C precipitation
- D runoff

A diagram of the water cycle is shown



6. On a hot day, a puddle dries up. Which part of the water cycle does this describe?

- A condensation
- B evaporation
- C precipitation
- D runoff

7. Which causes precipitation to occur?

- A Water evaporates into the air
- B Water droplets spread out in the air
- C Water vapor condenses on tiny particles in the air
- D Water droplets combine and become heavy enough to fall

8. Which profession predicts the weather?

- A astronomer
- B geologist
- C meteorologist
- D seismologist

9. If a cold air mass moves into North Carolina during the summer months, which type of weather will most likely result?

- A hot and sunny
- B cold and sunny
- C cloudy and dry
- D cloudy and rainy

**10. Which is best characterized by high spiraling winds and extremely low barometric pressures?**

- A tornadoes
- B precipitation
- C snow storms
- D high humidity

**11. Which type of cloud produces thunderstorms?**

- A cirrus
- B cumulonimbus
- C cumulus
- D stratus

**12. Which weather condition is most likely to result in a winter storm?**

- A spiraling winds
- B a fastmoving cold front
- C a developing low pressure system
- D vertical development of cumulonimbus clouds

**13. The weather forecast predicts high humidity. What other atmospheric property is associated with high humidity?**

- A warm air
- B high winds
- C low temperatures
- D decreased precipitation

**14. Meteorologists use satellites to predict the weather. How are satellites most useful for them?**

- A They provide weather forecasts
- B They measure the amount of precipitation
- C They show the movement of weather systems
- D They transmit television signals for communication.

**15. In which direction do most weather systems travel across the United States?**

- A east to west
- B west to east
- C north to west
- D north to south

**16. Which type of cloud often looks wispy and feathery, and is often seen at the leading edge of a warm front?**

- A cirrus
- B cumulonimbus
- C cumulus
- D stratus

**17. Which type of cloud is fog?**

- A cirrus
- B cumulonimbus
- C cumulus
- D stratus

**18. How does air usually move in the atmosphere?**

- A from east to west
- B from space towards Earth
- C from mountains to oceans
- D from high pressure areas to low pressure areas

**19. Which describes how the Coriolis effect influences ocean currents in the Northern Hemisphere?**

- A The effect deflects ocean currents to the left.
- B The effect deflects ocean currents to the right.
- C The effect deflects ocean currents in a northern direction
- D The effect deflects ocean currents in a southern direction

**20. Which statement best supports the need for meteorologists to measure the amount of ground level ozone in the atmosphere?**

- A Exposure to ozone can lead to digestive disorders
- B Exposure to ozone can lead to respiratory problems
- C Ozone levels can help meteorologists identify acid rain
- D Ozone levels can help meteorologists predict the weather

**21. Which of the following processes result from the release of sulfur compounds into the air?**

- A global warming
- B humidity changes
- C acid rain
- D ozone destruction

**22. Which most likely will be the effect after reforestation of 3,000 acres of farmland?**

- A an increase in oxygen
- B a decrease in nitrogen
- C an increase in carbon dioxide
- D a decrease in carbon monoxide

**23. Through environmental regulations, the Environmental Protection Agency controls the amount of pollution that is allowed to come from cars. How does this most likely help the general population?**

- A The air stays cleaner
- B Cars can travel at faster speeds
- C The skills of the drivers improve
- D It becomes safer to drive on the roads

**24. Which will do the most to protect the atmosphere?**

- A Stop drilling for oil
- B Reduce fossil fuel emissions
- C Reduce the number of new roads
- D Stop building new houses and office buildings.

**25. A developer built a mall. What can the developer do to best improve the air quality around the site where the mall was built?**

- A increase the amount of vegetation planted
- B increase the land surface that the mall covers
- C decrease the amount of available parking surfaces
- D decrease the amount of irrigation needed for vegetation

**26. Which is the basic unit of life?**

- A cell
- B membrane
- C nucleus
- D organelle

**27. Which statement is part of the cell theory?**

- A All living things are made of one or more cells.
- B All cells must divide by meiosis to make more cells
- C All cells contain a nucleus that controls the functions of the cell
- D All cells are surrounded by a cell membrane or a cell wall, but not both.

**28. A student wants to use a compound light microscope to determine whether a cell is a plant cell or an animal cell. Why should she begin by using the low-power objective lens rather than the high-power objective lens?**

- A Less light passes through the cell under low power
- B The field of view is greater under low power than it is under high power
- C The magnification is greater under low power than it is under high power
- D all of them

**29. How can a scientist determine if he is viewing a plant or animal cell?**

- A determine if the cell has a nucleus
- B determine if the cell has a cell wall
- C determine if the cell has mitochondria
- D determine if the cell has a cell membrane

**30. Which of the following is likely to be found in a cell from a maple leaf but not in a human nerve cell?**

- A cell wall
- B mitochondria
- C cell membrane
- D cytoplasm

**31. Which is a function of cytoplasm in both plant and animal cells?**

- A creating energy
- B directing cellular activity
- C disposing of cellular waste
- D providing support for organelles

**32. What might be the first thing to happen if the cell wall of a plant cell were destroyed?**

- A The cell would lose its structural form
- B The cell would not be able to store food, water, or nutrients
- C The cell would not be able to keep its chromosomes in a central location
- D The cell would lose control of the transport of materials in and out of the cell.

**33. Which organelle keeps DNA from having direct contact with cytoplasm?**

- A vacuole
- B chromosome
- C cell membrane
- D nuclear membrane

**34. Waste products, like carbon dioxide, leave cells through the:**

- A ribosomes
- B nucleus
- C cell membrane
- D mitochondria

**35. Respiration takes place in which cell organelles?**

- A mitochondria
- B chloroplasts
- C vacuoles
- D ribosomes

**36. The process by which plant cells produce glucose is:**

- A photosynthesis
- B respiration
- C protein synthesis
- D diffusion

**37. Which of the following structures is most likely to be found in both a spinach cell and a muscle cell?**

- A nucleus
- B chloroplast
- C large, water-filled vacuole
- D cell wall

**38. The brain of a large animal is like the \_\_\_\_ of a cell:**

- A cytoplasm
- B nucleus
- C mitochondria
- D cell membrane



**39. Which of the following is in order from simplest to most complex?**

- A organ, tissue, cell, organ system
- B organ system, organ, tissue, cell
- C cell, tissue, organ, organ system
- D cell, organ, organ system, tissue

**40. How are prokaryotes different from eukaryotes?**

- A Prokaryotes lack a nucleus
- B Prokaryotes are unicellular
- C Prokaryotes lack a cell cycle
- D Prokaryotes undergo cell differentiation.