

Understanding Weather and Seasons

Science · Answer Key · 25 Questions

1. Which layer of Earth's atmosphere is closest to the ground and where most weather events occur?

- A) Stratosphere
- B) Mesosphere
- C) Troposphere**
- D) Thermosphere

2. What is the primary cause of Earth's seasons?

- A) The distance of the Earth from the Sun
- B) The Earth's rotation on its axis
- C) The tilt of Earth's axis**
- D) The Sun's changing intensity

3. Which instrument is used to measure atmospheric pressure?

- A) Thermometer
- B) Anemometer
- C) Barometer**
- D) Rain gauge

4. What term describes the average weather conditions in a region over a long period?

- A) Weather
- B) Atmosphere
- C) Climate**
- D) Meteorology

5. Which type of cloud is typically associated with thunderstorms and heavy rainfall?

- A) Cirrus
- B) Cumulus
- C) Stratus
- D) Cumulonimbus**

6. When the Northern Hemisphere is tilted towards the Sun, what season is experienced in the Southern Hemisphere?

- A) Summer
- B) Autumn
- C) Winter**
- D) Spring

7. What is the process by which water vapor in the atmosphere changes into liquid water?

- A) Evaporation
- B) Transpiration
- C) Condensation**
- D) Precipitation

8. What is the name given to a large body of moving air that has a specific temperature and moisture content?

- A) Wind
- B) Jet stream
- C) Air mass**
- D) Monsoon

9. Which phenomenon occurs when a cold air mass pushes into a warm air mass, often causing significant weather changes?

- A) Occluded front
- B) Stationary front
- C) Warm front
- D) Cold front**

10. During the equinoxes (vernal and autumnal), day and night are approximately of equal length across the globe because:

- A) The Earth's axis is tilted directly away from the Sun.
- B) The Earth's axis is tilted directly towards the Sun.
- C) The Earth's axis is neither tilted towards nor away from the Sun.**
- D) The Sun is at its closest point to Earth.

11. What is the main source of energy that drives Earth's weather systems?

- A) Geothermal energy
- B) The Moon's gravity
- C) The Sun**
- D) Ocean currents

12. Which of the following describes a period of abnormally dry weather sufficiently long enough to cause a shortage of water?

- A) Flood
- B) Tornado
- C) Drought**
- D) Blizzard

13. What is the process called when water from plants is released into the atmosphere as vapor?

- A) Evaporation
- B) Condensation
- C) Infiltration
- D) Transpiration**

14. Which scale is commonly used to measure the intensity of tornadoes based on damage?

- A) Richter Scale
- B) Beaufort Scale
- C) Saffir-Simpson Scale
- D) Enhanced Fujita Scale**

15. What is the term for the boundary between two different air masses?

- A) Jet stream
- B) Isotherm
- C) Front**
- D) Isobar

16. Which weather instrument measures wind speed?

- A) Wind vane
- B) Barometer
- C) Anemometer**
- D) Thermometer

17. What is the condition of the atmosphere at a particular time and place?

- A) Climate
- B) Temperature
- C) Humidity
- D) Weather**

18. Which type of precipitation forms when snowflakes fall through a layer of air below freezing and melt, then refreeze on the ground?

- A) Hail
- B) Sleet
- C) Freezing rain**
- D) Snow

19. During the summer solstice in the Northern Hemisphere, the North Pole is tilted:

- A) Directly away from the Sun
- B) Towards the Sun**
- C) Parallel to the Sun's rays
- D) Perpendicular to the Sun's rays

20. What is the measure of the amount of water vapor in the air?

- A) Temperature
- B) Air pressure
- C) Dew point
- D) Humidity**

21. Which type of fog forms when warm, moist air moves over a cold surface?

- A) Radiation fog
- B) Advection fog**
- C) Upslope fog
- D) Steam fog

22. What are the low-pressure systems characterized by strong winds, heavy rain, and potential for flooding, that form over warm ocean waters?

- A) Hurricanes**
- B) Tornadoes
- C) Blizzards
- D) Dust storms

23. Which element of weather is measured in degrees Celsius or Fahrenheit?

- A) Wind speed
- B) Precipitation
- C) Temperature**
- D) Air pressure

24. What causes the phenomenon of lightning?

- A) Friction between air molecules
- B) The accumulation and discharge of electrical charges within clouds or between clouds and the ground**
- C) The Sun's radiation interacting with water vapor
- D) The movement of air masses.

25. Which season is characterized by the longest days and shortest nights in the Northern Hemisphere?

A) Spring

B) Summer

C) Autumn

D) Winter