

Meteorological Science Fundamentals

Meteorology · Practice Test · 12 Questions

1. Which layer of the Earth's atmosphere contains approximately 75-80% of its total mass and almost all of its water vapor?

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

2. What is the name of the process by which water vapor changes directly into ice without first becoming a liquid?

- A) Evaporation
- B) Condensation
- C) Deposition
- D) Sublimation

3. The Coriolis effect, which causes moving air to deflect to the right in the Northern Hemisphere, is a direct result of which phenomenon?

- A) Earth's rotation
- B) Atmospheric pressure gradients
- C) Solar radiation
- D) Ocean current friction

4. Which instrument is used specifically to measure the duration and intensity of sunshine at a given location?

- A) Barometer
- B) Anemometer
- C) Hygrometer
- D) Campbell-Stokes recorder

5. What is the standard sea-level atmospheric pressure expressed in hectopascals (hPa)?

- A) 1013.25 hPa
- B) 980.50 hPa
- C) 1050.75 hPa
- D) 1000.00 hPa

6. In meteorology, what is the 'dew point' defined as?

- A) The temperature at which air is saturated with water vapor
- B) The rate of evaporation in a closed system
- C) The altitude where clouds begin to form
- D) The pressure exerted by water vapor

7. Which type of cloud is characterized by its high altitude, thin, wispy appearance, and composition of ice crystals?

- A) Cumulus
- B) Stratus
- C) Cirrus
- D) Nimbostratus

8. What is the primary gas, by volume, that makes up the Earth's dry atmosphere?

- A) Oxygen
- B) Argon
- C) Carbon dioxide
- D) Nitrogen

9. The 'Walker Circulation' is a conceptual model of the air circulation in which region?

- A) Equatorial Pacific Ocean
- B) Arctic Circle
- C) The Mediterranean Sea
- D) The Sahara Desert

10. What is the term for the boundary separating two air masses of different densities, usually characterized by different temperatures?

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

11. Which of these clouds is most frequently associated with severe thunderstorms and heavy precipitation?

- A) Altocumulus
- B) Cirrocumulus
- C) Cumulonimbus
- D) Stratocumulus

12. The 'Greenhouse Effect' is primarily caused by the absorption of which type of radiation by atmospheric gases?

- A) Ultraviolet radiation
- B) Visible light
- C) Infrared radiation
- D) X-ray radiation