

ESS - Layers of the Atmosphere

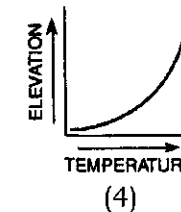
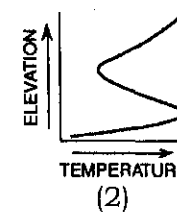
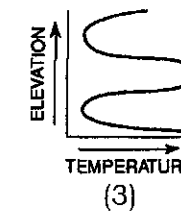
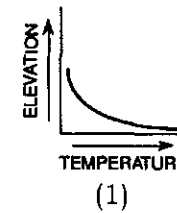
1. Which statement most accurately describes the Earth's atmosphere?

- (1) The atmosphere is layered, with each layer possessing distinct characteristics.
- (2) The atmosphere is a shell of gases surrounding most of the Earth.
- (3) The atmosphere's altitude is less than the depth of the ocean.
- (4) The atmosphere is more dense than the hydrosphere but less dense than the lithosphere.

2. As altitude within the troposphere increases, the amount of water vapor generally

- (1) decreases, only
- (2) increases, only
- (3) remains the same
- (4) decreases, then increases

3. Which graph best represents the relationship between air temperature and elevation in the troposphere?



4. As altitude increases from the tropopause to the mesopause, the atmospheric temperature will

- (1) decrease, only
- (2) increase, only
- (3) decrease, then increase
- (4) increase, then decrease

5. Which statement best describes the stratosphere?

- (1) It is warmer at the top than at the bottom.
- (2) It is located 75 kilometers above sea level.
- (3) It has greater pressure at the top than at the bottom.
- (4) It absorbs large amounts of water vapor from the troposphere.

6. Which list shows atmospheric layers in the correct order upward from the Earth's surface?

- (1) thermosphere, mesosphere, stratosphere, troposphere
- (2) troposphere, stratosphere, mesosphere, thermosphere
- (3) stratosphere, mesosphere, troposphere, thermosphere
- (4) thermosphere, troposphere, mesosphere, stratosphere

7. Ozone is concentrated in Earth's atmosphere at an altitude of 20 to 35 kilometers. Which atmospheric layer contains the greatest concentration of ozone?

- (1) mesosphere
- (2) thermosphere
- (3) troposphere
- (4) stratosphere

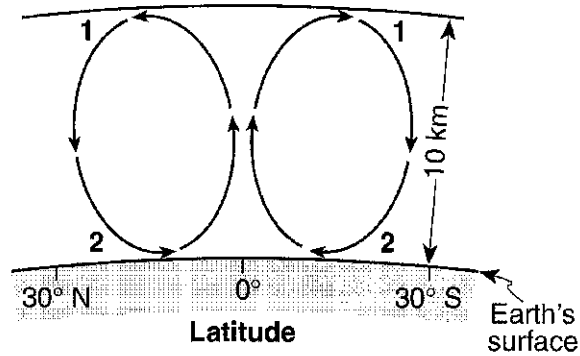
8. An air temperature of 95°C most often exists in which layer of the atmosphere?

- (1) troposphere
- (2) stratosphere
- (3) mesosphere
- (4) thermosphere

9. In which two temperature zones of the atmosphere does the temperature increase with increasing altitude?

- (1) troposphere and stratosphere
- (2) troposphere and mesosphere
- (3) stratosphere and thermosphere
- (4) mesosphere and thermosphere

10. Base your answer to the following question on the cross section below and on your knowledge of Earth science. The cross section shows the general movement of air within a portion of Earth's atmosphere located between 30° N and 30° S latitude. Numbers 1 and 2 represent different locations in the atmosphere.



(Not drawn to scale)

Which temperature zone layer of Earth's atmosphere is shown in the cross section?

- (1) troposphere (2) stratosphere (3) mesosphere (4) thermosphere