

**M O D E R N E A R T H S C I E N C E****Chapter 23**  
**The Atmosphere**

**Read each statement below. If the statement is true, write *T* in the space provided. If the statement is false, write *F* in the space provided.**

- \_\_\_\_\_ 1. Valley breezes blow from mountains into valleys.
- \_\_\_\_\_ 2. Standard atmospheric pressure is equal to a reading of 760 mm of mercury on a barometer.
- \_\_\_\_\_ 3. The process by which the earth's atmosphere traps infrared rays is called the greenhouse effect.
- \_\_\_\_\_ 4. Auto emissions are a major contributor to air pollution.
- \_\_\_\_\_ 5. Most of the ozone in the earth's atmosphere is located in the ionosphere.
- \_\_\_\_\_ 6. Atmospheric pressure is generally higher under a body of warm air than under a body of cool air.
- \_\_\_\_\_ 7. Scattering is responsible for making the sky appear blue.
- \_\_\_\_\_ 8. Air pressure increases with elevation.
- \_\_\_\_\_ 9. The Darrius turbine generates power from the wind.
- \_\_\_\_\_ 10. An aneroid barometer can be used as an altimeter.

**Choose the one best response. Write the letter of that choice in the space provided.**

- \_\_\_\_\_ 11. Ozone is a form of:
- |                     |                           |
|---------------------|---------------------------|
| <b>a.</b> nitrogen. | <b>b.</b> carbon dioxide. |
| <b>c.</b> oxygen.   | <b>d.</b> water vapor.    |
- \_\_\_\_\_ 12. The vertical movement of air due to uneven heating is called:
- |                       |                       |                       |                      |
|-----------------------|-----------------------|-----------------------|----------------------|
| <b>a.</b> convection. | <b>b.</b> refraction. | <b>c.</b> conduction. | <b>d.</b> radiation. |
|-----------------------|-----------------------|-----------------------|----------------------|
- \_\_\_\_\_ 13. The layer of the atmosphere in which weather change occurs is the:
- |                        |                         |
|------------------------|-------------------------|
| <b>a.</b> stratopause. | <b>b.</b> troposphere.  |
| <b>c.</b> mesopause.   | <b>d.</b> thermosphere. |
- \_\_\_\_\_ 14. The coldest layer of the atmosphere is the:
- |                       |                      |                         |                       |
|-----------------------|----------------------|-------------------------|-----------------------|
| <b>a.</b> mesosphere. | <b>b.</b> exosphere. | <b>c.</b> stratosphere. | <b>d.</b> ionosphere. |
|-----------------------|----------------------|-------------------------|-----------------------|
- \_\_\_\_\_ 15. The albedo of the earth's surface is the fraction of solar radiation that is:
- |                      |                      |                     |                     |
|----------------------|----------------------|---------------------|---------------------|
| <b>a.</b> scattered. | <b>b.</b> reflected. | <b>c.</b> inverted. | <b>d.</b> absorbed. |
|----------------------|----------------------|---------------------|---------------------|

**M O D E R N E A R T H S C I E N C E**

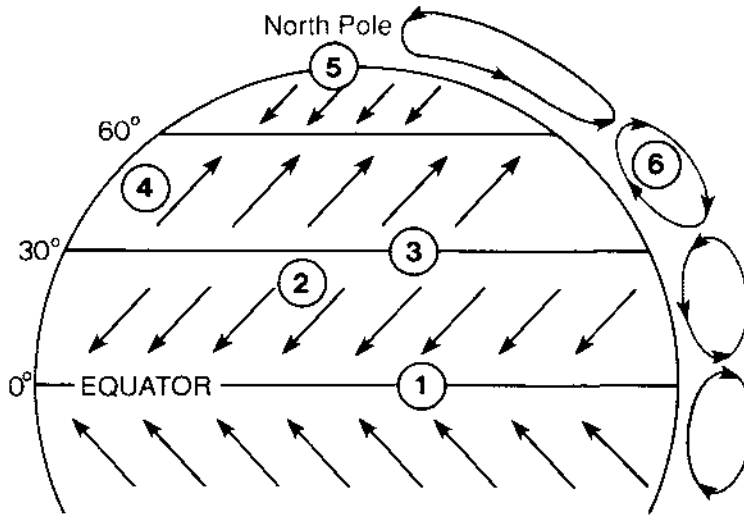
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**Choose the one best response. Write the letter of that choice in the space provided.**

- \_\_\_\_\_ 16. The most abundant element in the earth's atmosphere is:
- a. oxygen.      b. argon.      c. hydrogen.      d. nitrogen.

- \_\_\_\_\_ 17. Which of the following adds oxygen to the atmosphere?
- a. forest fires      b. weathering of rocks  
 c. photosynthesis      d. life processes of animals

**Use the diagram below to answer questions 18-20.**



- \_\_\_\_\_ 18. The jet streams usually form as a result of interaction between zones 4 and:
- a. 6.      b. 5.      c. 3.      d. 2.

- \_\_\_\_\_ 19. Which winds are represented by the arrows labeled 4?
- a. southeast trades      b. westerlies  
 c. northeast trades      d. polar easterlies

- \_\_\_\_\_ 20. Which number represents a convection cell?
- a. 1      b. 3      c. 5      d. 6

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**Complete each statement by writing the correct term or phrase in the space provided.**

- 21. Acid precipitation is produced primarily by the burning of \_\_\_\_\_ .
- 22. Gentle winds that extend over distances of less than 100 km are called \_\_\_\_\_ .
- 23. The deflection of winds by the earth's rotation is called the \_\_\_\_\_ .
- 24. The outermost layer of the earth's atmosphere is the \_\_\_\_\_ .
- 25. Objects on earth are heated when they absorb the sun's visible light rays and its \_\_\_\_\_ .
- 26. The general weather conditions over many years is called \_\_\_\_\_ .
- 27. The condition in which cold air is trapped under warm air is called \_\_\_\_\_ .
- 28. The bands of high-speed winds found in the upper troposphere and lower stratosphere are called \_\_\_\_\_ .
- 29. The units used on weather maps to indicate atmospheric pressure are called \_\_\_\_\_ .
- 30. The form of heat transfer in which fast-moving molecules cause other molecules to also move faster is called \_\_\_\_\_ .

**Read each question or statement and answer it in the space provided.**

- 31. Why is the hottest part of the day usually at midafternoon rather than at noon when the sun is highest in the sky?

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