

Chapter 22: Section 3: Directed Reading Pages 561-564**Section: Atmospheric Circulation (page 561)**

1. What causes the movement of air worldwide?
2. Why does air near Earth's surface flow from the poles to the equator?
3. Where do low-pressure regions form?

THE CORIOLIS EFFECT (page 561)

- _____ 4. The circulation of the atmosphere and of the oceans is affected by
 - a. the rotation of Earth at the equator.
 - b. the rotation of Earth on its axis.
 - c. the rotation of the moon on its axis.
 - d. seasonal storms.
- _____ 5. Earth's rotation causes its diameter to be
 - a. greatest through the equator.
 - b. greatest through the poles.
 - c. equal through the equator and the poles.
 - d. greater at the North Pole than at the South Pole.
6. Why does air follow a curved path?
7. The curving of the path of a moving object from an otherwise straight path due to earth's rotation is called the _____.
8. In which direction does the Coriolis effect deflect moving objects in the Northern Hemisphere? In the Southern Hemisphere?
- _____ 9. What are the three looping patterns of air flow in each hemisphere called?
 - a. wind belts
 - b. convection cells
 - c. prevailing winds
 - d. global air flow
- _____ 10. The prevailing winds that blow from east to west from 30° latitude to the equator in both hemispheres are called the
 - a. trade winds.
 - b. polar easterlies.
 - c. wind belts.
 - d. Westerlies.
- _____ 11. The prevailing winds that blow from west to east through the United States are the
 - a. trade winds.
 - b. doldrums.
 - c. polar easterlies.
 - d. Westerlies.
- _____ 12. What are the prevailing winds that blow from east to west between 60° and 90° in both hemispheres?
 - a. the Westerlies
 - b. the polar easterlies
 - c. wind belts
 - d. the trade winds
- _____ 13. doldrums
 - a. narrow bands of winds formed when warm equatorial air meets the cooler air of the middle latitudes
- _____ 14. horse latitudes
 - b. narrow bands of strong winds that blow in the upper troposphere
- _____ 15. jet streams
 - c. a zone of low pressure at the equator where the trade wind systems meet
- _____ 16. subtropical jet streams
 - d. subtropical high-pressure zones with weak and variable winds

LOCAL WINDS (page 564)

17. Air movement influenced by local conditions and local temperature variations often cause _____, which are not part of the global wind belts.
18. As warm air above land rises and cool air from above water moves in to replace it, a cool wind moving from water to land, called a _____, forms in the afternoon.
19. At night, as warm air above water rises and cool air from above land moves out to replace it, a cool wind moving from land to water, called a _____ forms.
20. During the day in mountainous regions, a gentle breeze called a _____ forms when warm air from the valleys moves.

Chapter 22 Section 3 Review Page's 561 - 564

- 1. Describe the pattern of air circulation between an area of low pressure and an area of high pressure.**
- 2. Explain how the Coriolis Effect affects wind flow.**
- 3. Name and describe Earth's three global wind belts.**
- 4. Summarize the importance of the jet streams.**
- 5. Identify two factors that create local wind patterns.**
- 6. Determine whether wind moving south from the equator will curve eastward or westward because of the Coriolis Effect.**