

Directed Reading 21.2 (EVEN)

Section: Fronts

- _____ 1. When two unlike air masses meet, what usually keeps them separate?
- a. temperature differences
 - b. moisture differences
 - c. differences in density
 - d. differences in pressure
- _____ 2. The boundary that forms between two air masses when they meet is called a
- a. front.
 - b. storm line.
 - c. squall line.
 - d. midlatitude.

TYPES OF FRONTS

In the space provided, write the letter of the definition that best matches the term or phrase.

- | | |
|---------------------------|---|
| _____ 3. cold front | a. a front of air masses that moves either very slowly or not at all |
| _____ 4. warm front | b. the front edge of a moving mass of cold air that pushes beneath a warmer air mass like a wedge |
| _____ 5. stationary front | c. the front edge of an advancing warm air mass that replaces colder air with warmer air |
| _____ 6. occluded front | d. a front that forms when a cold air mass overtakes a warm air mass and lifts the warm air mass off the ground and over another air mass |

7. Describe the storms that form along cold fronts.

8. How does a slow-moving cold front differ from a fast-moving cold front?

Directed Reading *continued*

9. How does a warm front form?

10. What kind of weather does a warm front generally produce?

11. Describe how a stationary front forms.

12. Compare the weather produced by a stationary front to the weather produced by a warm front.

POLAR FRONTS AND MIDLATITUDE CYCLONES

Use the terms from the following list to complete the sentences below. Each term may be used only once. Some terms may not be used.

- | | | |
|---------------------|-------------|---------------|
| midlatitude cyclone | warm front | anticyclone |
| waves | polar front | wave cyclones |

13. The boundary where cold polar air meets the tropical air mass of the middle latitudes, especially over the ocean, is called the _____.

14. Bends that form in a stationary front or cold front that are the beginnings of low-pressure storm centers are called _____.

15. Also known as midlatitude cyclones, _____ are low-pressure storm centers.

Directed Reading *continued*

16. An area of low pressure that is characterized by rotating wind that moves toward the rising air of the central low-pressure region is called a

_____.

17. Unlike the air in a midlatitude cyclone, the air of a(n) _____ sinks and flows outward from a center of high pressure.

18. Summarize the four stages of a midlatitude cyclone.

19. Describe how midlatitude cyclones travel and move in North America.

20. Describe an anticyclone.

21. What kind of weather does an anticyclone bring?

Directed Reading *continued*

SEVERE WEATHER

22. List five weather events that are considered severe weather.

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|-----------------------------|---|
| _____ 23. thunderstorm | a. the first stage of a thunderstorm, in which warm, moist air rises, and water vapor in the air condenses to form a cumulus cloud |
| _____ 24. lightning | b. electricity that is discharged from a cloud |
| _____ 25. mature stage | c. an effect created when electricity heats the air, and the air expands rapidly |
| _____ 26. dissipating stage | d. a usually brief, heavy storm that consists of rain, strong winds, lightning, and thunder |
| _____ 27. cumulus stage | e. the third stage of a thunderstorm, in which strong downdrafts stop air currents from rising, and the storm dies out as the supply of water vapor decreases |
| _____ 28. thunder | f. the second stage of a thunderstorm, in which condensation continues as the cloud rises and becomes a dark cumulonimbus cloud, perhaps producing torrential rain and hail |

29. Describe how lightning forms and explain what it is.

Directed Reading *continued*

Use the terms from the list below to complete the sentences that follow. Each term may be used only once. Some terms may not be used.

- | | | |
|--------------------------|-----------|-------------|
| Saffir-Simpson scale | tornado | storm surge |
| cumulonimbus cloud bands | eyewall | eye |
| water vapor | hurricane | latent heat |

30. A severe storm that develops over tropical oceans and whose winds of 120 km/h or more spiral in toward the intense low-pressure storm center is called a(n) _____.
31. During a hurricane, large amounts of _____ are released, increasing the strength of the rising air.
32. A fully developed hurricane consists of a series of thick _____ that spiral upward around the center of the storm.
33. Winds increase toward the calm, clear _____ of the storm and may reach speeds of 275 km/h.
34. The most dangerous aspect of a hurricane is a rising sea level and large waves, called a _____.
35. Every hurricane is categorized on the _____ by using several factors, including central pressure, wind speed, and storm surge.
36. Define *tornado*.

37. Explain how a tornado forms.

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Directed Reading *continued*

38. What happens when a funnel touches the ground?

39. When and where are tornadoes most common?

40. What makes a tornado so destructive?
