

# Directed Reading

## 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.

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|---------------------------|---|
| _____ 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.

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

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**Directed Reading *continued***

9. How does a warm front form?

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

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11. Describe how a stationary front forms.

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

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**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.

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

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20. Describe an anticyclone.

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21. What kind of weather does an anticyclone bring?

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Directed Reading *continued*

**SEVERE WEATHER**

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

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

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|-----------------------------|---|
| _____ 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.

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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*.

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37. Explain how a tornado forms.

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Directed Reading *continued*

38. What happens when a funnel touches the ground?

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39. When and where are tornadoes most common?

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40. What makes a tornado so destructive?

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