

Directed Reading 21.3 (ODD)

Section: Weather Instruments

1. Name five measurements on which weather observations are based.

2. How do meteorologists use these measurements?

MEASURING LOWER-ATMOSPHERIC CONDITIONS

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

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|---------------------------------|---|
| _____ 3. thermometer | a. an instrument that measures atmospheric pressure |
| _____ 4. electrical thermometer | b. a thermal resistor that measures temperature and responds quickly to temperature changes |
| _____ 5. thermistor | c. an instrument that measures wind speed |
| _____ 6. barometer | d. an instrument that measures and indicates temperature, often in the form of a sealed glass tube filled with mercury or alcohol |
| _____ 7. anemometer | e. an instrument that determines the direction of the wind |
| _____ 8. wind vane | f. an instrument that measures and indicates temperature using an electric current |

9. Describe how an electrical thermometer works.

Name _____ Class _____ Date _____

Directed Reading *continued*

10. Why do scientists use barometers to help them predict the weather?

11. Explain how an anemometer works.

MEASURING UPPER-ATMOSPHERIC CONDITIONS

12. Why do meteorologists study upper-atmospheric conditions?

13. What is a radiosonde?

14. How does a radiosonde work?

15. What is radar?

16. How does radar track a storm?

Directed Reading *continued*

17. Explain what Doppler radar can tell meteorologists.

18. What important purpose do weather satellites serve?

19. How can weather satellites be used to measure the direction and speed of the wind at the level of the clouds?

20. How are weather satellites used to monitor weather at night?

21. What types of marine conditions do weather satellites monitor?

22. Explain how meteorologists use supercomputers to forecast weather.
