MIXED REVIEW

22. a. Define physical property.
b. List two examples of physical properties.

23. How can you tell the difference between an element and a compound?

24. Identify each of the following as either a physical change or a chemical change. Explain your answers.
a. A piece of wood is sawed in half.
b. Milk turns sour.
c. Melted butter solidifies in the refrigerator.

25. Write a brief paragraph that shows that you understand the following terms and the relationships between them: *atom, molecule, compound,* and *element.*

26. Pick an object you can see right now. List three of the object's physical properties that you can observe. Can you also observe a chemical property of the object? Explain your answer.

CRITICAL THINKING

27. **Interpreting Concepts** One way to make lemonade is to start by combining lemon juice and water. To make the lemonade taste better you could add some sugar. Is your lemonade-sugar combination classified as a compound or a mixture? Explain your answer.

28. **Analyzing Results** A pure white, solid material that looks like table salt releases gas when heated under certain conditions. There is no change in the appearance of the solid, but the reactivity of the material changes.
a. Did a chemical or physical change occur? How do you know?
b. Was the original material an element or a compound?

29. **Interpreting Concepts**
a. Is breaking an egg an example of a physical or chemical change? Explain your answer.
b. Is cooking an egg an example of a physical or chemical change? Explain your answer.

USING THE HANDBOOK

30. Review the information on trace elements in the *Elements Handbook* in the back of this text.
a. What are the functions of trace elements in the body?
b. What transition metal plays an important role in oxygen transport throughout the body?
c. What two Group 1 elements are part of the electrolyte balance in the body?

RESEARCH & WRITING

31. Research any current technological product of your choosing. Find out about its manufacture and uses. Also find out about the basic research and applied research that made its development possible.

32. Investigate current and proposed technological applications of superconductors. Find out which of these applications have been successfully tested or are already in use.

ALTERNATIVE ASSESSMENT

33. During a 1 h period, make a list of all the changes that you see around you and that involve matter. Note whether each change seems to be a physical change or a chemical change. Give reasons for your answers.

34. Make a concept map using at least 15 terms from the vocabulary lists. An introduction to concept mapping is found in **Appendix B** of this book.

extension

Graphing Calculator
Graphing Tabular Data
Go to **go.hrw.com** for a graphing calculator exercise that asks you to graph temperature vs. time for a chemical reaction.

Keyword : HC6MTXX