

Section 7.3 Properties of d-Block and f-Block Elements

In your textbook, read about the transition and inner transition metals.

Answer the following questions.

1. What is the difference between the transition metals and the inner transition metals?

2. Write the electron configurations for titanium (Ti), vanadium (V), chromium (Cr), and manganese (Mn).

3. Which of the elements listed in question 2 would be the hardest? Which would have the highest melting and boiling points? Why?

4. Which of the elements would be least likely to form compounds with color? Why?

5. How are differences in properties among the transition elements explained?

6. How can a transition metal form an ion with a charge of 3+ or higher?

7. Identify three ways transition metals are separated from their ores.

8. Explain how a metal can become a temporary magnet.

9. Explain why some metals can act as permanent magnets.

Section 7.3 *continued*

For each item in Column A, write the letter of the matching item in Column B. The items in Column B can be used more than once.

Column A	Column B
_____ 10. Found in the center of a hemoglobin molecule	a. tungsten
_____ 11. Provides a protective coating to resist rusting	b. chromium
_____ 12. Used in electrical wiring	c. zinc
_____ 13. Needed for the development of red blood cells	d. cobalt
_____ 14. Can control the conditions at which a reaction occurs	e. iron
_____ 15. Involved in cell respiration	f. platinum
_____ 16. The main element in steel	g. manganese
_____ 17. Are classified as “strategic” metals	h. copper
_____ 18. Found in molecules that help the body digest proteins and eliminate carbon dioxide	i. silver
_____ 19. The best conductor of electricity	

In your textbook, read about the inner transition metals.

Write the word or words that best complete the statement.

20. Because there is little difference in the properties of the _____, they are usually found mixed together in nature.
21. Welders’ goggles contain _____ and _____ because these elements absorb high energy radiation.
22. Because some of its compounds emit red light when excited by electrons, _____ is often used in TV screens.
23. The _____ are radioactive.
24. Elements with atomic numbers above 92 are called _____.
25. Some smoke detectors used in the home contain _____.