

# The Elements

## Section 7.1 Properties of s-Block Elements

*In your textbook, read about the representative elements and hydrogen.*

Answer the following questions.

1. Why are the elements in groups 1A–8A called the representative elements?

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2. What do all the elements in a group have in common?

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3. How many valence electrons do group 1A elements have? Group 2A elements?

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4. What is the difference between the electron configurations for elements in groups 1A and 2A and those for elements in groups 3A–8A?

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5. Why don't all the elements in a group have the same properties?

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6. Why is hydrogen not considered a part of any group?

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7. How does hydrogen act like a metal? A nonmetal?

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8. Name two ways hydrogen is produced in the lab.

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**Section 7.1** *continued*

In your textbook, read about the alkali and alkaline earth metals.

For each statement below, write *true* or *false*.

- \_\_\_\_\_ 9. Alkali and alkaline earth metals are not reactive.
- \_\_\_\_\_ 10. Alkali metals are shiny gray solids soft enough to be cut by a knife.
- \_\_\_\_\_ 11. The metal lithium has a diagonal relationship with the metal magnesium.
- \_\_\_\_\_ 12. An alloy is a compound of a metal and oxygen.
- \_\_\_\_\_ 13. Sodium and potassium are the most abundant alkali metals.
- \_\_\_\_\_ 14. Potassium chloride can be used as a substitute for sodium chloride.
- \_\_\_\_\_ 15. Alkaline earth metals form ions with a +2 charge.
- \_\_\_\_\_ 16. The order of reactivity of the alkaline earth metals, from most to least reactive, is beryllium, magnesium, calcium, strontium, and barium.
- \_\_\_\_\_ 17. Alkaline earth metals do not react with oxygen.

For each item in Column A, write the letter of the matching item in Column B.

**Column A**

- \_\_\_\_\_ 18. nonsparking tools
- \_\_\_\_\_ 19. fireworks
- \_\_\_\_\_ 20. fertilizers
- \_\_\_\_\_ 21. chlorophyll
- \_\_\_\_\_ 22. chalk
- \_\_\_\_\_ 23. X rays
- \_\_\_\_\_ 24. treating bipolar disorders
- \_\_\_\_\_ 25. baking soda

**Column B**

- a.** sodium
- b.** calcium
- c.** barium
- d.** beryllium
- e.** magnesium
- f.** strontium
- g.** potassium
- h.** lithium

Circle the element that would be the most reactive of the three.

26. Li      Na      K
27. K      Fr      Na
28. Ba      Mg      Be
29. Li      K      Ba