

Quiz A CH18

Periodic Table Revisited

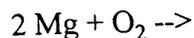
1. Name the following compounds:

- a. Na_2CO_3
- b. CaO
- c. LiH

2. Complete the following equation:



3. Complete the following equation:



- 4. List three important Mg compounds and give one use of each.
- 5. What are the main sources of free hydrogen?
- 6. Give at least two ions typically involved in hard water.
- 7. How do the ionization energies and atomic radii of the Group 2A elements compare to those of the Group 1A elements?
- 8. Name the following compounds:
 - a. CaCO_3
 - b. Ba(OH)_2

Quiz B

- 1. Give the equation for the reaction of BaO with water.
- 2. Write the formula for calcium bromide hexahydrate.
- 3. Give the reaction for the calcination of limestone. Why is this reaction important?

- 4. Which have larger atomic radii, Group 1A metals or Group 2A metals?
- 5. What is meant by a diagonal relationship in the periodic table? Give an example.
- 6. Give the equation for the reaction of solid Zn with acid in aqueous solution.
- 7. Write the equation for the binary reaction of hydrogen and nitrogen.
- 8. What is a hydrogenation reaction?
- 9. Give the reaction of beryllium with water.
- 10. Write the chemical formula and chemical name for quick lime.

True or False

1. As a group, the alkali metals never occur naturally in the elemental form.
2. The alkali metals are highly electronegative.
3. Magnesium reacts rapidly with cold water.
4. Limestone is mostly calcium chloride.
5. The process for producing most free metals requires reduction of the metal ion.
6. Metallic sodium is obtained by electrolysis of molten sodium chloride.
7. The oxides of magnesium and calcium react with water to give basic solutions.
8. Water softening occurs by electrolysis of hard water.

Self Test

1. Write the reaction for the alkaline metals with halogens.
2. Describe the main process used for the production of magnesium.
3. Write the chemical equation for the reaction of $\text{HCl}(\text{aq})$ with $\text{Al}(\text{s})$.
4. Write the chemical equation for the reaction of $\text{Li}(\text{s})$ with water.
5. Describe the commercial uses of calcium.
6. What are the main ions present in hard water?
7. Write an equation for the calcination of limestone.
8. Write an equation for the production of hydrogen from methane.
9. Describe several commercial uses of magnesium.
10. Write an equation for a method of producing hydrogen other than from methane.