

Chapter 2

End-of-Chapter Questions

1. Explain the difference between the following terms:
 - (a) weight and mass;
 - (b) melting and sublimation.

2. Explain the difference between the following terms:
 - (a) boiling and evaporation;
 - (b) homogeneous mixture and heterogeneous mixture.

3. What is the difference between a sol and a gel?

4. What is the difference between a foam and an emulsion?

5. What is the correct term to describe:
 - (a) the measure of ease with which a liquid flows;
 - (b) a solid in which the particles are arranged in an ordered geometric structure;

6. What is the correct term to describe:
 - (a) the procedure for the separation of a solid from a liquid;
 - (b) the procedure for the separation of two liquids by heating.

7. Are the following properties of iron physical or chemical?
 - (a) iron melts at a high temperature;
 - (b) iron rusts when exposed to moist air;
 - (c) iron conducts heat and electricity.

8. Are the following properties of sodium physical or chemical?
 - (a) sodium burns in air when heated;
 - (b) sodium is so soft that it can be cut by a knife;
 - (c) sodium reacts violently with water.

9. Write the name (correctly spelled) of the element corresponding to each of the following symbols:
(a) Na (b) N (c) Ne

10. Write the name (correctly spelled) of the element corresponding to each of the following symbols:
(a) H (b) He (c) Hg

11. Write the symbol of the element corresponding to each of the following names:
(a) carbon (b) calcium (c) copper
12. Write the symbol of the element corresponding to each of the following names:
(a) potassium (b) lead (c) iron
13. The majority of chemical elements have symbols from the first two letters of the name. Suggest why chlorine was assigned the symbol “Cl” not “Ch”.
14. The majority of chemical elements have symbols from the first two letters of the name. Suggest why magnesium was assigned the symbol “Mg” not “Ma”.
15. Suppose we decided to change the historically-based symbol for those elements listed in Table 2.5 by the first two letters of the name. Use an alphabetized list of the elements to identify which symbols have been assigned to other elements.
16. For only three letters of the alphabet, there is only one chemical element name. Use an alphabetized list of the elements to identify which these are (give both name and symbol).