UNIT TASK Bookmark

You can apply what you learned in this section about elements and compounds to the Unit Task described on page 286.

IN SUMMARY

- An element is a pure substance that cannot be broken down into a simpler chemical substance by any physical or chemical means. Elements are the building blocks of all substances and are arranged on the periodic table.
- A compound is a pure substance composed of two or more different elements.
- A metal is an element that has lustre, is a conductor, and is malleable and ductile.
- A non-metal is an element that is usually a gas or a dull powdery solid. Non-metals are usually poor conductors of heat and electricity.
- A metalloid has both metallic and non-metallic properties.

CHECK YOUR LEARNING

1. Which of the following substances are elements? Explain how you determined your answer. K/U
   (a) bronze
   (b) tin
   (c) chromium
   (d) solder
   (e) propane
   (f) arsenic
   (g) nickel
2. What is the difference between an element and a compound? K/U
3. A white powder, when heated, produces a colourless gas and a black solid. Is the white powder an element? Give reasons for your answer. T/I
4. Explain the significance of the bold staircase line on the periodic table (Figure 11). K/U

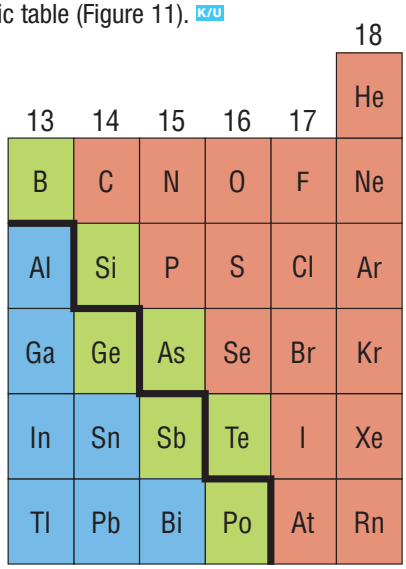

Figure 11

5. Are there more metallic elements or non-metallic elements listed on the periodic table? K/U
6. List three properties of metals. K/U
7. List three properties of non-metals. K/U
8. Create a two-column table in your notebook with the headings "Metals" and "Non-metals." Classify each of the properties below as characteristic of metals or non-metals. Include an example from the periodic table for each property. K/U C
   (a) conducts electricity
   (b) is a gas under normal conditions
   (c) can be flattened by hammering
   (d) its symbol is located in the upper-right corner of the periodic table
   (e) shatters when struck
   (f) is a dull yellow powder
   (g) is soft and shiny
   (h) its symbol is located in the first column of the periodic table
9. Identify which properties of each of the following elements make them ideal for their uses. K/U A
   (a) copper and aluminum for pots and pans
   (b) silver and gold for jewellery
   (c) argon in double-glazed windows for homes
10. In this section, you were introduced to some of the physical properties of carbon, a non-metal. K/U
    (a) Describe the physical properties of carbon.
    (b) What property of carbon makes it different from other non-metals?