

CHAPTER

1

REINFORCEMENT WORKSHEET

Is It an Ion?

Complete this worksheet after you finish reading Chapter 1, Section 2.

Answer the following questions based on the accompanying models. Protons are shown in gray, neutrons are shown in white, and electrons are shown in black.

Answer Questions 1–6 based on Figure 1.

1. How many protons are shown? 17
2. In the periodic table, elements are ordered by atomic number, the number of protons in an atom's nucleus. Using the periodic table in your textbook, identify the element shown.
chlorine
3. How many electrons are shown? 18
4. How many electrons are in the outermost energy level? 8
5. If the number of electrons equals the number of protons, then there is no charge, and the model shows a neutral atom. If the numbers are not equal, then you have an ion. Use this reasoning to determine if Figure 1 shows an ion or a neutral atom.

Figure 1

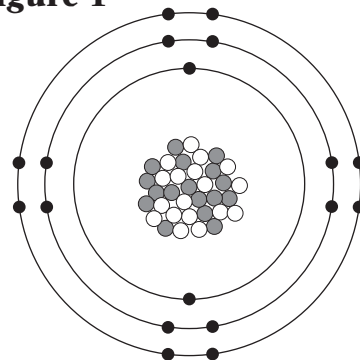


Figure 1 shows an ion.

6. To determine a particle's charge, you must compare the number of protons with the number of electrons. Use the spaces to the right to subtract the number of electrons from the number of protons. (Remember, if the number of electrons is greater than the number of protons, the charge will be negative.)

Number of protons	<u>17</u>
Number of electrons –	<u>18</u>
Charge of model	<u>–1</u>

Answer Questions 7–11 based on Figure 2.

7. How many protons are shown? 10
8. What element is it? neon
9. How many electrons are shown? 10
10. How many electrons are in the outermost energy level? 8
11. Is this an ion? If it is, calculate and record the charge.

No, this is not an ion because it has equal numbers of electrons and protons. It has no charge.

Figure 2

