

SECTION 18-3 REVIEW AND REINFORCE

Ionic Bonds

◆ Understanding Main Ideas

Answer the following questions on a separate sheet of paper.

1. How does an atom become a positive ion? How does an atom become a negative ion? *By losing an electron; By gaining an electron*
2. How do ions form electrically neutral compounds? *oppositely charged ions attract each other, charges balance out*
3. What characteristics do solid ionic compounds share? *crystalline shapes and high melting points, do not conduct electricity well*
4. How does the electrical conductivity of ionic compounds change when they are melted or dissolved in water? Why is this so? *they CAN conduct electricity; ions move freely and electricity can flow.*

Ions and Their Charges		
Name	Charge	Symbol/Formula
Ammonium	1+	NH ₄ ⁺
Potassium	1+	K ⁺
Calcium	2+	Ca ²⁺
Magnesium	2+	Mg ²⁺
Chloride	1-	Cl ⁻
Oxide	2-	O ²⁻
Sulfide	2-	S ²⁻
Phosphate	3-	PO ₄ ³⁻

Use the chart above to answer the following on a separate sheet of paper.

5. How many potassium ions are needed to balance the charge of one sulfide ion? Explain. *2 - since K = +1 x 2 = 2*
6. Predict the formulas for calcium chloride and potassium phosphate. *CaCl₂, K₃PO₄*
7. Name the following compounds: MgS, NH₄Cl, and K₂O.
8. Which ions in the table are polyatomic ions? *ammonium sulfide, ammonium chloride, potassium oxide*

◆ Building Vocabulary

Answer the following questions on a separate sheet of paper.

9. What is an ion? *An atom or group of atoms that has an electrical charge*
10. What is an ionic bond? *Attraction b/n oppositely charged ions*
11. How are ions in a crystal arranged? *(+) & (-) ions alternate formula 3-D arrangement*