

Topics/concepts covered on quiz:

cation (positive ion)

monatomic ion

what each corner of a symbol stands for
polyatomic ion

ionic bond

how to write the name given the formula

calculating oxidation numbers

anion (negative ion)

chemical formula

how to create a compound from two ions

10 ions (names/symbols/charges) to memorize

covalent bond

how to write a formula given the name

Practice questions:

1. Determine if the following compounds contain ionic or covalent bonds:

(a) CS_2 _____ (c) PtF_2 _____(b) FeCl_3 _____ (d) P_4O_{10} _____

2. If the name of the ion is given, list its symbol and charge. If the symbol and charge are given, write the ion's name:

 F^- _____ lithium _____ Ag^+ _____ potassium _____ Cl^- _____ bromide _____ H^+ _____ hydride _____ Na^+ _____ iodide _____

3. What do the four corners of a symbol stand for?

upper right: _____ upper left: _____

lower right: _____ lower left: _____

4. Use knowledge of the four corners of a symbol to fill in the following blanks:

 $^{52}\text{V}^{5+}$ $p^+ =$ _____ $n^0 =$ _____ $e^- =$ _____ # of atoms = _____ $^{168}\text{Yb}_{15}$ $e^- =$ _____ # of atoms = _____ $p^+ =$ _____ $n^0 =$ _____ $^{29}\text{P}^{3-}$ $p^+ =$ _____ $e^- =$ _____ $n^0 =$ _____ # of atoms = _____

5. (a) What is a monatomic ion? _____

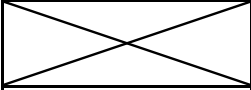
(b) Give two examples of monatomic ions: _____

6. (a) What is a polyatomic ion? _____

(b) Give two examples of polyatomic ions: _____

7. Which ion is written first in a compound's name and formula? _____

8. Fill in the following chart with the formulas of the compounds that would be formed:

	NO_3^-	S^{2-}	OH^-	Cl^-
NH_4^+				
In^{3+}				

9. All charges in a compound's formula must _____.

10. Write the formula of the compound formed from the following pairs of ions:

V^{2+} and Se^{2-} _____ Rb^+ and PO_4^{3-} _____

O^{2-} and Th^{4+} _____ Bi^{5+} and $\text{C}_6\text{H}_5\text{O}_7^{3-}$ _____

11. Write the **name** of the following ionic compounds:

(a) Rb_2CO_3 _____

(b) AgI _____

(c) $\text{Mg}(\text{CN})_2$ _____

(d) $(\text{NH}_4)_3\text{C}_6\text{H}_5\text{O}_7$ _____

12. **Calculate** the oxidation number of the given element following:

(a) Cr in $\text{K}_2\text{Cr}_2\text{O}_7$ (b) Mn in MnS_3 (c) B in $\text{B}_4\text{O}_7^{2-}$

13. Write each compound's **formula**:

(a) calcium nitride _____ (d) aluminum nitrate _____

(b) sodium silicate _____ (e) zinc chloride _____

(c) magnesium thiocyanate _____ (f) ammonium phosphate _____