**Minerals (ionic compounds)**  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Honors Chemistry Period: 1 2 3 4 5 6 7

**Circle the polyatomic ions in the list below:**

|  |  |  |
| --- | --- | --- |
| acetate  aluminum  ammonium  carbonate  chlorate  chloride  chlorite  chromate | hydroxide  iron(II)  iron(III)  silicate  mercury(I)  nitride  nitrite  oxalate | oxide  perchlorate  permanganate  phosphate  rubidium  sodium  sulfate  sulfite |

Most metallic elements occur naturally as minerals. Listed below are the common names of some simple minerals and their chemical formulas. Complete the table below by identifying the positive and negative ions in the formulas (hint: the cations are single metals, use the charge on the anions to figure out the charge on the cations):

**Formulas for Selected Minerals**

|  |  |  |  |
| --- | --- | --- | --- |
| **Mineral** | **Formula** | **Positive Ion** | **Negative Ion** |
| a. anhydrite (related to gypsum) | CaSO4 | Ca2+ | SO42- |
| b. barite | BaSO4 |  |  |
| c. calcite (limestone, marble) | CaCO3 |  |  |
| d. cassiterite | SnO2 |  |  |
| e. cinnabar | HgS |  |  |
| f. corundum (ruby, sapphire) | Al2O3 |  |  |
| g. crocoite | PbCrO4 |  |  |
| h. cuprite | Cu2O |  |  |
| i. fluorite (feldspar) | CaF2 |  |  |
| j. galena | PbS |  |  |
| k. halite | NaCl |  |  |
| l. hematite | Fe2O3 |  |  |
| m. molybdenite | MoS2 |  |  |
| n. potash | K2O |  |  |
| o. pyrite (fool’s gold) | FeS2 |  |  |
| p. rutile | TiO2 |  |  |
| q. saltpeter | KNO3 |  |  |
| r. smithsonite | ZnCO3 |  |  |
| s. sphalerite | ZnS |  |  |
| t. stibnite | Sb2S3 |  |  |
| u. wollastonite | CaSiO3 |  |  |