1. What is meant by the term chemical family?
2. How can you tell if two elements belong to the same chemical family?
3. On the periodic table, what is a period?
4. How many electrons are in the valence shell of:  
   Na = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cl = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Ne = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. The members of which family have full valence electrons?

1. Fill in the following table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element Name | Element  symbol | Group #  & Family | protons | neutrons | electrons | valence electrons | Ion Charge |
| Lithium | Li | Group 1 Alkali Metals | 3 | 4 | 3 | 1 | +1 |
| Neon |  |  |  |  |  |  |  |
| Cesium |  |  |  |  |  |  |  |
| Magnesium |  |  |  |  |  |  |  |
| Fluorine |  |  |  |  |  |  |  |
| Hydrogen |  |  |  |  |  |  |  |
| Oxygen |  |  |  |  |  |  |  |
| Iodine |  |  |  |  |  |  |  |
| Carbon |  |  |  |  |  |  |  |

1. Draw Bohr Models for the following elements and use them to predict the ion charge.

|  |  |  |
| --- | --- | --- |
| Element | Bohr Model | Ion Charge |
| Sodium (Na) |  |  |
| Beryllium (Be) |  |  |
| Argon (Ar) |  |  |
| Fluorine (F) |  |  |

1. Write names for the following compounds. Remember, the rules for multivalent metals and polyatomic ions.
   1. CuCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Al(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. MgS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Fe2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. NH4Cl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. MnO2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. AgNO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Give the formulas for the following compounds:
   1. silver oxide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. mercury (I) phosphide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. iron (II) nitrate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. ammonium phosphate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. magnesium hydroxide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. chromium (III) nitride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   7. calcium fluoride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_