



Ionic and Covalent Compounds

Name: _____

1. We differentiate between two types of compounds: _____ and _____.
2. Ammonia, NH_3 is a _____ while nitrogen and hydrogen are _____.
3. In general, molecular compounds form when _____ combine together.
4. In general, ionic compounds form when _____ combine together.
5. Sucrose (table sugar), $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ is _____ compound, while sodium chloride (table salt) is _____ compound.
6. Carbon monoxide, CO , is an example of a diatomic molecule, while ammonia and glucose, NH_3 and $\text{C}_6\text{H}_{12}\text{O}_6$, are examples of _____ molecules.
7. Ionic compounds are composed of positively and negatively charge ions held together by strong _____ attraction.
8. A positively charged ion such as Ca^{2+} is called _____. and it is formed when an atom of calcium _____. The _____ will have as many electrons as the noble gas _____.
9. A negatively charged ion such as Cl^- is called _____ and it is formed when an atom of chlorine _____. When it does, the ion will have as many electrons as _____.
10. The most stable ion of nitrogen is _____. This ion has the same number of electrons (electronic configuration) as _____.
11. The most stable ion that aluminum forms is _____. This ion has the same electronic configuration as _____.
12. While K^+ and Ba^{2+} are monoatomic ions, NH_4^+ and PO_4^{3-} are _____ ions.
13. Ionic compounds exist as crystal lattice, which is a network of anions and cations held together by electrostatic forces. We use the term _____ to describe the smallest whole number ratio of ions in the crystal lattice.



Classify the following compounds as IONIC (metal + nonmetal), COVALENT (nonmetal + nonmetal) or BOTH (compound containing a polyatomic ion).

