**Chapter 13 Review**

**Integrated Science – Matter**

1. When chemical bonds form, what happens to the energy?
2. The electrons that are involved in the chemical bonding are called….
3. When an atom loses or gains electrons and acquires a non-zero charge, what is it called?
4. Elements to the left of the staircase tend to (lose/gain) electrons.
5. Elements to the right of the staircase tend to (lose/gain) electrons.
6. Chemical bonds formed by transferring electrons are known as:
7. A group of covalently bonded atoms is called a:
8. A group of bonded atoms that act as a single unit and carry a charge are called:
9. The electrons in the highest energy level of an atom are referred to as:
10. The number indicating the charge on an atom when an electron is lost or gained during bond formation is called the:
11. A chemical compound that consists of two elements is known as a:
12. Draw the energy level diagram for the calcium atom and the calcium ion.
13. Draw the energy level diagram for the sulfur atom and the sulfur ion.
14. Write formulas and names for the combination of the following ions:
    1. K+, Cl-
    2. Na+, SO4-2
    3. Mg+2, O-2
    4. Sr+2. F-
    5. Li+. N-3
    6. Fe+3, O-2
    7. Cu+, NO3-

**ESSAY PROMPT: Explain the difference between ionic and covalent bonding.**