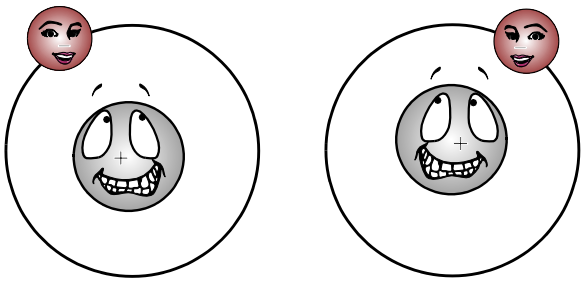
How Bonds Form

The electrons of one atom are attracted to the protons of another. When atoms combine, there is a tug of war over the valence electrons. The combining atoms either lose, gain, or share electrons in such a way that they complete their outer shells. Whether atoms gain, lose, or share electrons depends how tightly they hold onto their own electrons and how strongly they pull on the electrons of another atom.



Answer the questions below based on the information above and on your knowledge of chemistry.

1. What is the charge on a proton? _____
2. What is the charge on an electron? _____
3. Why do an atom's electrons revolve around its protons instead of drifting away? _____

   _____
4. Why are the electrons of one atom attracted to the protons of another? _____

   _____

   _____
5. What happens when two atoms get near each other that causes them to bond? _____

   _____

   _____
6. How are the elements sodium and chlorine classified? _____

   _____
7. What would happen during a tug of war between sodium and chlorine over each others outer electrons? Why?

   _____

   _____
8. How do sodium and chlorine combine? _____