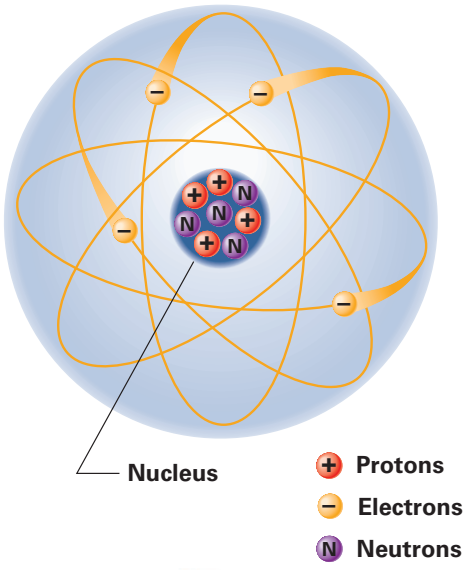
## The Atom

To understand what electricity is and how it functions, you need to understand more about **atoms**. Atoms are the building blocks from which all things are made. They are made of several atomic particles:

- Protons
- Electrons
- Neutrons

Atoms contain an equal number of positively charged protons and negatively charged electrons. Most atoms also contain the atomic particles called neutrons, which have no charge at all. See **Figure 8.1**, The Atom.

**Figure 8.1** The Atom



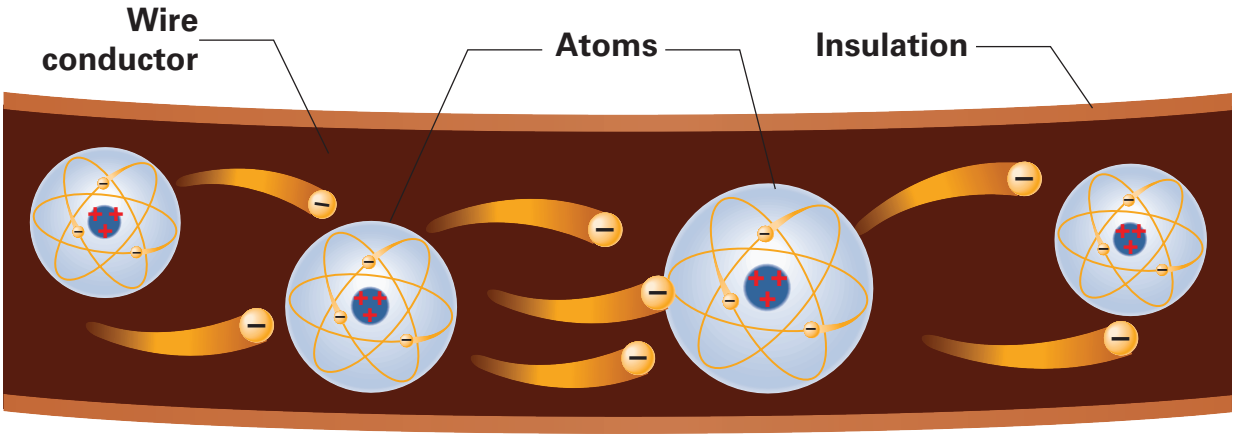

**Inside the Atom** Negatively charged electrons travel around the nucleus. The nucleus contains positively charged protons and neutral neutrons. *What happens when an atom has too many electrons?*

## Electrons and Protons

An atom is in balance when it contains the same number of electrons and protons. Atoms obey the same rules of repulsion (pushing away) and attraction (moving together) as magnets. When an atom has too many or too few electrons, it pushes or pulls the extra electrons off to its neighboring atoms. This flow of electrons from one atom to another is called **electricity**. See **Figure 8.2**.

**Reading Check** **Define** What is electricity and how does it work?

**Figure 8.2** The Flow of Electrons




**Understanding Electricity** Electrons in a circuit move from atom to atom. When an atom loses electrons, it becomes positively charged. When an atom gains electrons, it becomes negatively charged. *Why do scientists relate the behavior of magnets to the behavior of atoms?*