**PFC2 Chapter 14 Section 1 Guided Reading**

1. Mobile \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the real cause of electric current.
2. A positive and a negative charge will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ each other, but two like charges will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ each other.
3. What is a coulomb?
4. An object with an equal amount of positive and negative charge has a net charge of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is described as being electrically \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. What is static electricity?
6. Write the equation for Coulomb’s law. Label each variable in the equation as shown on page 342.
7. If you double the distance between two charged objects, what happens to the strength of the force between them?
8. What is electrostatics? Give an example of an object or device that uses electrostatic forces.
9. Do the Your Turn problems on page 343. Show your work. Check your solutions against the answers provided at the end of the chapter.
10. What happens when a conductor has an excess of electrons?  
    a. The electrons tend to concentrate in one area of the conductor.  
    b. The electrons spread out evenly over the surface of the conductor.  
    c. The electrons are completely unpredictable, so either a or b could be true.
11. An instrument used to detect charged objects is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. Give an example of charging by friction.
13. What is charging by induction?
14. When you charge a balloon by friction, why can’t it stick to a metal object like a steel door?