Assignment 7

Make sure to fully explain your answers.

1. How can you induce a current through a loop of wire if that wire is not connected to a battery? Explain.

2. You bring a comb close to your head, though your hair does not move. But while brushing your hair, you find that the hairs tend to repel each other, while they are attracted by the plastic comb. Explain why this occurs.

3. What is the magnetic field? Draw a bar magnet and show several of its magnetic field lines. (Note that magnetic field lines form a closed loop). Make sure to indicate the north pole and south pole and the direction of the lines. Based on what you already know about magnets attracting and repelling when you bring them together, what do the magnetic field lines tell you about the strength and direction of the magnetic field? Explain.

4.

A) What is the electric field? Draw the electric field around a point charge of +5C. Draw the electric field around a point charge of -5C.