The Good, the Bad and the Electromagnet Worksheet

Procedure
1. Leaving 3 to 4 inches at either end of the wire, wrap the wire around the straw. Attempt to keep the wire all together in a small area.
2. Using the scissors, cut off the straw before and after the wire coil.
3. Using the blade of the wire strippers, strip the coating off the wire ends.
4. Spread loose staples out on a table.
5. Using alligator clips, connect the wire to the terminals of a battery.
6. Try using the coil, which is now an electromagnet, to pick up the staples. Record how many staples you were able to lift at once: ______
7. Disconnect the battery.
8. Now, slip the nail into the straw sleeve so that the wire coil is now positioned around the nail.
9. Reconnect the battery.
10. Attempt to pick up the staples again. Record how many staples were picked up this time: ______
11. Which set-up enabled you to pick up more staples? Why?

12. List three things you could do to increase the intensity of your electromagnet (use the number of staples picked up as the dependent variable):