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Conceptual Physics: _____
Date: _____

Unit IX
Electricity & Magnetism
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IX

Building an Electromagnet Activity

Objective: The purpose of this activity is to demonstrate electromagnetism by building an electromagnet.

Procedure:

1. Obtain an iron bar (nail) and a length of insulated copper wire.
2. Coil the copper wire neatly around the nail.
3. Use a power supply (“D” cell battery) to run electric current through the wire coil.
4. Use a compass to detect the presence of a magnetic field.

Draw a diagram of the set up of the activity.

Questions

1. What effect does the electromagnet have on the compass needle? _____

2. Which post (+ or -) is attached to the end of the magnet that attracts the N pole on the compass? ____

3. What evidence suggests that the wire coil is actually producing a magnetic field? _____

Conclusion: (Restate the objective, summarize the procedure, summarize the results.) _____

