

# Lab Induction

Name \_\_\_\_\_ Per. \_\_\_\_\_

**Purpose:** To investigate the properties of magnetic induction.

**Procedure:** Permanent magnets & coils:

**WARNING!!! DO NOT CONNECT THE GALVANOMETER TO THE BATTERY!!!!**

1. Connect the physics **COIL** to the galvanometer.
2. Move a permanent magnet through the coil and make a note of the meter action.
3. Make note of the effects of changing the direction of motion.
4. Make note of the effects of changing the velocity of motion.
5. Make a double magnet by combining two magnets and repeat 1,2,3 above noting the results when:
  - ... a. The magnets are attracting each other. **Explain.**
  - ... b. The magnets are repelling each other. **Explain.**
6. Verify the left-hand rule & the three-fingered rule for the above action. **Observation:**

**Electromagnet:**

7. Check the LH Rule with coil & compass. **Observation:**
8. Connect and insert the big-nail electromagnet into the coil leaving the galvanometer attached to the coil.
9. Note the effect on the galvanometer of turning the electromagnet current off and on. **Explain.**
10. Reverse the polarity of the battery to the electromagnet and note the effect.
11. What is the effect of leaving the current on? **Explain.**
12. The Grand Critique of what was learned by the above.