

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.
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2. Move a permanent magnet through the coil and make a note of the meter action.
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3. Make note of the effects of changing the direction of motion.
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4. Make note of the effects of changing the velocity of motion.
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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.**
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.
... b. The magnets are repelling each other. **Explain.**
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6. Verify the left-hand rule & the three-fingered rule for the above action. **Observation:**
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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.