

**Electromagnetic Induction I – In-Class Worksheet**

**Part 1**

From the 4 video demonstrations on Faraday’s Solenoid experiment, note down your observations.

**Demo 1**

A strong “bar” magnet is made by joining many button magnets. This magnet is inserted into and subsequently removed from a solenoid. Note the approximate size and direction of deflection on the galvanometer when the magnet is:

- a. Going in: \_\_\_\_\_
- b. Stationary inside the solenoid: \_\_\_\_\_
- c. Coming out: \_\_\_\_\_

**Demo 2**

A weaker magnet is used this time by using less button magnets. The solenoid is the same as in Demo 1. Note the approximate size and direction of deflection on the galvanometer when the magnet is:

- a. Going in: \_\_\_\_\_
- b. Stationary inside the solenoid: \_\_\_\_\_
- c. Coming out: \_\_\_\_\_

**Demo 3**

Using the same magnet and solenoid as in Demo 1, the magnet is now inserted and removed at a slower speed. Note the approximate size and direction of deflection on the galvanometer when the magnet is:

- a. Going in: \_\_\_\_\_
- b. Stationary inside the solenoid: \_\_\_\_\_
- c. Coming out: \_\_\_\_\_

**Demo 4**

A home-made solenoid with many less turns of wire than the solenoid is used this time with the same magnet as in Demo 1. Note the approximate size and direction of deflection on the galvanometer when the magnet is:

- a. Going in: \_\_\_\_\_
- b. Stationary inside the solenoid: \_\_\_\_\_
- c. Coming out: \_\_\_\_\_

**Conclusion**

From your observations above, what can you deduce about the factors affecting the induced current caused by electromagnetic induction?