

Name: _____

Number: _____

Date: ____/____/____

Unit 12: Magnetism

LAB: Motor

Objective:

- Create an electric motor. A motor involves a wire with electric current interacting with a magnet to create torque on the coiled

Equipment:

- Plastic cup
- 2 paperclips
- 2 disc magnets
- Rubberband
- Power supply
- Leads
- 3 feet of insulated wire
- Wire strippers

Hypothesis: (You might want to do the background and procedure parts first.)

- If (briefly state the conditions necessary for the motor to work...not the whole procedure, mind you)...then (what should happen?)
- If _____

then _____.

Background: Explain how your motor will work. (Hint: Look at the procedure.)

Procedure:

- Take the insulated wire and coil it around a cylinder to make many loops. Leave a few inches loose at the ends, and use those ends to wrap around the coil to hold the coil in place. Some loose end should remain on each side. Be sure the wrapped sides of the coil are exactly opposite each other. Since this description is really horrible, here's a picture:



- Use wire strippers to remove the insulation from the ends of the loose ends.
- Attach the two disc magnets to either side of the bottom of the cup. (They will attract to each other to hold themselves in place.)
- Turn the cup upside down.
- Invent the rest. Do *not* use any resources other than your own knowledge. Describe the steps to create your invention here. If you use a sketch, be sure to label and describe it.

Observations:

Conclusion: Was your hypothesis correct? If not, what went wrong? Regardless of whether it worked, what improvements could you make to your "invention"?