Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_

**Magnetism Station 4: Faraday’s Experiment**

**Part 1:** Pre-lab Questions; answer the following questions using complete sentences with a restate

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| 1. Draw what you think Earth’s magnetic field looks like. |
| 2. Where can you find magnetic fields in the classroom?  3. Where can you find magnetic field in the world? |
|  |
| **Part 2:**  1. Get your ASSIGNED Chromebook   1. Go to <https://connexions.github.io/simulations/faraday/#sim-bar-magnet> magnet. The link can also be found on my blog   Bar Magnet   1. Select the “Bar Magnet” tool. Move the compass around the magnet. Make three observations and write them below   -  -  -  3. Make sure you turn on the “see inside magnet” option on the upper right side. What do you observe?  Pickup Coil  1. Select the “pickup coil” tab.  2. Make the light bulb light. Describe what you have to do to keep the light bulb glowing.  3. To make the bulb light you must have moving electrons. What do you have to do with the magnet to make the electrons move?  Electromagnet  1. Select the “Electromagnet” tab.  2. What are the electrons inside of?  3. In the upper right side, find where it says “loops” Increase and decrease the number of loops. What happens when you increase the number of loops?  4. What happens when you decrease the number of loops?  Transformer  1. Select the “transformer” tab. Move the object around, and adjust the tools until you can make the lightbulb turn on. Below draw how you positioned the objects to get the light bulb to turn on.  Generator  1.A generator “makes” electricity. Click on the “generator” tab.   * 1. Turn on the water. What does the water do to the magnet?   2. Turning on the water does cause the light bulb to light, but is water necessary to “make” electricity? [ yes / no ]   3. If there is no water but you have a magnet, a coil of wire, and a light bulb what would you do to make the bulb light?   4. Explain and draw a possible set up for what the power company has at the power plant to “make” electricity for this school.   Part 3: What are you going to do now that you are finished\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Ms. Murphy approval \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |