**Title**

Electric Charge and Current Scientific Investigation

**Hypothesis**

Using the Procedure and Data Collection section of the scientific investigation, read through the procedural information. Based on your understanding of the procedure, develop your own hypotheses which describe your expected results. You should consider the following question: How can you strengthen the electromagnet? Record your hypotheses below:

**Data**

Use the data table below to record your data from this scientific investigation:

|  |  |  |
| --- | --- | --- |
| **Object** | **Prediction** | **Observation** |
|  |  |  |
|  |  |  |
|  |  |  |

**Data Analysis**

Provide responses to the following questions. Make sure to completely answer each question and to show all of your work.

1. Sketch or take a digital picture of your electromagnet.
2. Does the number of times you wrap the wire around the nail affect the strength of the electromagnet?
3. Does the thickness or length of the nail affect the electromagnet’s strength?
4. Does the thickness of the wire affect the power of the electromagnet?
5. Devise a method to actually measure the magnetic strength. Investigate the relationship between direction of current and magnetic flux and explain why the magnet becomes hot.

**Conclusion**

Using the Conclusion section of your Electric Charge and Current Scientific Investigation Report, compose three to four sentences describing an overall conclusion based on your data. Were your hypotheses true or false, and how do you know? Analyze the magnetism of the nail with respect to presence and absence of electric current. Use the data and notes that you collected from your experience to form your conclusion. Make sure that you include information that you gained from data analysis to support your conclusion.

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Once you have completed the Electric Charge and Current Scientific Investigation Report, please submit your work to the dropbox.