**(14pt) Times New Roman) Title:**

(12pt) Name and class period

**(12pt) Background information**

(12pt) Give background information about electromagnets and how electromagnets work. Utilize the correct vocabulary terms. Write a discussion of how the question was created. State the purpose of your experiment.

**(12pt) Hypothesis**

(12pt) State hypothesis in “If…then statement”

**(12pt) Experimental Design**

*(12pt) Materials*

• Write the materials used in a clear, concise list. Make sure to include all the materials used. This will allow anyone to repeat your experiment and verify your claims.

• When listing the materials be very specific for the supplies that you used. Mention length of wire, brand and type of battery, etc.

*(12pt) Procedures*

Write down the exact steps you followed during your experiment and the exact measurements you took. This takes you through a step by step procedure of the lab. This allows someone to replicate your experiment.

Detail all variables in the experiment. The controlled variables are the ones that don't change throughout the experiment. The independent variable is the one thing you will change during the experiment. It should be outlined in the hypothesis. The dependent variable is the variable that is changed because of your manipulation of the independent variable in the experiment.

The procedure should be written in a paragraph form, not as a list and it should be a written description of what you did, not a set of instructions. The key to this step is clarity. You want to make sure to provide enough detail so that anyone can complete the experiment and explain the steps in an easy to follow, detailed manner. However, be careful not to over explain or add in irrelevant information.

*Safety Precautions*

Make sure to outline any safety precautions that should be taken when performing the experiment.

**(12pt) Data**

This section contains the raw data observed during the experiment. You should record your observations in a clear, logical manner. Organize data and categorize the data so it is easy to read and understand.

This section also includes data tables, graphs, or any notes made during the experiment. The data tables should be labeled clearly, and all units of measurement should be recorded (when necessary). Make sure each axis is labeled with a variable.

There are two different kinds of data that can be collected. Qualitative data is observable data that does not have a numerical value. These are things you observe with your five senses. Quantitative data is observable data that responds to measurable values. Examples of quantitative results are measurements in units like centimeters, weight in grams, speed in kilometers, along with density, volume, temperature, and mass.

**(12pt) Discussion**

In this section, the experiment should also be analyzed. Interpret the results by explaining them, analyzing what they mean, and comparing them. If something unexpected happened, speculate as to why that happened. Hypothesize what might happen if a variable in the experiment was changed

**(12pt) Conclusion**

Accept or reject your hypothesis. In the conclusion, explain if your hypothesis was correct or incorrect. Use data obtained from the experiment to support why you accept or reject it.

Are there multiple conclusions that can be reached from the data? If so, make sure to say that.

Explain what the other conclusions are.

An example of a hypothesis rejection is: Our hypothesis was incorrect. The cake did not cook at a higher temperature for a shorter amount of time. The cake was still raw when it was taken out of the oven.