Physics 122
Chapter 16 Quiz

Name: _____
Date: _____

In making up the questions for this quiz I focused on the **Section Outcomes** that were listed on the first page of the section. A copy of the image from your textbook is right there. →

SECTION OUTCOMES

- Define and describe magnetism.
- Describe the relationship between magnetic fields and electric current.
- Analyze and predict, by applying the right hand rule, the direction of current produced in a magnetic field.

Answer the following questions directly on this page, try to use full sentences to explain your thoughts. If you need more room attach your own paper to this quiz. (Clearly label the questions!)

1. What is meant by the term **magnetic dipole**? (Value 2)

2. Do you think a magnetic monopole is possible? Explain. (Value 2)

3. Fill in the table (from your textbook) below. (Value 3)

RULES FOR MAGNETIC INTERACTIONS

1. _____
2. _____
3. _____

4. Why does iron form a temporary magnet whereas steel does not? (Value 2)

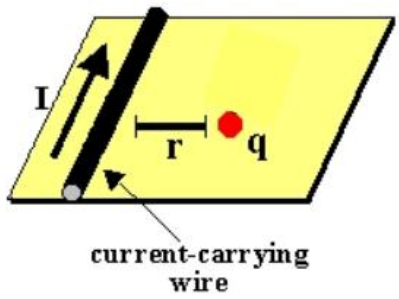
5. The Curie Point for nickel is 358. (As can be seen from the table at the right from your book) Explain what that means. (Value 2)

Table 16.1 Curie Points for Magnetic Materials

Material	Curie Point (°C)
iron	770
cobalt	1131
nickel	358
magnetite	620
gadolinium	16

6. Explain some similarities and differences between electric and magnetic forces. (Value 3)

7. A long straight wire lying on a table carries a current I as shown in the diagram. A small magnetic dipole q is placed on the table to the right of the wire as shown. What is the direction of the magnetic force on the particle? (towards the wire, away from the wire, forwards, backwards, off of the table, into the table) Explain how you came up with an answer. (Value 2)



8. What 3 factors affect the strength of an electromagnet? (Value 3)