Experiment 8: Magnetic Field of a Solenoid

Student Name: _____

Section Number: _____

PRELAB

PRE-LAB Instructions:

Print out this page. Feel free to refer to the lab Instructions and other materials, your physics textbook, other students, etc. to help you to ponder, understand, and work out answers to the following question(s). Show your work & answers in the space(s) provided.

PRE-LAB Questions

1) How can you make a compass without using iron or other ferromagnetic materials?

2) A 100 cm long solenoid has a total of 400 turns of wire and carries a current of 2.0 A. What is the magnetic field a) inside the solenoid? b) outside the solenoid?

3) Why does the presence of iron inside a solenoid greatly increase the magnetic field?