Name: _____ Date: _____ Course: _____ Professor: _____

B5b Prelab: Magnetic Force & Fields

 Read lab instructions and watch the video before answering the questions

1. In this lab you will be measuring the magnetic field unfortunately it is not possible to measure the magnetic force being experienced by the electromagnetic wire directly. However, by applying Newton's 1st Law to the system of this experiment, it does become possible to find an experimentally viable equation for B_{ext}. Write the equation you will be using to find B_{ext}.

2. Victor is conducting this experiment in the lab he measures a length l = .049 m, a radius R = .61 m, a mass m = .004345 kg, a displacement d = .0421 m, and a current of 1.73 A. Using the equation what is the magnetic field B_{ext} that Victor calculates?

3. If Victor switches the direction of the current but leaves everything else the same what should he expect to see?