Practicum 15-J Eccentric Motors

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**Goal:** To make an eccentric motor vibrate through various frequencies for various lengths of time. And to gain skills in programming by building a circuit and adjusting Arduino code to perform the desired task.

**Rules:**

1. Work in groups of 1 or 2. There are only 8 of you and there are 8 Arduinos and computers, so everyone could have their own…but collaboration is more likely to yield results.
2. One person should be the electrical engineer and lead in building the circuit. Sketch the circuit in your journal.
3. The other person should be the programmer and lead in writing the program.
4. Get the base code from any source you want.
5. You might want to start simple:

http://www.dummies.com/how-to/content/how-to-spin-a-dc-motor-with-the-arduino.html?cid=RSS\_DUMMIES2\_CONTENT

1. Use this base code to create the code you are desiring.
2. Adjust the code as necessary.
3. Make the motor vibrate smoothly through a range of frequencies over a period of one minute, rest for 10 seconds, and then repeat.
4. Once you are done, email your code (along with the answers to the questions below) back to me as a response to my email.
5. Make an entry in your journal.

**Issues and Questions:**

1. The first group to accomplish the task does not have to answer the questions.
2. Which vibrating motor did you use? Describe it.
3. Why does an eccentric motor vibrate when it spins?
4. How do you determine/control the frequency of the vibration?
5. What do you think the hardest part of our Arduino code will be?