Experiment Log

1 . Research Question: *Does 22awg 100-turn coil have a stronger field than 26awg film coat 100-turn coil.*

State the predicted relationship of independent and dependent variables.

2 . Independent Variable: *Wire gauge 22awg and 26awg insulated copper wire.*

Compare devices, materials, products, etc.

3. Dependent Variable: 1. *Electromagnetic field strength.*

2. _____

Quantify, a number is needed for statistical analysis. If it cannot be measured or quantified, it can't be a dependent variable.

3. Method: Specify measurement procedure and sketch/describe the setup for this experiment.

		Measure/Quantify	
	Dependent Variable(s)	**Unit**	**Instrument**
1	*Electromagnetic Field Strength*	*mm*	*Metric Ruler*
2			

4. Data Collection:

Independent Variable
Sample

	22awg	*26awg*	3	Notes/Observations:
Trial 1	*53*	*45*		*Heat observed with 26awg coil*
Trial 2	*52*	*46*		
Trial 3				

5. Results: Report the summary data (i.e., average, t-test, etc.)

The average distance the field was detected was 52.5mm for the 22awg wire and 45.5 for the 26awg wire.

6. Conclusions: What decision(s) will be made based on these results.

The 22awg wire with plastic insulation worked better fo a 100-turn coil with a steel core.

Name/Group: *Research Group 1*

Date: *10/2*