Pre Lab Task

The purpose of this pre-lab task is to inform your instructor on your state of readiness to perform the investigation and to guide you during your investigation.

Instruction: This task should take about 30 minutes to complete.

Respond to the following items and email it to your lab instructor 72 hours before your scheduled lab session. Your lab instructor will assess the responses and will determine whether you PASS and can proceed with the investigation or you FAIL and will need to improve on your responses. **You pass if ALL the 6 assessment criteria (indicated in blue) had been satisfactorily addressed**.

Your instructor will clarify what and where improvement has to be made. Upon making the suggested changes, email it back within 24 hours after you receive the feedback. Your instructor will inform you via email or Facebook whether you can proceed with the investigation or otherwise. In addition to the softcopy, bring a hard copy of your improved pre-lab task to the lab session to guide you perform the investigation.

Date:	
Name:	
KP UiTM	
Email Address:	
Handphone #:	
Title of Investigation:	

1. State the **purpose** and **outcomes** of engaging in the investigation activity.
2. Describe the experimental design you will use in your investigation
   - **Variables**: State the control, dependent, independent and observed variables
   - **Apparatus**: State the apparatus associated with the variables
   - **Design**: Describe what you will do to attain your investigative outcomes.
   - **Predictions**: Make your predictions on the outcomes of the investigation.

An example:

Purpose: This investigation will explore the relationship between EMF supplied to a light bulb and the intensity of the light bulb.

Outcomes: Upon completion of the investigation, I will be able to

1. Explain how EMF supplied to a light bulb affect the light bulb's intensity and hence predict how light bulb's intensity, in general, is affected by EMF supplied.
2. Construct a working model of how EMF, current flow, light bulb's resistance, circuit resistance and potential differences tie together to the light bulb's intensity.

Design: This experimental investigation will explore the behaviour of a light bulb by connecting a power supply with variable EMF to a light bulb of resistance, R and allowing current flow, I through the light bulb. The control variable is R, the independent Variable is EMF and the dependent variable is light intensity, Int.

Apparatus: DC power supply for the EMF, light bulb for the load of resistance R, electrical wires to make the connections and to allow current flow throuh the circuit, analog ammeter/s to measure the current flow, analog voltmeter/digital multimeter to measure EMF and potential difference & my eyes to make visual determination of intensity. If a light meter is available, then I shall use that to measure light intensity.

Method: For each light bulb, and by using a switch to regulate current flow through the light bulb, I shall investigate the lower and upper limit power supply EMF that can cause my light bulb to light up without causing the bulb to burn or burst. Based on this upper limit, I shall plan an appropriate increment of EMF supplied and observe the bulb's intensity. In an ensuing investigation, I shall fix the EMF at the upper limit, increase the resistance in the circuit by connecting a variable resistor in series with the light bulb and observe the intensity change. In both cases, I will also measure the current flowing and obtain a relationship between EMF supplied and its affect on the current flow, potential drop, and light bulb's intensity.

Predictions:
Intensity increase with increase of EMF.
Intensity decrease with increase of resistance.
Increase of EMF will increase the current flow.
Increase of resistance will cause current to decrease.

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