**Circuit Design and Measurements Revision Task**

Use the Phet simulator (link on Weebly)

1. Build a circuit using 2 batteries which lights 2 bulbs connected in SERIES and use the voltmeter and ammeter to measure the following:
   1. Voltage across whole circuit:
   2. Voltage across each bulb:
   3. Current flowing through circuit:
   4. Draw a circuit diagram of this circuit in your book and label the voltage / current at various points **(USE PENCIL AND A RULER)**
2. Change your circuit so the bulbs are connected in parallel and measure the following:
   1. Voltage across the whole circuit:
   2. Voltage across each bulb:
   3. Current flowing through ALL the circuit:
   4. Current flowing through each bulb:
   5. Draw a circuit diagram of this circuit in your book and label the voltage / current at various points **(USE PENCIL AND A RULER)**  
        
      **EXTENSION**
3. Build a circuit with two bulbs in parallel
   1. Add a switch which turns off just one of the bulbs
   2. Add another switch which turns off both bulbs
   3. Show your neighbor / Mr Brown
4. Make a circuit with one main on/off switch that will turn on/off 3 bulbs, each with a different brightness.
   1. Use the non-contact Ammeter to check for different currents.
   2. Change the circuit so 1 switch will turn on/off all the lights
   3. Add a second switch which will change the lights from all being the same brightness to all being different brightness’s.
   4. Take a screenshot and email to Mr Brown