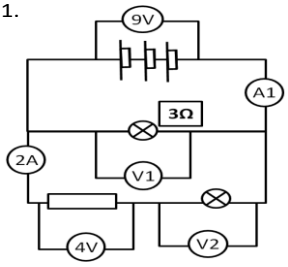
Week	Activity	Resources	How presented?
1	**Task 1** **Quantum physics** Watch the video https://www.youtube.com/watch?v=zBTbqOgdfEY Make sure you can answer these questions by the end of it (make some notes or flashcards): 1. What did Planck discover? 2. How did Einstein explain the photoelectric effect? 3. How did Bohr explain an atoms stability? Open the simulation below and explore how it links to the video and the photoelectric effect https://phet.colorado.edu/en/simulation/legacy/photoelectric Research one or more of the following topics related to quantum physics (make some notes or flashcards): 1. Absorption and emission spectra 2. Electron diffraction 3. Schrödinger's cat 4. Heisenberg uncertainty principle **Task 2** **Electric circuits** Complete the worksheet **Current Voltage and resistance** (below) using the equation p.d. = current x resistance (V=IR) and the circuit rules explained in these videos GCSE Science Revision Physics "Current in Parallel Circuits" - YouTube GCSE Science Revision Physics "Potential Difference in Parallel Circuits" - YouTube then construct the circuits using this app: https://phet.colorado.edu/sims/html/circuit-construction-kit-dc/latest/circuit-construction-kit-dc_en.html and test to see if your calculations are correct. Include a photo of your answers and include them on the Powerpoint	Web site as listed	Record your work on Powerpoint or Word. You will then add further tasks into this document over the next 3 weeks (which you will then send to your A – level teachers) Include a photo of your answers and include them on the Powerpoint

Current, Voltage and Resistance

Apply the rules of current and voltage to to following circuits and use the V=IR equation to work out the missing currents, voltages and resistances as required. Unless stated otherwise, assume all bulbs are identical. DON'T FORGET YOUR UNITS!

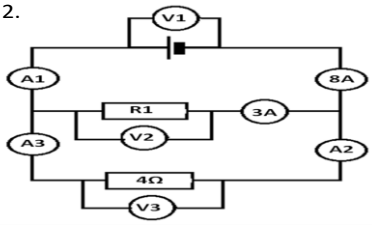
Remember: To work out resistors in series $R_{Total} = R1 + R2 + R3$

1.



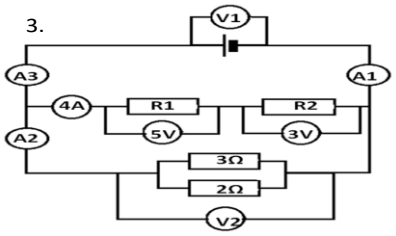
A1 = _____
A2 = _____
V1 = _____
V2 = _____
V3 = _____

2.



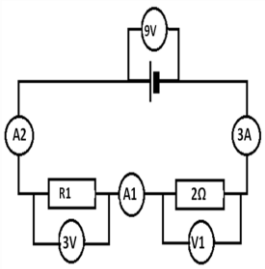
A1 = _____
A2 = _____
V1 = _____
R1 = _____

3.



A1 = _____
V1 = _____
V2 = _____
V3 = _____
V4 = _____

4.

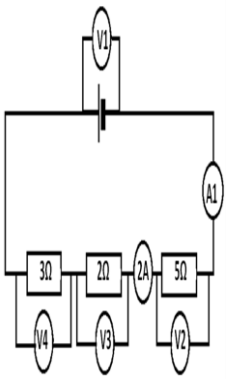


A1 = _____
V1 = _____
V2 = _____

Calculate the resistance of:

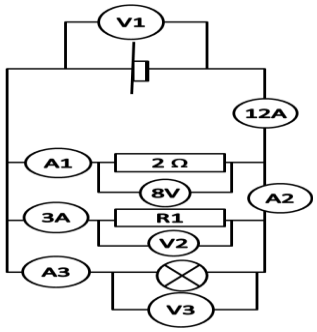
The bulb = _____

The resistor = _____



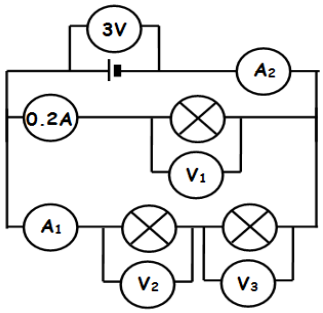
A1 = _____
A2 = _____
A3 = _____
V1 = _____
V2 = _____
V3 = _____
R1 = _____

6.



A1 = _____
A2 = _____
A3 = _____
V1 = _____
V2 = _____
R1 = _____
R2 = _____

7.



A1 = _____
A2 = _____
A3 = _____
V1 = _____
V2 = _____
V3 = _____
R1 = _____