I-V Graphs & Circuit Component Questions for GCSE Physics

1. What is the circuit symbol used for a resistor?

2. What does an arrow through the resistor symbol represent?

The resistance is variable (or it is a variable resistor)

3. What does LDR stand for?

Light Dependent Resistor

4. How does the resistance of an LDR change when light intensity increases?

The resistance decreases

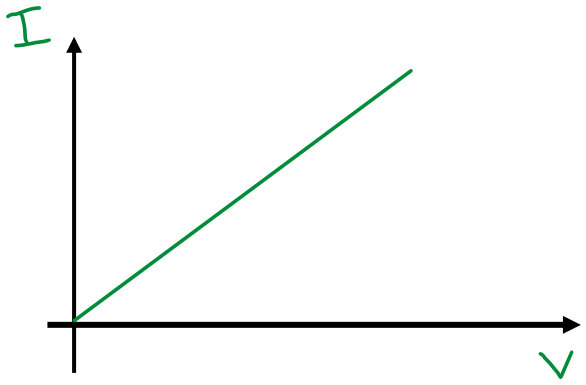
5. How does the resistance of a thermistor change as temperature increases?

The resistance decreases

6. What does Ohm's law state in words?

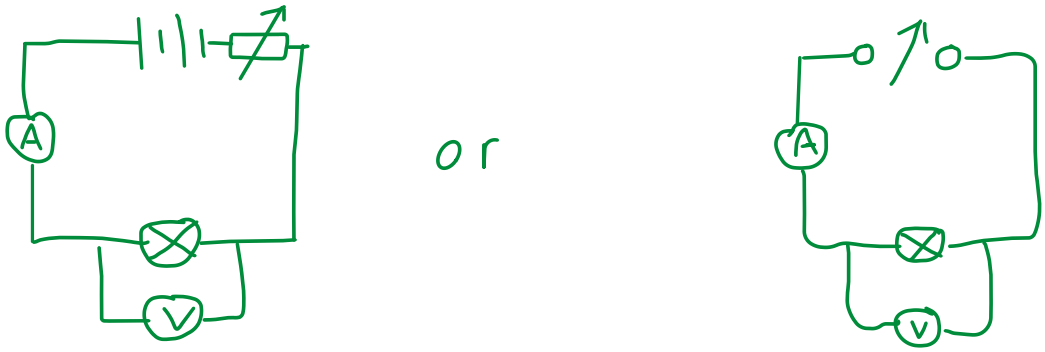
The current through a component is proportional to the voltage across it at a constant temperature.

7. Label the axis and sketch the I-V graph for an ohmic conductor below.

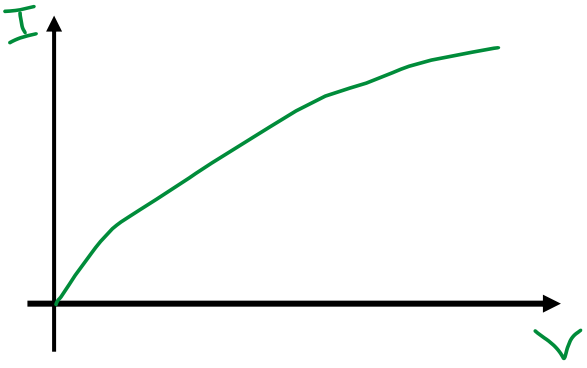


(a straight line through the origin)

8. Sketch the circuit used to obtain the results for an I-V graph for a filament lamp.



9. Sketch the I-V graph for a filament lamp on the axis below?

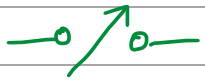


10. Describe the relationship between the current and voltage for a filament lamp?

- *As the voltage increases, the current increases*
- *The higher the voltage, the less the increase in the current*

11. What alternative piece of equipment could be used instead of a battery and variable resistor?

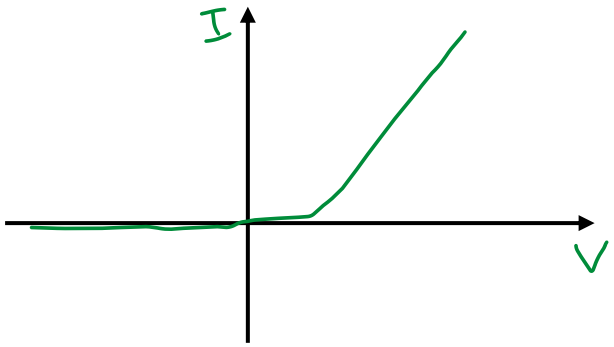
A variable power supply



12. What is the function of a diode?

I diode only allows current to flow through it in one direction.

13. Sketch the IV graph for a diode on the axis below.



14. What is meant by the terms forward bias and reverse bias.

In the forward bias direction the component will work correctly.

When connected in the reverse bias direction, the component will not work correctly.