

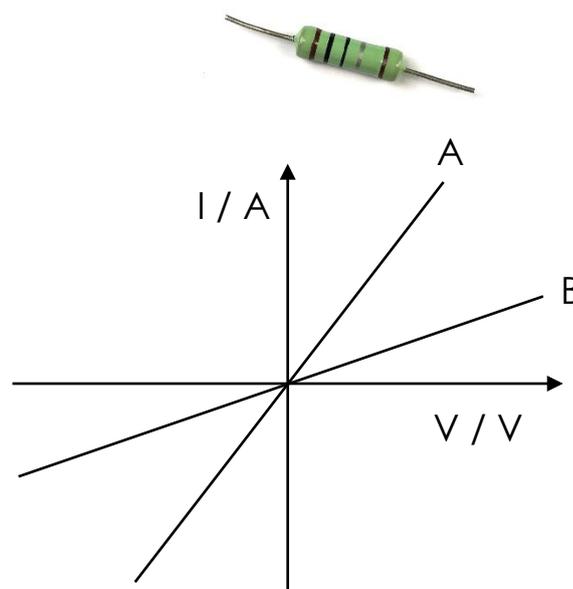


GCSE I-V CHARACTERISTICS

The I-V characteristics of an electrical component refer to the relationship between the current flowing through and the potential difference across the component.

1. Write down the equation for resistance in terms of current and potential difference (voltage).
2. Define what an ohmic conductor is.

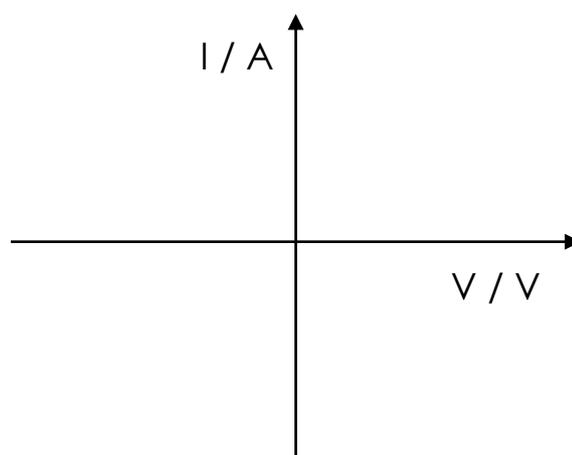
3. The graph on the right shows the I-V characteristics of two fixed resistors, A and B.
 - a. Write down if A is an ohmic conductor
 - b. Explain which of the two resistors has a greater resistance and why



4. A filament bulb is not an ohmic conductor. This means its resistance is not constant and hence its I-V graph is not a straight line.
 - a. Sketch the I-V graph for a filament bulb on the axes on the right
 - b. Describe in detail how a filament bulb produces light



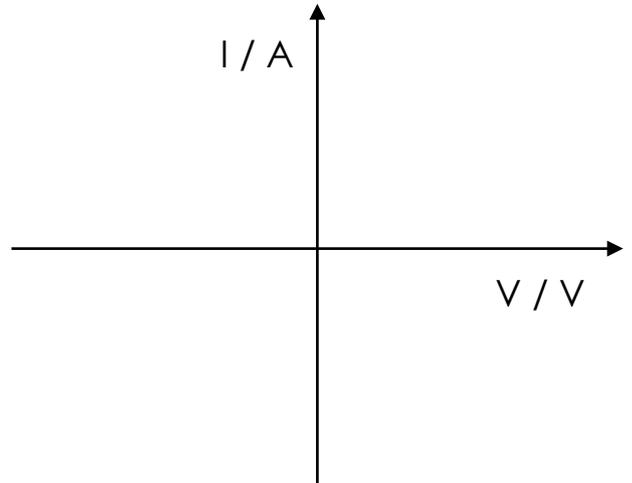
- c. Explain in detail why a filament bulb is not an ohmic conductor



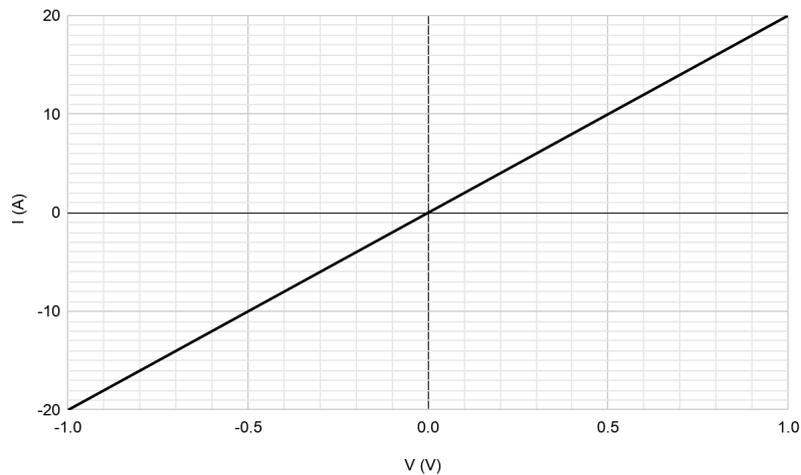
5. A diode is unlike other electrical components for one main reason.



- Write down what property makes a diode special
- Sketch the I-V characteristic graph for a diode on the axes on the right
- Write down what LED stands for



6. Below is a graph showing the relationship between the current through a resistor and the potential resistance across it. Calculate the resistance of the resistor.



7. Below is a graph showing the relationship between the current through a different component and the potential resistance across it. Calculate the resistance of the bulb when the potential difference across it is -4.0 V.

