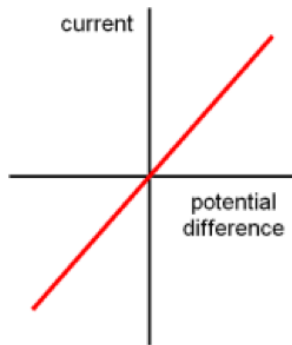
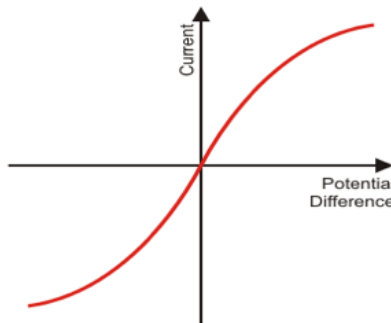


Current – PD relationships

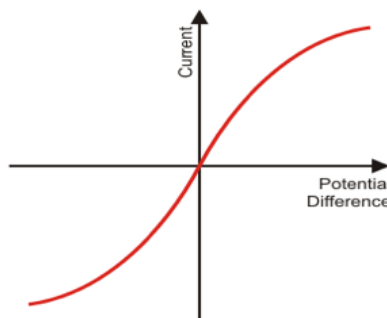
Match the description with the correct graph showing the relationship between current and potential difference. Insert the name of the component in the box.



The graph for a diode is not a straight line and therefore does not obey Ohm's law. A diode has two resistances depending on its polarity, ie which way it's connected. When connected in the forward direction it gives a low resistance and when connected in the reverse direction it gives a high resistance.



The graph for a filament lamp is not a straight line and therefore does not obey Ohm's law. As more current flows in a lamp the metal filament gets hotter. The metal atoms in the filament vibrate faster and further from their positions. This results in an increase in collisions with the travelling electrons, hindering their flow and causing resistance. This is shown by the flattening out of the graph as the current increases indicating that the resistance is increasing



This graph shows the resistor is obeying Ohm's law. The straight line tells us the current is proportional to the potential difference across the resistor