



Cathode Rays

Checklist statement ✓

I can describe the production of cathode rays in a discharge tube.

Thermionic Emission of Electrons

Checklist statement ✓

I can explain the principle of thermionic emission.

I can apply $\frac{1}{2}mv^2 = eV$, define all terms and know their standard units.

Specific Charge of the Electron

Checklist statement ✓

I can describe a method for determining the specific charge of the electron, $\frac{e}{m_e}$.

I can explain the significance of Thomson's determination of $\frac{e}{m_e}$.

I can compare the specific charge of the electron with that of the hydrogen ion.

Millikan's Determination of the Electronic Charge

Checklist statement ✓

I can describe the condition for holding a charged oil droplet stationary between parallel plates.

I can apply $\frac{QV}{d} = mg$, define all terms and know their standard units.

I can describe the motion of a falling oil droplet with and without an electric field.

I can explain how terminal speed is used to determine the mass and charge of an oil droplet.

I can apply Stokes' law $F = 6\pi\eta r\nu$, define all terms and know their standard units.

I can explain the significance of Millikan's results.

I can explain the quantisation of electric charge.