In this experiment, we're going to compare the oscilloscope traces produced by A.C. and D.C. supplies

For this you will need:
Batteries or cells
A low voltage power supply
An Oscilloscope
Leads to connect the equipment.
Switch on the oscilloscope and adjust to give a horizontal line in the centre of the screen

The x-axis measures time. The y-axis measures voltage. A horizontal line across the centre shows that there is no voltage.

Now connect the cells in series and connect these to the Y input of the oscilloscope.
This produces a straight line trace above the centre. This shows a constant voltage.

This is a D.C. or direct current supply because a direct current is always flowing in the same direction.

Now connect the oscilloscope to the low voltage power supply, using the yellow terminals of the power supply.

This produces a sine wave pattern on the screen. The voltage is constantly changing between positive values, above the centre line, and negative values, below the centre line.

This is an A.C. or alternating current supply because the direction of the current constantly alternates. In the UK, the current of mains supply changes direction 100 times per second.

A D.C. electricity supply, or direct current, flows in one direction which is why it produces a straight line trace on the oscilloscope. Batteries and solar cells are an example of a D.C. electricity supply.

An A.C. current, or alternating current, is constantly changing direction which is why it produces a sine wave trace on the oscilloscope. Mains electricity is an example of an A.C. supply.