Learning Objectives:
Apply your understanding of magnetic fields to develop a technique of measuring B

Once you have determined B, use your device to measure the mass of an unknown object.

Applications of F=BIL
The current - balance

Your task:

Develop a simple tecnique of measuring B, the magnetic flux density for a strong C-magnet.

Once you have done this, use your device to measure the mass of an unknown object.

Equipment list

Method (if you think you need it!)

Plenary:
Complete the SAQ's
HL:
Complete the chapter WS

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Equipment available:
Top pan balance
D.C power supply (spider, max 4 groups)
lengths of wire
ammeter
voltmeter
c-core magnet

Method:

1) set up a circuit whereby the wire runs perpendicularly through the magnetic field of a C-Core amgnet.

2) Place the C-core magnet on the top pan balance and zero the scale.

3) Apply a p.d. and allow a current to pass through the wire. The balance reading will change (why and how?)

4) The change in weight of the magnet is equal and opposite to the force F.

5) Use flemings law to calculate B (you have F, I and L)

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