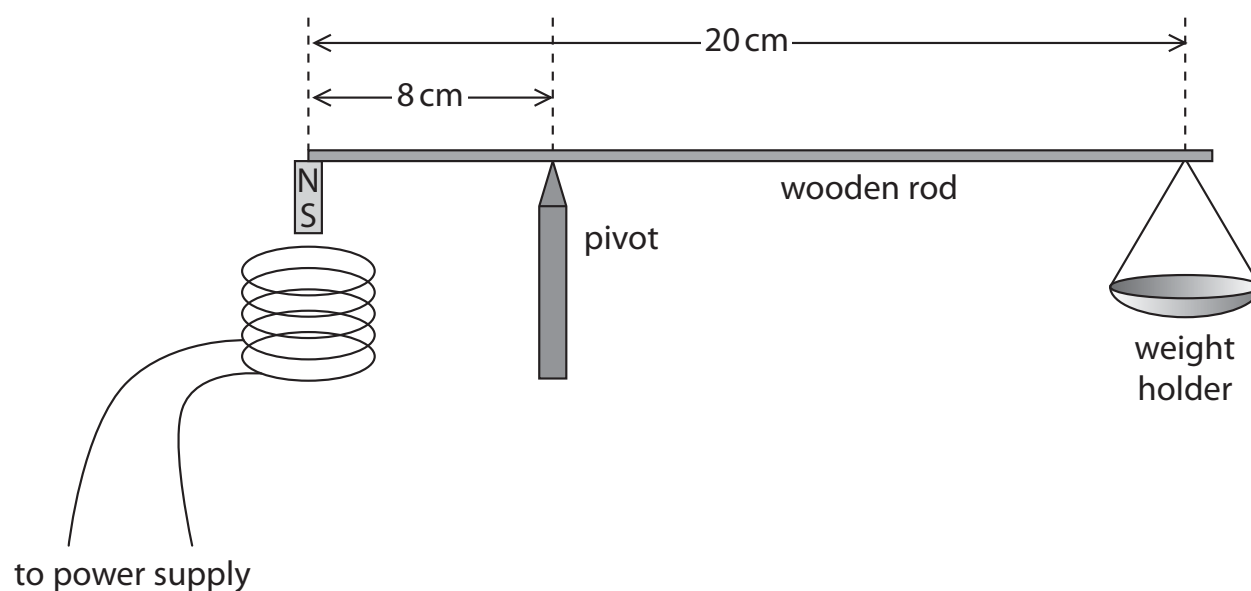


- 6 A student uses this apparatus to investigate how the strength of the magnetic field in a current-carrying coil varies as the current changes.



This is the student's method.

- attach a small magnet to one end of a wooden rod
  - place the rod on a pivot that is 8 cm from the magnet
  - attach a weight holder to the other end of the rod
  - place a current-carrying coil underneath the magnet
- (a) A weight of 0.1 N is needed to balance the rod when the current in the coil is zero.

Calculate the weight of the magnet.  
[ignore weight of rod and weight holder]

(3)

weight of magnet = ..... N



- (b) The student increases the current and observes that the rod rotates anticlockwise and the magnet moves towards the coil.

Explain this observation.

(3)

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P 5 3 2 8 2 A 0 1 5 2 0