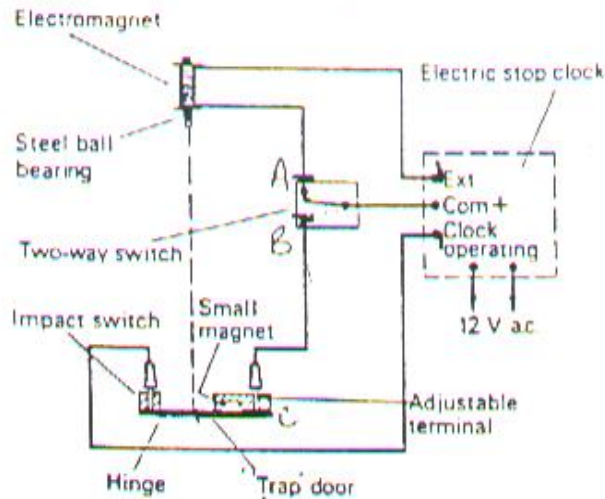


Experiment to Calculate the Acceleration of Free Fall (g)



The diagram above shows the apparatus used to determine 'g'. An electromagnet is connected via a two way switch to an electric clock and power supply. When the switch is in position 'A', the electromagnet is magnetized and holds up the small steel ball as shown.

The other terminal of the two way switch is connected to a trap door.

With the steel ball in the position shown, the distance between the steel ball and the trap door is measured. This distance should be greater than a metre and be measured with a tape measure to get good accuracy. The two way switch is then quickly moved from position 'A' to position 'B'. When this is done two things happen simultaneously;

- (1) The electromagnet loses its magnetism and releases the ball.
- (2) The electric clock starts timing.

When the steel ball hits the trap-door it forces it to open and the electrical contact at C is broken. When this happens the clock stops timing.

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