

## PROVING NEWTON'S SECOND LAW USING THE LINEAR TRACK METHOD 1

### Apparatus required

Linear track set up with one glider  
1cm long interrupter on top of glider  
Set of slotted masses from 5g up to 50g plus mass-holder  
Cotton  
Pulley wheel attached to end of air-track  
1 EDULOG light-gate + clampstand

### Method

1. Set the light gate up to measure acceleration (use your Edulogger manual for assistance)
2. Add the mass to the holder and then let the glider go.
3. Record the acceleration
4. Repeat with different masses.
5. Plot a graph of  $1/\text{mass}$  against acceleration

Set up the apparatus as shown in the diagram.

