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National 5 Assignment  
Acceleration on a slope: Guide Sheet A

A close up of a toy

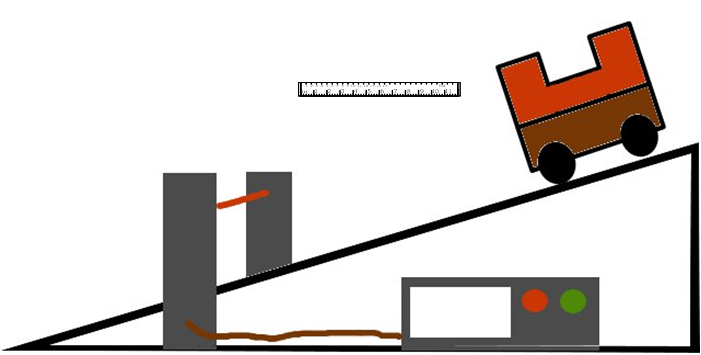
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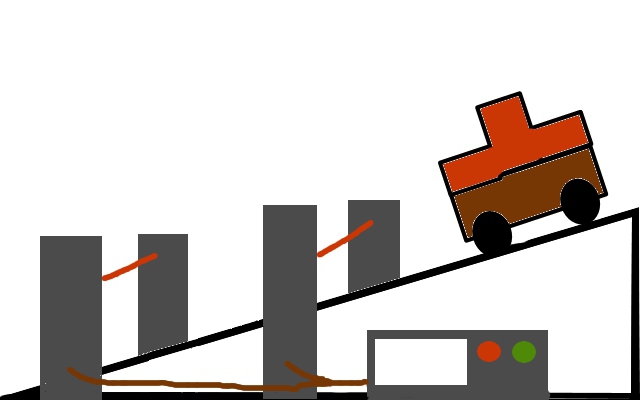
**Variation of angle of slope with acceleration.**

**Apparatus**

Runway, light gate(s), interface and computer, mask (single or double), rule, protractor, or metre stick.

**Instructions:**



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* Organise the light gates and interface to measure the acceleration of the vehicle as the vehicle passes through the light gate(s). This can be using one light gate and a double mask or two light gates and a single mask.
* Set the runway up at an angle.
* Measure the angle of the slope.
* Place the light gate so that the mask cuts the beam as the vehicle passes.
* Release the vehicle and measure the acceleration as it passes through the light gate(s).
* Change the angle of the slope, often books can be useful to achieve this.
* Present your results.

**Risk Assessment**

* Placing a buffer at the end of the ramp or something soft for the trolley to land in is suggested so not to damage equipment.
* Do an electrical safety check by observing all the wires of the interface and light gates.
* Make sure the vehicle cannot become a trip hazard or land on feet, toes etc.
* Be observant to those around you.
* Do not block exits with the apparatus.