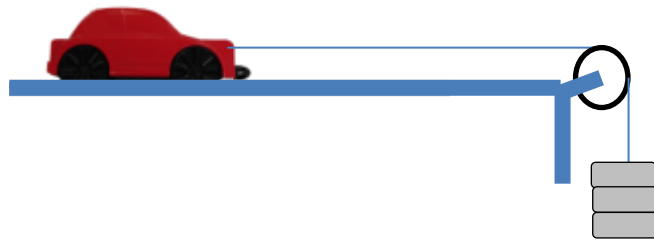


## ***Finding the resistance force acting on the Dynakar***

You will need :

- a Dynakar
- a laptop with the data-logging software installed
- a long flat table
- a pulley and clamp
- some string
- masses



### **Investigate the motion of a car puller along by a constant force**

1. Set up the experiment as shown in the diagram with sufficient mass on the string to accelerate the car slowly from rest.
2. Find the acceleration of the car.
3. Find the acceleration of different pulling forces.
4. Find a relationship between the mass attached to the string and the acceleration of the car.

It is possible to calculate the mass of the car and estimate the resistance force by collecting data for 2 different pulling forces.

5. Use Newton's 2<sup>nd</sup> Law for the connected particles to calculate the mass of the car and the resistance force acting on the car.