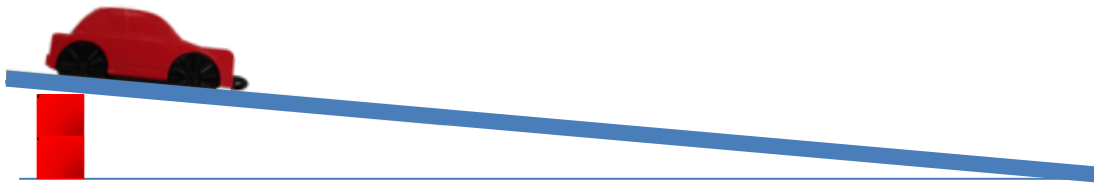


Galileo's Experiment revisited for the Dynakar

You will need :

- a Dynakar
- a laptop with the data-logging software installed
- a long flat table
- some blocks to raise one end of the table



Investigate the motion of a car rolling down a slope

1. Set up the experiment and release the Dynakar from rest.
2. What do your displacement-time and velocity-time graphs tell you about the speed of the car?
3. Using the data recorded find suitable functions for displacement and velocity as a function of time.
4. Repeat this process to find a suitable function for velocity as a function of time.
5. Interpret the equations you have found and comment on their validity.



Further investigations

- How does the angle of the slope affect the motion of the car?
 - How does the mass of the car affect its motion?
 - How does increasing the drag affect the motion of the car?
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Modelling the motion using Newton's Laws

1. Consider the forces acting on the car and draw a force diagram.
2. Using Newton's 2nd Law, set up a simple model for the motion of the car.
3. Compare the data you obtained in your experiment to validate your theoretical model.
4. Can you account for any differences?