

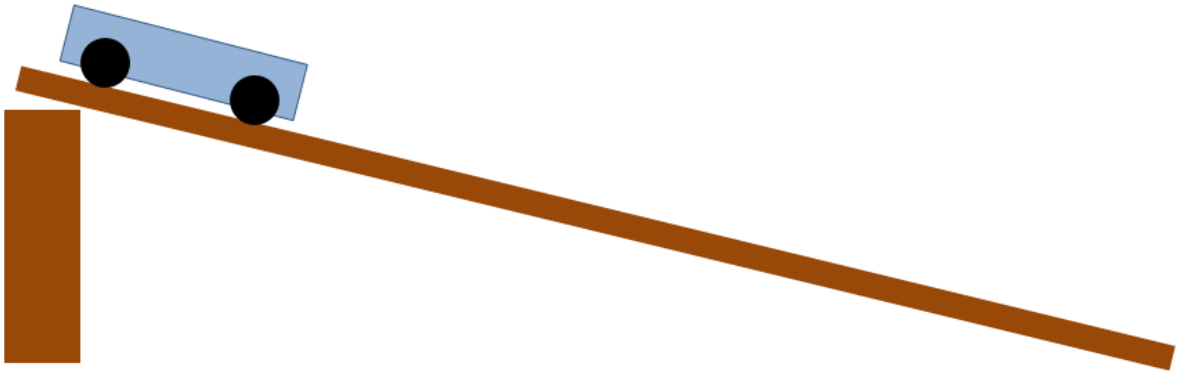
TESTING AIR BRAKES ON MODEL CARS

Getting things ready

Construct a long, smooth ramp of light wood or shelving, ideally around 2-3 metres long.

Set it an angle of around 10 degrees.

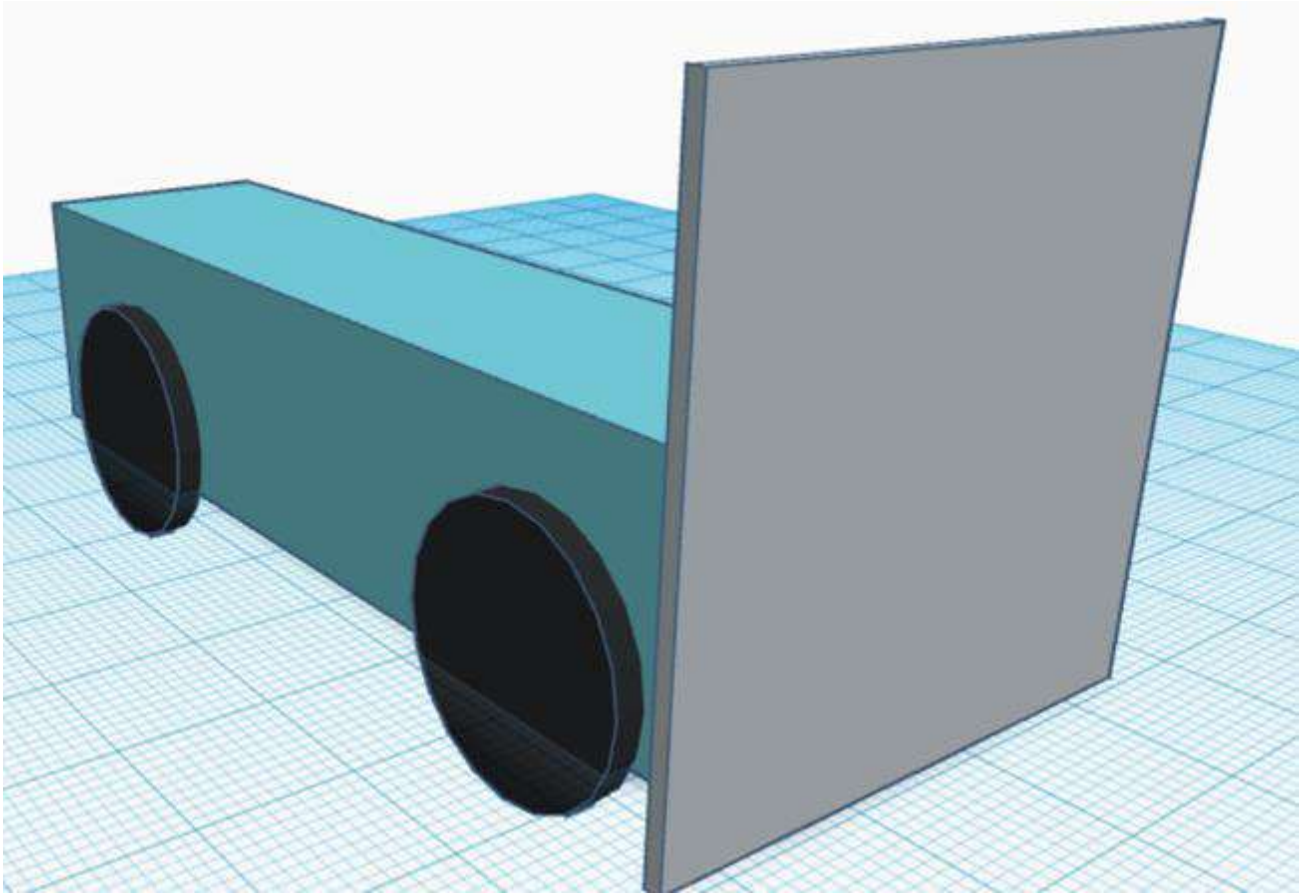
Build the Rocket car and check it runs easily and in a straight line down your ramp. If it goes very fast you can lower the angle of your ramp. (*You can use other toy cars or DIY vehicles with air brakes*)



Do some tests. Gently let go of the car at the top and see how long it takes to get to the bottom by using a stopwatch (or use the guide to make a micro:bit stopwatch).

Repeat timing your car few times to see if you get similar readings.

Add air brakes to your car



By adding cardboard airbrakes to your rocket car, you can experiment with the effect of using different size airbrakes. You can attach large sheets of card to your rocket car using tape or possibly pins (take care if using anything sharp).

You can use the attached sheet to keep a record of the times it takes the car to descend the ramp with different size brakes.



Length of ramp: _____

Time for car to descend ramp with NO airbrake: _____

	Size of airbrake in cm ²	Time taken to descend ramp (seconds)
1		
2		
3		
4		
5		
6		

Do you notice a pattern? You can make a graph or use a spreadsheet to make a graph for you.

