



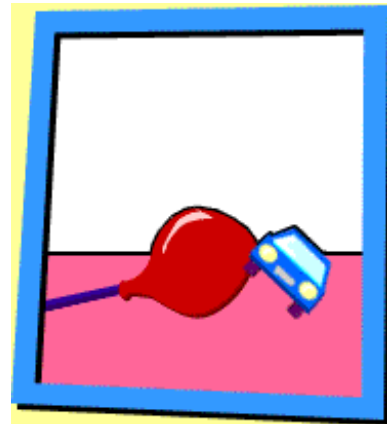
Car Tipping

Have you ever wondered how you can use a balloon to tip over a car? Well it's all about pneumatics.

So take a deep breath and let's start inflating those balloons!

Equipment

1. A small model car.
2. A balloon.
3. A bicycle pump.
4. An elastic band.



Safety Stuff

Check with an adult before you begin, because you might need their help for some of these projects. Using items such as scissors can be dangerous, so be very careful when you use them. Make sure that you never leave them open or lying around where smaller children can reach them.

Be particularly careful when working with electricity and electrical circuits. A small battery is quite safe, because it doesn't contain enough power to give you a shock. But the electricity that's used in the home is very dangerous and can easily kill you! So make sure that you never touch any electric sockets, plugs or wires. Keep water well away from these items.

Before starting any of these projects, cover the work surface you're going to use with some newspaper or an old cloth, and make sure you're wearing an apron or some old clothes. Then gather together all the items you'll need before you begin. Most things can probably be found by simply hunting around the house, but remember to check with an adult before you take anything.

And don't forget to tidy up afterwards!

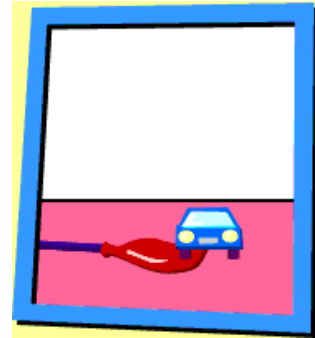
Steps

Step One

First, attach the end of the balloon to the bicycle pump. You may need to secure it with an elastic band so that it's tight and won't come off.

Lay the balloon flat on the table or work surface you are using.

Then place the car so that one front wheel is on top of the balloon and the other is placed directly on the table.

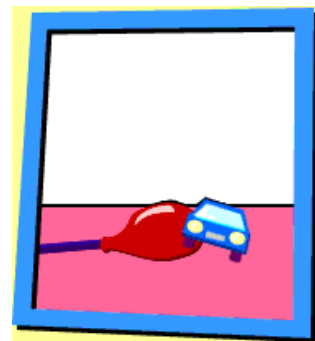


Step Two

Now gradually blow the balloon up using the bicycle pump.

Make sure you keep the neck of the balloon down on the table while you do this.

As the balloon gets bigger, the car will begin to lean sideways. Depending on the weight of the car you will be able to add different amounts of air before the car actually falls over.



Step Three

Try experimenting with different cars and other items to see how much you can inflate the balloon before the object tips over. You could also try working with heavier items, for example some cooking weights (if there are any in the kitchen) or some pebbles, to see how much the inflated balloon can lift.

Can you think of some practical uses for this design?