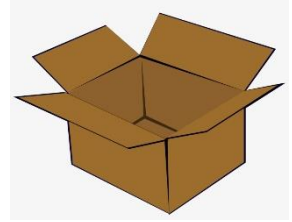




## Science Activity

### Balloon car racers

Time to prepare: 10 - 15 minutes



□ Please, stay safe and ask a grown up to supervise you

#### Resources/ things you need

- A balloon
- Some scrap cardboard/ plastic
- Wooden kebab skewers
- One bendy drinking straw
- 2 other straws (must be wide enough for a kebab skewer to fit inside)
- Cellotape
- At least 4 plastic milk bottle lids
- Blu-tac
- Scissors

#### What to do

1. Create a simple car using scrap materials (use the pictures below as an example). It doesn't matter what you use, as long as it has wheels that can spin. (These cars used plastic bottle lids attached to the main body of the car using a wooden kebab skewer). If you would like step-by-step instructions, watch this video <https://www.rigb.org/families/experimental/balloon-car-racers>
2. Put your car down on a flat surface and give it a good push. Make sure the car rolls easily.
3. Tape a plastic straw to the top of your car.
4. Put the neck of the balloon over the back end of the straw and secure tightly with tape.
5. Blow through the other end of the straw to blow up the balloon.
6. Hold the neck of the balloon to stop the air coming out and place your car on the floor. Let go of the balloon and watch how fast your car races forwards!

#### Background and the link to learning

A force is anything that can change the state of motion of an object, like a push or a pull. You use force when you push a letter on the computer keyboard or when you kick a ball.

The air coming backwards out of the balloon is what pushes the car forward, just as the hot gases coming out of the bottom of a rocket push it upwards.

This is an example of a physics idea known as Newton's Third Law of Motion which says that for every action, there is an equal and opposite reaction. (If one object exerts a force on a second object, then the second

#### Pictures



object exerts the same size, and kind, of force on the first object, but in the opposite direction).

[Link to other similar activities](#) - Please see Rubber band cannon and make a parachute

