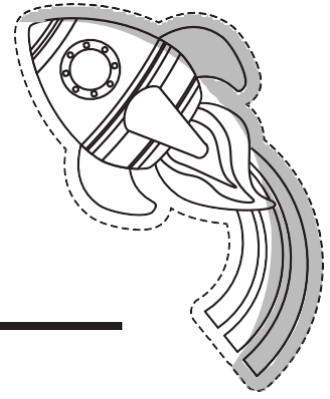


BALLOON ROCKETS

Children can construct individual rockets or make them in groups of 2 or more.

Suitable for ages 5 - 7 yrs old



What you need to make one

- A piece of string (about 2m long)
- A balloon
- 2 chairs
- A drinking straw
- Some tape
- A pair of scissors



Instructions

1. Prepare string

Start by tying one end of the string to the back of a chair

2. Attach straw

Thread a drinking straw onto the other end of the string, and then tie the string to the second chair...Attach 2 pieces of tape (about 5 centimeters in length) to the center of the straw...

3. Inflate balloon

Next, inflate a balloon (Don't tie the end!)

4. Attach balloon to straw

Holding onto the opening of the balloon (so the air doesn't escape), attach it to the straw using the tape (see picture to the right)

5. Launch

Pull the balloon to one end of the string (so that the opening of the balloon is touching one of the chairs), and let go...



The science bit

Action and reaction is a fairly simple concept - To make an object move one way, a force has to work in the opposite direction.

In this case, the balloon is full of air ...and thrust. When you let go of the balloon, causing the air to rush out of the opening, it creates a pushing force in a forward motion called THRUST. This makes the balloon move.

Real rockets work in a similar way. A rocket engine works by exploding fuel inside a chamber that is open at the bottom. The force of the explosion creates an opposite force that pushes the rocket up and into space. - as the engines blast down, the rocket goes up!

Other things to try with your rocket

Different sizes and shapes of balloon

Try using different shapes and sizes of balloon. They will create more or less thrust. What make the best rocket?

Measure them

Try measuring how far they go by laying out on the ground measurement markers

Uphill and downhill

Does travelling uphill or downhill change thrust? Try tying the string on an upwards or downwards angle on the far chair and see if it how much farther or shorter it goes.

