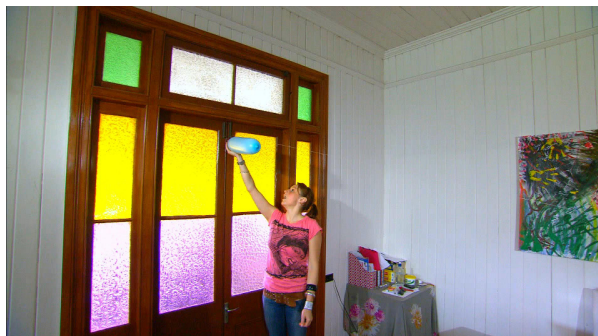


## Activity: Balloon Rocket

On SCOPE's Physics episode, you saw Julia make a balloon rocket. Here's how she did it:



### What you need:

Long balloons  
String  
Straws  
Sticky tape

### What to do:

1. Start by finding two strong points, one higher than the other, to attach the piece of string. (e.g. a door knob, the leg of a chair etc)
2. Attach one end of the string to the lower point.
3. Roll the string out to the higher point and cut the string to the correct length, but don't tie it yet!
4. Thread the straw through the string, then attach the string to the second point.
5. Blow up the balloon but don't tie the end- just keep it closed by pinching the end with your fingers.
6. Attach the balloon to the straw using sticky tape, but make sure the opening is facing the higher point. Then move the whole thing to the higher end of the string.
7. The rocket is ready to launch! Let go of the balloon end and see it shoot along the string!

### What's happening?

The balloon shoots along like a rocket because the air inside the balloon is thrust out, which pushes against the air in the room, and forces the balloon to move. This experiment is a good way to explain Newton's third law of motion- 'For every action there is an equal and opposite reaction.' Basically the air rushes out in one direction and there is an equal and opposite reaction that moves the balloon in the other direction!

And the best thing about this experiment is you can blow up balloons of different sizes and shapes and see how it changes how the rocket shoots along the string!