

Questacon Science Squad Activity - Balloon-powered Car

The video for this transcript can be found on the Questacon Science Squad website at:

<http://sciencesquad.questacon.edu.au/activities>

Transcription from video:

(Sound of bubbles popping)

David: G'day, I'm David from the Questacon Science Squad and people have been telling me my whole life I'm full of hot air. So it's about time that I decided to do something about that and put that hot air to good use. So, I decided to make a balloon-powered car.

(Camera pans down to cardboard)

You need:

- a piece of cardboard about 8cm by 10cm
- a balloon
- a couple of skewers.
- 3 straws, two straight straws and one with those nice bendy bits in it
- 4 bottle tops about the same size is great, they're going to be our wheels
- Some scissors
- A piece of elastic band and,
- some sticky tape.

Alright this is what you do: grab your straight pieces of straw and place them on the bottom of your piece of cardboard there, just like that, you want them just about even.

(David places the straight straws evenly on cardboard, one on each end)

Grab some sticky tape and stick them down. There, great. One piece down... two pieces down. Flip that over.

(David sticks each straw down with sticky tape)

Now, your skewers are going to be your axles and then that's what your wheels are going to go on the end of.

(David shows the skewers)

So your wheels should already have a couple of little holes drilled in them, they want to be about the same size as the thickness of our skewer.

(David shows the already drilled holes in bottle cap)

So stick that in one end, there we go, just like that, through the axle.

(David places the cap on the end of skewer then pushes skewer through the straw)

Ooh no, wait a second, we want to put these around the other way so that rough bit on the side of the bottle cap doesn't catch on the cardboard.

(David pulls the cap off, turns it around and puts it back onto skewer then puts one on the other side)

Same on this side, just push it through. There we go, beautiful. And we've got a second one. Try not to stab yourself in the hand with the pointy bit at the end of the skewer, I'm told it really hurts. I wouldn't know by personal experience of course, I'm not silly enough to do that. Alright, get that one on. There, great.

(David places the last skewer in to the other end and puts a cap on each of the ends)

Alright, now, the next part, take your bendy straw like this and your balloon and your scissors and cut your bendy straw so you've got two pieces about the same length.

(David moves balloon in front of him, then takes the bendy straw and scissors and cuts the straw)

There we go. Beaut, so you've got a nice little bendy piece like that. You can get rid of that, over you go.

(David bends the bendy bit to demonstrate then tosses the other part of straw to the side)

And take your balloon on the end of one section of the bendy straw, elastic band on the outside, and just wrap it around a few times, so the balloon stays onto the end of the straw.

(David places the balloon onto the end of the bendy straw and then wraps the elastic band around it to keep it on)

It should end up looking something like this.

(David places it to the side and shows a completed example)

You should be able to blow it up and no air gets out of it.

(David blows the balloon up and lets it deflate again then puts it to the side and shows the wheels)

Alright, now back to your wheels, it takes a little bit of working out to try and get these straight so the car moves forward nicely. So I've made one a little bit earlier, which I'm sure works. Here it is. It's a beauty, isn't it? Nice, orange wheels.

(David puts the wheels to the side and shows a completed set of wheels)

OK, so grab your balloon and your straw, get another piece of sticky tape like that and put it on the end of your straw like there, and stick it down so

the end of the straw is poking out over the side of the car and your balloon's stuck in the middle of it.

(David shows the balloon, puts a piece of sticky tape on the straw part then sticks it onto the cardboard. He then points at where the straw is hanging over and points to the balloon in the middle)

Now it's time to test how it races, so get your balloon and start to blow it up.

(Camera pans on David blowing up balloon)

And you might notice that I've chosen a red balloon, that's because everyone knows that red is the fastest.

(David places car back on to table and camera pans to it)

Alright, let's see how it goes. 3, 2, 1, balloon car away! Look at it go!

(Camera zooms out to watch David make the car go)

It's brilliant, isn't it?

(David picks up the car then camera pans into David's face)

If you want to find out more about making a balloon car, you can head on down to the Questacon Science Squad website. I'll see you next time.