Engineer Inside

Hints and Tips

Launch an Object Challenge

Dr Antony Allen

Hello. My name is Dr Antony Allen and I'm an Associate Professor in Energy and Propulsion at WMG, that's Warwick Manufacturing Group, at the University of Warwick. The engineering challenge that I have been tasked with is to launch an object. And so the first thing I was thinking was 'what have I got around me, at home, that I can launch?' Something I can launch quite safely, that might fly about or would be quite safe if it hit someone and wouldn't break anything when it lands.

I don't want it to be too big, or too heavy. Nor do I want it to be too small so we can't see it, or too light because I don't want it to be blown about by the wind when it's being launched.

The two objects that I've come up with. The first one, quite easy, is take a piece of paper and scrunch that up. I can make a little ball and that's quite safe, I can throw that around and it's not going to hurt anyone. It's quite light but also we can see it and it's a suitable sort of size.

So that's the first object. I'm going to try and launch just a ball of paper.

And the second one – this actually belongs to one of my young boys – one of my own children. This is affectionately known as Foxy. So Foxy will say hello to you. Again quite small quite light. He's a toy so will be quite safe to launch about, he's not going to hurt anyone when it lands or if it hits anybody.

And then I was thinking about where I can I actually launch these things and I don't really want to launch these things inside my house where they might hit things.

So I'm probably going to launch them outside. It's a lovely sunny day so I'm probably going to outside and I'm going to launch the object.

I was thinking 'what's my measure of success?' How will I know if I've done these this properly? I was thinking it would be quite nice if I launched it to maybe as tall as I am, I don't want it to go just a few centimetres off that ground.

So launch an object if it foes higher than me I'm going to count that as a success.

Now the next question is how am I actually going to launch these objects. I've come up with three different ideas, three different concepts and I' going to show you some of the materials that I'm going to use for each of these three ideas and later on you'll be able to see how I've got on and which ideas actually worked, which ones didn't, and how the ideas evolved as I was experimenting with them during this activity.