

Narrator: Have you ever been on an airplane or inside a car and thought to yourself 'why is it designed like this?'. I mean surely there could've been a better and easier way to shape and create cars and planes. But what if I was to tell you that over many years scientists have discovered that these designs are actually the best designs.

Actually these designs were created the same way that they created the designs for spaceships and rockets that go at supersonic speeds. How did they do all this? Well, let's answer that question by going back in time and looking at a very important scientist called Mary Jackson.

This is Mary Jackson. Born April 1921 and passed away in February 2005 at the right age of 83. She loved science and getting others involved in science. Within her 83 years she did a lot of great things as a scientist. She studied hard and got a degree in mathematics and physical science. She was a math teacher and then eventually worked her way up to NASA doing an engineering career. Wait. What is an engineer? Well, a basic answer is an engineer is someone who wants how and why things work. They design and build things to solve specific problems. This means that Mary Jackson as an engineer at NASA had a problem to solve and wanted to know why and how to fix this.

Now this is where things get interesting. Mary's problem was understanding the process that caused surface rummage and dried on an aircraft. In other words, what elements on a rocket ship, like the shape of the window, wings or body are making it go slower when met with powerful winds.

She conducted her experiments by using wind tunnels. What is a wind tunnel you might ask? It's simple, think of a tunnel that has large fans at one side. These fans create 'wind-like' forms inside of the tunnel, and when you place an ordinary object like a rocket inside, you can see how the wind affects the object. It's almost like the rocket is flying in space, but it's actually not even moving.

But we need to ask an important question. "So what? Why does Mary Jackson's work on wind tunnels affect me?". Well, her results have affected us in two different ways: Firstly, the findings towards rocket ships and surface drag allowed other scientists to design the best aircraft that have enabled them to explore more of the galaxy at a better efficiency! This means that our knowledge of the galaxy and space has increased significantly and will continue to increase.

Secondly, remember how we spoke about the designs of airplanes and cars? Well, Mary's work in rocket ships is simply transferred to these objects. So, instead of placing a rocket ship inside the wind tunnel, we replace it with a car or a plane and test how their shape affects surface roughness and drag.

And there you have it! A new understanding of Mary Jackson.