



SCHOOL JOURNAL STORY LIBRARY

LIVING THE DREAM

An Interview with Mana Vautier



School Journal Story Library is a targeted series that supplements other instructional series texts. It provides additional scaffolds and supports for teachers to use to accelerate students' literacy learning.

Living the Dream has been carefully levelled. While the contexts and concepts link to English, health and physical education, technology, and science at level 3 of the curriculum, the text has a reading year level of year 4.

Teacher support material (available at www.schooljournalstorylibrary.tki.org.nz) contains key information to help teachers provide the additional support and scaffolding that some students may need to meet the specific reading, writing, and curriculum demands of *Living the Dream*.

LIVING THE DREAM

An Interview with Mana Vautier



*It's a clear Auckland night.
The grass is wet and spongy.
Everything's still. A young boy
creeps outside, lies on his back,
and searches the sky. Staring at
the Moon, he dreams of flying
into space.*



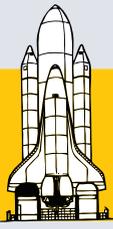
Fast-forward thirty years to Houston, Texas. Mana Vautier says goodbye to his family and heads to work. As an **aerospace engineer** at NASA (National Aeronautics and Space Administration), he is living his dream.

NASA is the largest space **agency** in the world. It was set up by the United States government to explore space and learn about the universe. In 1969, it sent the first person to the Moon, and it's currently planning the first human space flight to Mars.

Born in Auckland and of Te Arawa, Ngāi Tahu, Ngāti Kahungunu, and Ngāti Raukawa descent, Mana always knew he wanted to explore space. But how did a star-gazing boy from Auckland end up working for NASA?

We asked him a few questions to find out.





Where did your love of space come from?

For as long as I can remember, I've loved staring at the night sky. I've always wanted to study it and hopefully one day explore it.

I remember watching the memorial service for the astronauts who died in the space shuttle *Columbia* disaster in 2003. In his speech, the President of the United States said something that I'll never forget. He said that human beings have a natural desire to understand "all creation". He was right. Even though it's very dangerous, I've always felt a need to explore and understand space.

The space shuttle *Columbia* disaster

On 1 February 2003, the space shuttle *Columbia* broke apart as it returned to Earth. This was sparked by earlier damage to the shuttle's left wing. None of the seven crew members survived. NASA stopped all missions to space for more than two years after the tragedy. They worked out what went wrong and made changes to ensure that it would never happen again.





How did you get a job at NASA?

I always knew I wanted to work in human space flight, but I had no idea how to make it happen. Luckily, I was brought up in a family that taught me to believe I could do anything I put my mind to. In 2006, I was accepted into a university in Alabama in the United States to study aerospace engineering. While studying, I heard about a summer job with NASA in Houston. Houston is where the United States astronauts are trained, so I knew I had to apply. I got the job and eventually became a full-time employee.

It wasn't easy. I remember driving across the United States with my wife and our baby on our way to Alabama. We didn't know where we were going to live or how I was going to pay my university fees. Sometimes your dreams can be so big that they seem impossible. But with each step forward, the path ahead gets a little bit lighter.





What is your job at NASA?

I work as an engineer for the International Space Station Program.

Did you know that human beings actually live in space? The International Space Station (ISS) is a science lab 400 kilometres above Earth's surface. There are at least three people living on board at all times. They do research to find out about the effects of living in space.

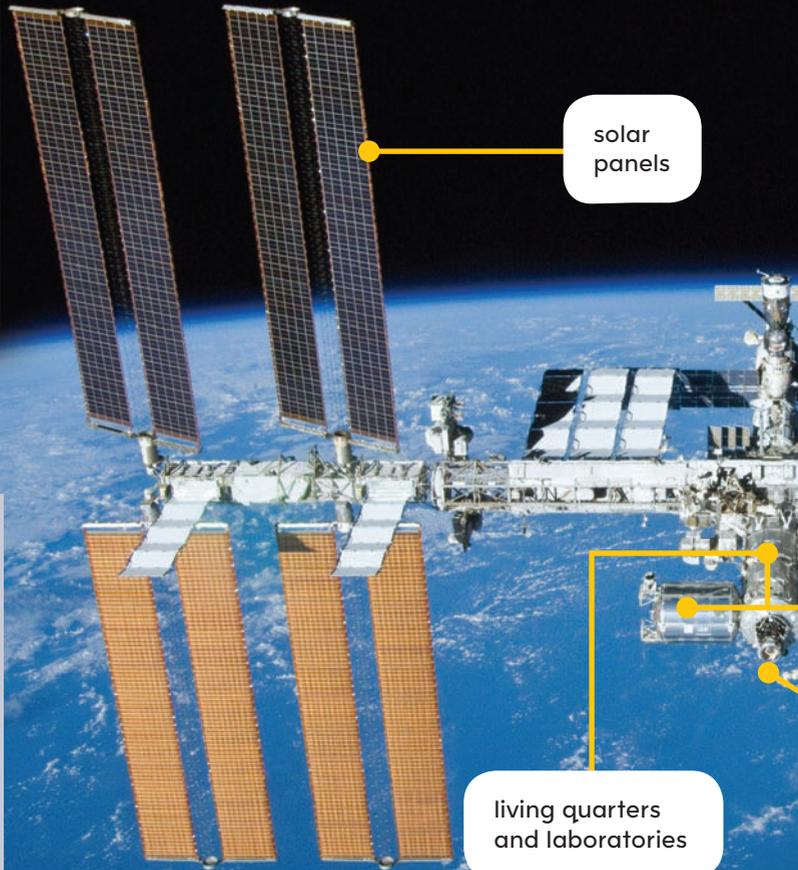
Running a science lab in space is very difficult. There are lots of things that can go wrong. Aerospace engineers build systems to make sure everything runs smoothly and the crew can survive. My job is to manage how these different systems work with each other.

International Space Station

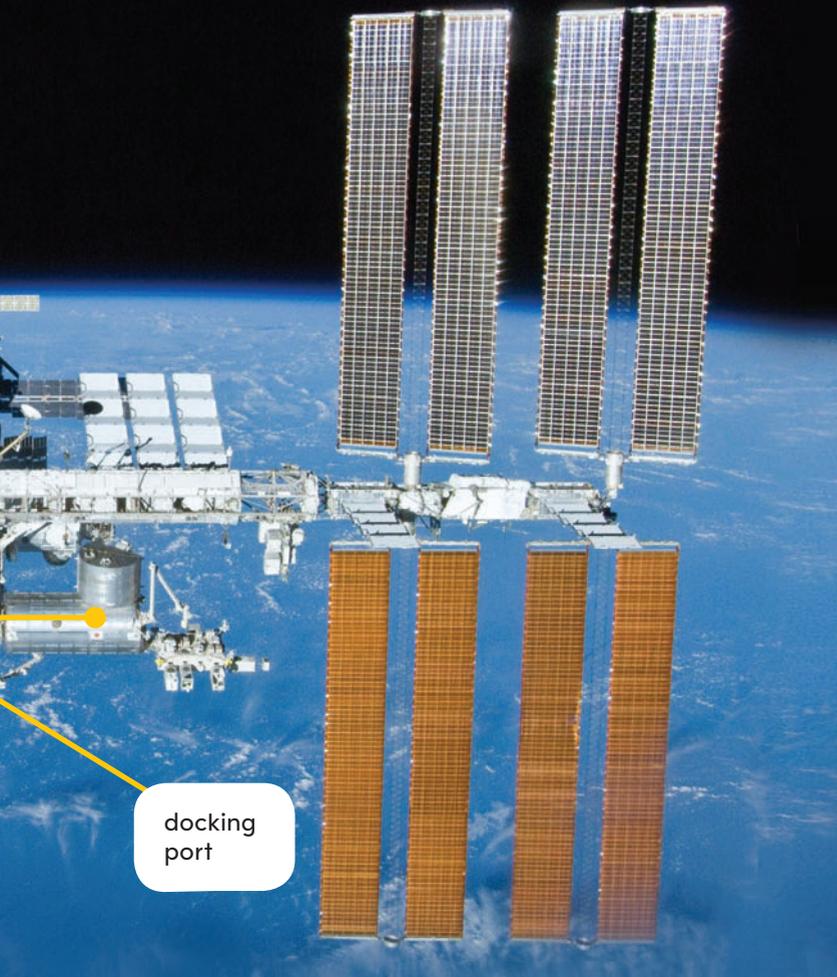
Travelling at over 27,000 kilometres per hour, the ISS orbits Earth eighteen times a day! Engineers have to make sure it always follows the correct path.

The temperature outside the ISS changes from freezing cold to boiling hot every forty-five minutes. This happens as the ISS moves from Earth's shadow into the warmth of the Sun. Engineers have built systems that keep the temperature inside the ISS comfortable and safe for the crew.

The ISS needs a lot of electricity. **Solar panels** are used to power all of the equipment.



How do you keep a 370,000 kilogram object up in space? By using speed. The ISS is falling towards Earth's surface, but it's also moving forward. It's moving forward so fast that instead of falling *to* Earth, it actually falls *around* Earth. The astronauts on board the ISS are falling, too, but because they're falling around Earth, it looks like they're floating!



docking
port

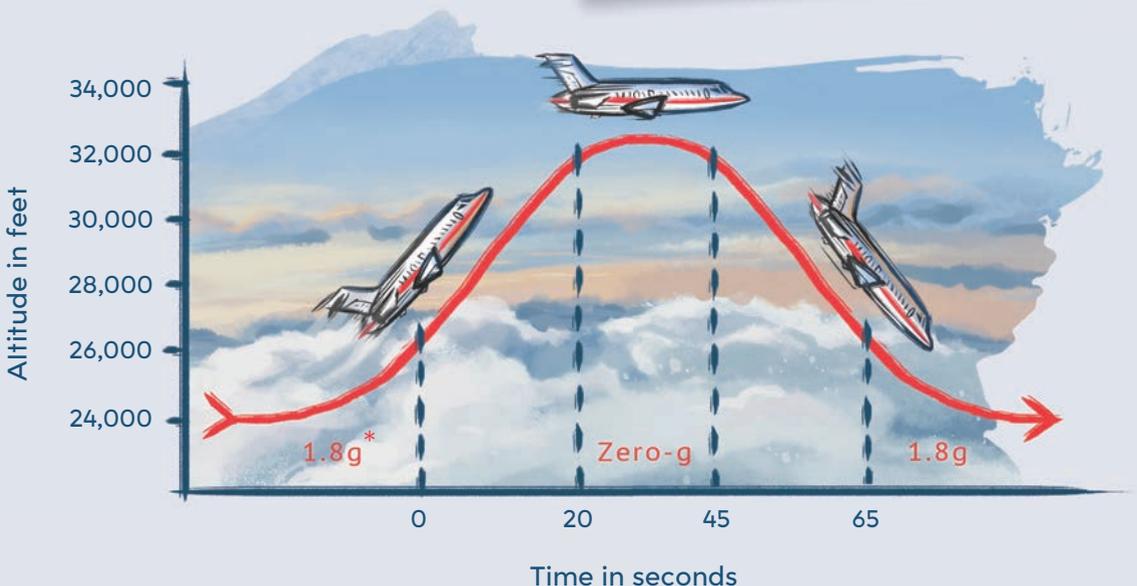
There are systems in place to make sure the air is safe to breathe and the water is safe to drink. The ISS has two bathrooms, a gym, and more room than a large house. Most people who go there stay for about six months.

Many spacecraft visit the ISS to deliver **cargo** and crew.



What have been the highlights of your career so far?

In 2011, I was taken on a jet plane that trains people for space travel. The plane flies in a series of large arcs, like waves coming towards the shore. Because of the speed and angle of the plane as it flies up, gravity on board is 1.8 times stronger than it is on Earth. Your weight nearly doubles! Then as the plane goes over the arc, the **gravity** is cancelled out and you float around as if you're weightless. This is what it feels like in space. It's like driving over a hill and getting that "lose your tummy" feeling, except it lasts for about twenty seconds. Some people call the planes "vomit comets".





I've also been lucky enough to watch two space shuttle launches at Cape Canaveral in Florida. I was only 5 kilometres away, which is almost as close as anyone can get during a launch. I could feel the sound waves beating against my body as the rockets started up. Then the light from the flames shone so brightly that it felt like my eyes were burning – but I couldn't look away. It was incredible!



What are your future goals?

Becoming an astronaut is my ultimate dream – but getting there will take a lot of hard work.

Becoming a NASA astronaut

Step one: First of all, you need to be a United States citizen and have a degree in science, technology, engineering, or maths. Then you need to work for a few years to build up your skills before you apply. In 2016, over 18,000 people applied for about twelve positions.

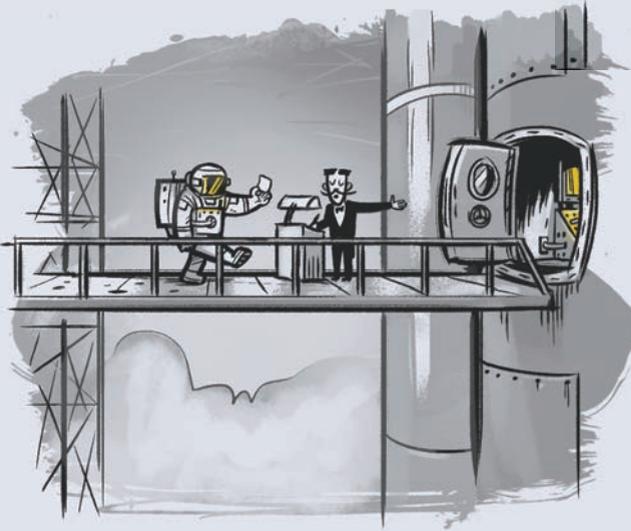


Step two: If your application is successful, you go through several rounds of interviews and medical checks.

Step three: Next up is two years of basic astronaut training. This involves learning how to fly jet planes, survival training, and studying how spacecraft work. You also need to learn how to scuba dive ... oh, and speak Russian.



Step four: If you pass your basic training, you're ready to become an astronaut. But don't say goodbye to everyone just yet – it could be a few years before you're selected for a mission.



Step five: If you are selected for a mission, you go through a final round of training. After that, congratulations – you've finally earned your ticket into space!



What skills do you need to become an astronaut?

If you want to become an astronaut, it's important that you get on well with others. You could be living with just five other people in a very small space for over six months. You also need to work well under pressure and have a strong desire to learn.

But if becoming an astronaut isn't for you, don't worry. NASA has opportunities to work in pretty much every career. No matter what you're good at, NASA probably has a job for you.



What advice do you have for anyone who wants to be an aerospace engineer?

My **taki** to everyone is to work hard and make the most of your opportunities. Take classes in things you're passionate about, talk to smart people around you, and learn from your life experiences. Just like the warriors laying down the **wero**, we must become experts at what we do. Then we can serve our communities and make a difference in the world.

*Ko te pae tawhiti, whāia kia tata.
Ko te pae tata, whakamaua kia tina.
Pursue the distant pathways of
your dreams so they may become
your reality.*



Glossary

aerospace engineer: a person who designs, builds, and looks after aircraft and spacecraft

agency: a business or organisation that provides a particular service

cargo: goods and equipment

gravity: an invisible force that pulls objects towards Earth

solar panel: a device that absorbs energy from the Sun and turns it into electricity

taki: challenge

wero: a ritual challenge that is part of a formal welcome ceremony

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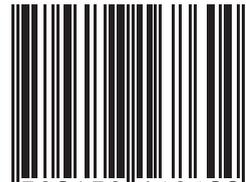
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