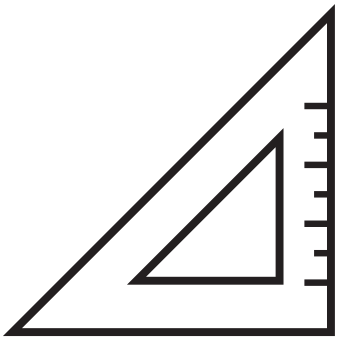
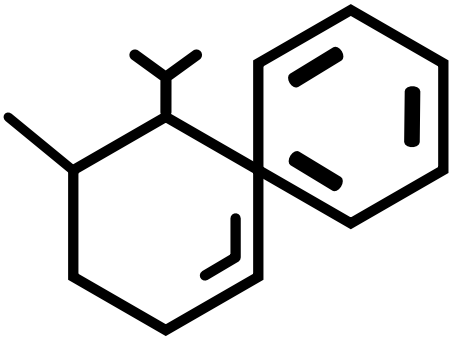
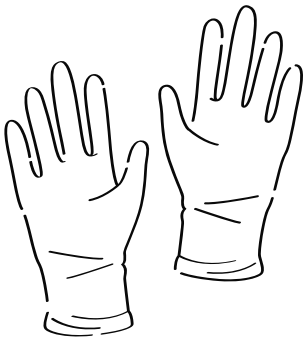
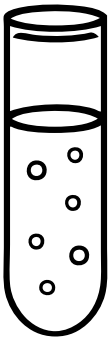
Colour me in and take some mindfulness time Name:

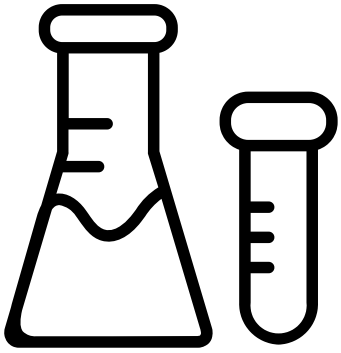


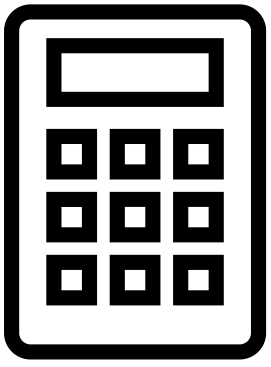


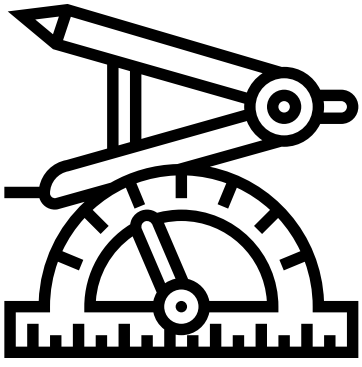


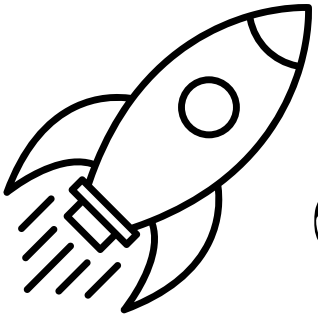


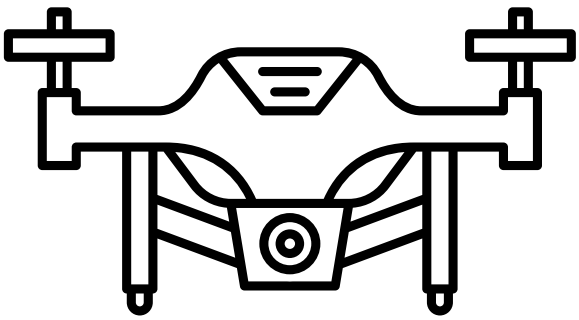
Finding the ME in STEM











Renee's student activity pack

FUTUREYOU

www.futureyouaustralia.com.au

Imagining the Future

Let us take you on an incredible journey into the world of space exploration with the Callistan Cycle.

The Callistan Cycle is a series of five short stories from our Imagining the Future series that explore STEM areas like robotics, AI, climate change and resource management.

You can read, watch or listen to each story, for free.

Far Out! by Lili Wilkinson

As the seconds count down to the launch of humanity's first family into deep space, young stargazer Stella is sure that today is going to be the most exciting day of her life. But she has no idea of just HOW exciting and terrifying and important it will be. And what it will mean for the future of interstellar travel.

Join the Kaufmanns as they go FAR OUT! in a story that explores space and robotics.

SCAN ME

Calculating Apple Pie by Melissa Keil

Kal and her sister Arche are hurtling through space towards Callisto in a ship shaped like a beluga whale that is the size of a city block. Arche does something a bit (very!) reckless to try to help her sister feel a little less homesick.

Calculating Apple Pie explores future food production and coding and how tampering with it can cause serious real-world problems.

SCAN ME

Semper by Rebecca Lim

Shang travelled to Callisto on the Hohmann transfer from Earth, which took almost six years. She sacrificed everything for the chance to explore distant moons for resources and critical minerals, but gets paired with a Drobo called Semper that always wants to play, like a real dog. Shang doesn't have time for games, so why has she been paired with such a useless Drobo?

Semper explores robotics, AI and mineral exploration.

SCAN ME

Proof by Gary Lonesborough

Tanner has been noticing that lots of people in his town on the lunar outpost on Callisto are getting sick. What is causing this mysterious illness plaguing his community? Tanner's sister Rachel thinks she knows what's causing it and takes Tanner on an eye-opening adventure where they discover a lot more than just the cause of the illness.

Proof explores filtration, waste management and environmental science.

SCAN ME

Earthbound by Alison Evans

Pen and their father have arrived on Earth. Pen's comms device isn't working, and when Pen tries to fix it, they hear a strange rhythmic sound coming from it. Determined to figure it out, Pen seeks the help of an android to help decipher the mysterious sound.

Earthbound explores transportation and telecommunication.

SCAN ME

Comprehension Questions

Student name:

To answer these questions, scan this QR code and watch Renee's film.

SCAN ME

What happened when Renee was 15?

What is Renee's 'high vision'?

Name FOUR things Renee can do.

1.

2.

3.

4.

What is an incredible feeling for Renee?

Name TWO things Renee can't do.

1.

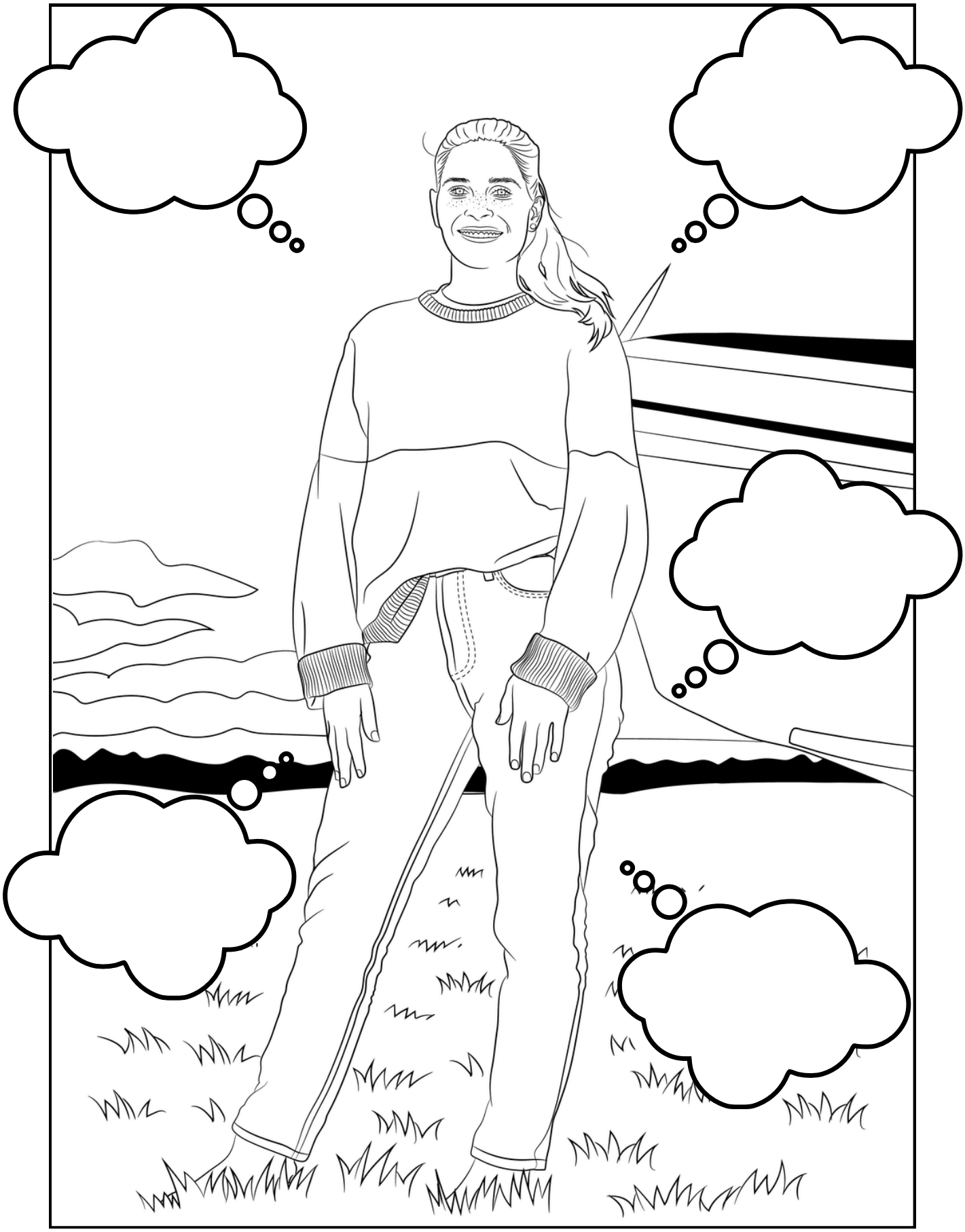
2.

What does Renee consider 'life-changing'? Why?

What did Renee do after she finished her Engineering studies?

Whose support was very important to Renee?

Meet Renee. She's an aerospace engineer. Fill in the bubbles with 5 STEM (Science, Technology, Engineering and Mathematics) skills she uses in her job. Which of these skills do you think is most important? Which do you think would be the hardest to develop? When you've thought of the skills, colour in the rest of the image.



Pathfinder Workwords

Aerospace Engineer

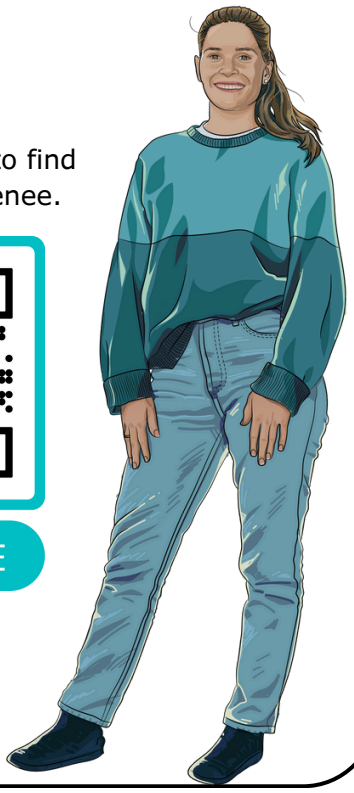
W A Z L N E P G M L D E O K R K E O H F C Z I
H F J D H O I T F A R C R I A E D L D K O W O
Y F K N R D I Q Y W Z N T O L I P V C T M L Y
R O I C T Z W T B L M E N T O G G O E N M Y A
T B T O R G D C A D L I B O C N E A R N U G T
S S R N T E X T S R O C G N I D M G P T N Q B
I B U H E C A W T V O S Y S A W N N H M I F O
M A T H E M A T I C S B Y T O V G I Y B C N J
E K Q D E L E R I E V L A R I N A R S N A B G
H L Z V W L U G S V A T K L I S K O I Z T B G
C S O P P Y O S D N I K J Y L Q O T C E I Q Q
G H X O H F E R A U Y T L Q Z O A I S P N Y R
I R H V V M U O E P J F Y D B T C N R Z G G S
G N I M M A R G O R P N K K B P U O P U Z E B
L C O N V E R S I O N S T T Z Q W M E T C L R
S T N E M E R U S A E M U J T E C O D I N G N

Find 20 words Renee needs to her do her job.

1. AIRCRAFT
2. COLLABORATION
3. SCIENCE
4. ANALYSING
5. MATHEMATICS
6. REPORTING
7. COMMUNICATING
8. TEAMWORK
9. PILOT
10. JUDGEMENT
11. MONITORING
12. FLYING
13. CODING
14. CREATIVITY
15. PHYSICS
16. PROGRAMMING
17. CURIOSITY
18. CHEMISTRY
19. CONVERSIONS
20. MEASUREMENTS

Scan this QR code to find out more about Renee.

SCAN ME

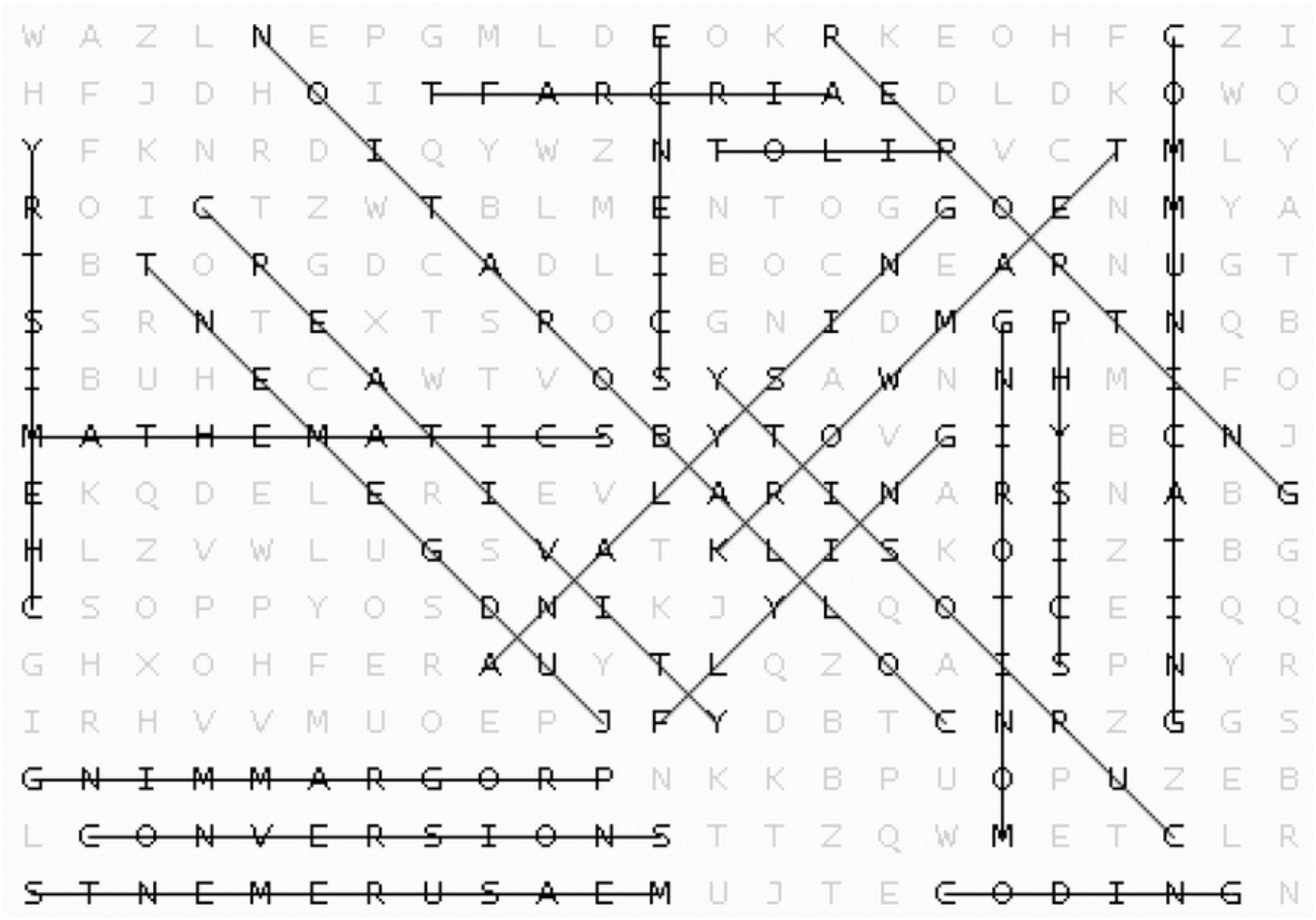


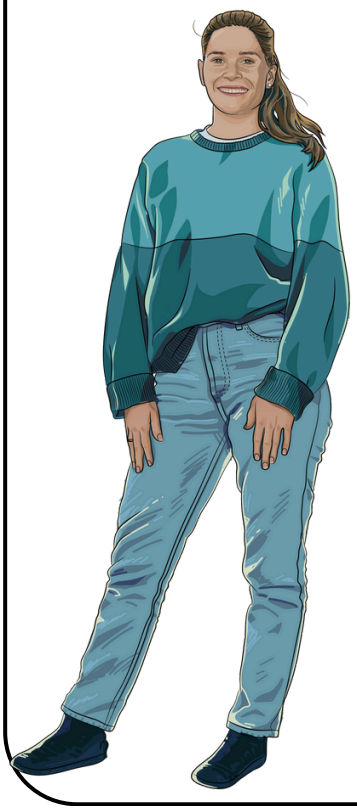
FUTUREyou

www.futureyouaustralia.com.au/pathfinders/renee

Pathfinder Workwords

Answers





Let's reflect

Were any of these words new to you? Look them up and find out what they mean.

Which of these skills do you think you are best at, or would like to get better at?

1._____

2._____

3._____

Can you think of anything else Renee might need to do her job?

_____

An example of a day in the life of an aerospace engineer

This is what a typical day could look like if you became an aerospace engineer.

7.00am I'm late getting out of bed today. I was up late last night reading about some exciting new developments in immersive technologies and their application in aerial military operations and for aerospace employee training. Immersive technologies such as virtual reality and augmented reality aid visualisation of navigating systems, air-traffic control, weather airspace information, and many other workflows. These developments help engineers (like me) and pilots to mitigate complex learning mechanisms. I lost track of time as the implications are really interesting. Ooops.

8.00am I grab breakfast at a local cafe on my way to work. Normally I eat breakfast at home, but today I am running late, so need to take all the shortcuts I can. Except when it comes to my job. There are no shortcuts in what I do!

8.30am I arrive at work and get stuck right into it. No time for banter today. I have a LOT to do. I start by catching up on e-mails and checking in with the mechanics to see if they have any questions about the tasks I have requested them to work on through an Engineering Work Order. An Engineering Work Order is an official document that I fill out when I have specific tasks I need the mechanics to work on. I include details about the task, relevant notes about any changes or anything new, and background to support the mechanics to know exactly what they need to do and by when.

9.00am On Wednesday mornings our team of engineers, pilots, maintenance, and the program manager gets together to discuss the status of the project we've been working on. This is an opportunity to get everyone on the same page with the schedule and status of the project.

10.00am After the meeting, I have some exciting new materials to review. Stretched acrylic has recently been found to have fantastic optical quality while being lighter, more cost-effective, and easier to maintain. I've been given a piece of the new material to inspect to ensure it meets our strict requirements in terms of safety and quality. I sit down at my desk and do some desktop research into the chemical composition of the materials and look for any research or data from other organisations about it. I then log some time with the lab for them to do some testing because I want to be 100% sure about this before I start making any new designs with it. The lab is booked out until next week, so I will have to pop this on hold.

Midday I hold a CDR (Critical Design Review) meeting with key members of the project team and important Aircraft Operations Division and Engineering Branch management to inform them about the new material. This is a really valuable meeting because the attendees can bring up safety concerns that I can then look into to ensure the new material is going to be suitable to use in new aircraft designs.

1.00pm Lunchtime. I made a lasagne for dinner last night and brought the leftovers with me for lunch. I like to make sure I minimise my food waste and carefully plan my meals each week. I sit down with some members of my team and I share with them the exciting developments I read about last night. Some of my other team members also read about them, so it makes for a great lunchtime chat with lots of valuable informatio- sharing.

2.00pm It's time for a site check! I grab my high-vis vest, my steel-capped boots, my hard hat, and my safety earmuffs, then head out to the hangar to inspect the Commercial Crew aircraft modification project I've been leading. I'm a very hands-on person so one of my favourite parts of this job is that I can go out to the hangar, get on the plane, and check measurements or whatever else I need to see in order to better complete my project.

3.00pm I have two aircraft installation drawings to complete so that it is clear to the mechanics where the beds and oxygen tanks I have included in my design should be installed in the aircraft. The mechanics have scheduled this work to start at the end of the month, so I need to ensure these are completed in time for a review from my team next week. I work on these drawings using 3D modelling software. I spend the rest of my day finessing these designs. There are a lot of figures to check, double-check, and triple-check, so this eats up the rest of my day.

6.00pm I leave the office and head to the gym to do some Brazilian juijitsu. It's a really fun sport and requires strategising and forward-thinking, which is right up my alley.

7.30pm It's dinner time. I have had a big day, and I'm starving, so I whip up a nice, warm, vegetarian curry. I make enough to have some leftovers for lunch tomorrow and also make a nice naan bread to go with it.

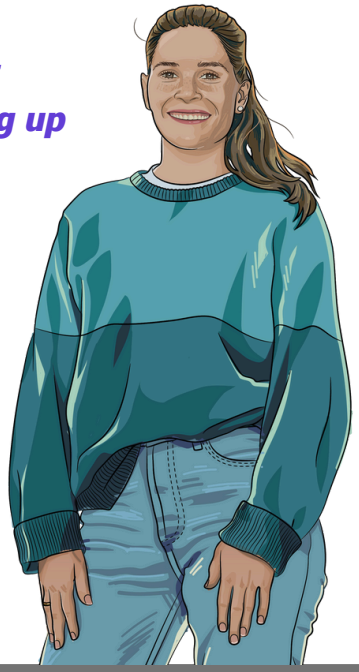
9.00pm I stayed up way too late last night, so I head to bed early tonight. But before I go to sleep, I check the latest aerospace news... Uh oh...

Aerospace Engineer

Renee is an aerospace engineer. After joining the Air Force Cadets at 15, Renee discovered a passion for the skies. She now works as the First Nations Engagement Manager for Qantas and has her sights set on a career in space. Find out more:

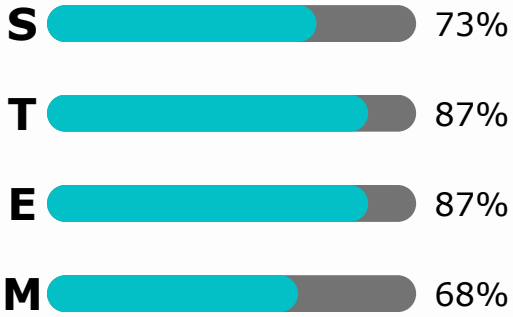
futureyouaustralia.com.au/pathfinders/renee

'How do you get something so big up into the sky?'



STEM Meter

How much Science, Technology, Engineering and Mathematics (STEM) does this job use?



Source: jobsandskills.gov.au

5 reasons why you should do this job

1. Make air travel safer
2. Contribute to the exploration of space
3. Improve communication and connection
4. Discover faster ways to travel
5. Develop technology that improves life

3 STEM skills required for this job	Subjects to develop these skills
Creativity	English, HASS, Science, Technologies, the Arts
Critical thinking	Science, Mathematics, Digital Technology
Computer skills	Digital Technology