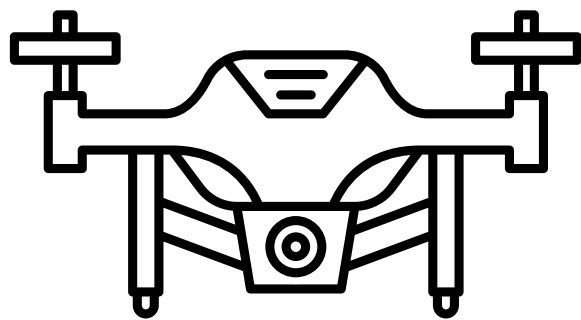
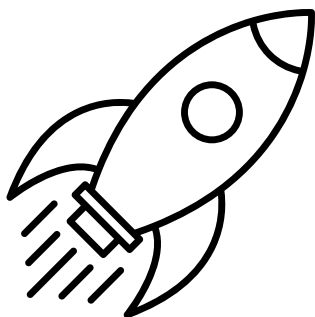
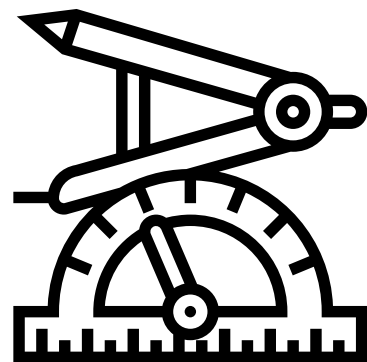
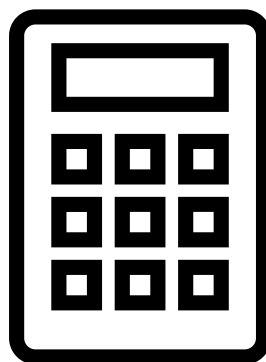
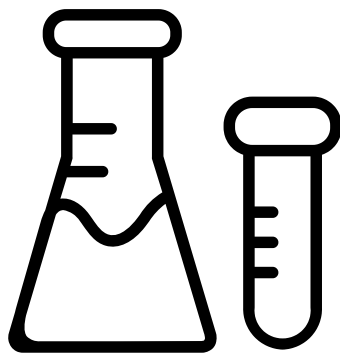


Finding the ME in STEM



Skye's student activity pack

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



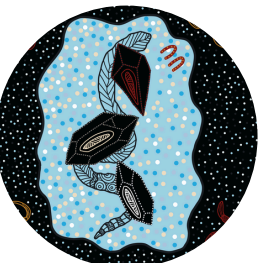
Semper by Rebecca Lim

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 Skye's film.



SCAN ME

Name **FOUR** things Skye can do.

1.

2.

3.

4.

Name **TWO** things Skye can't do.

1.

2.

Who is Skye known as?

Why did Skye get a Food Science degree?

What university degrees does Skye have?

1.

2.

What sort of food does Skye say her children and grandchildren will be eating?

Who helped Skye embrace her passion, and how?

What does Skye do, day to day?

Meet Skye. She's a food scientist. 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

Food Scientist/Entomologist

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

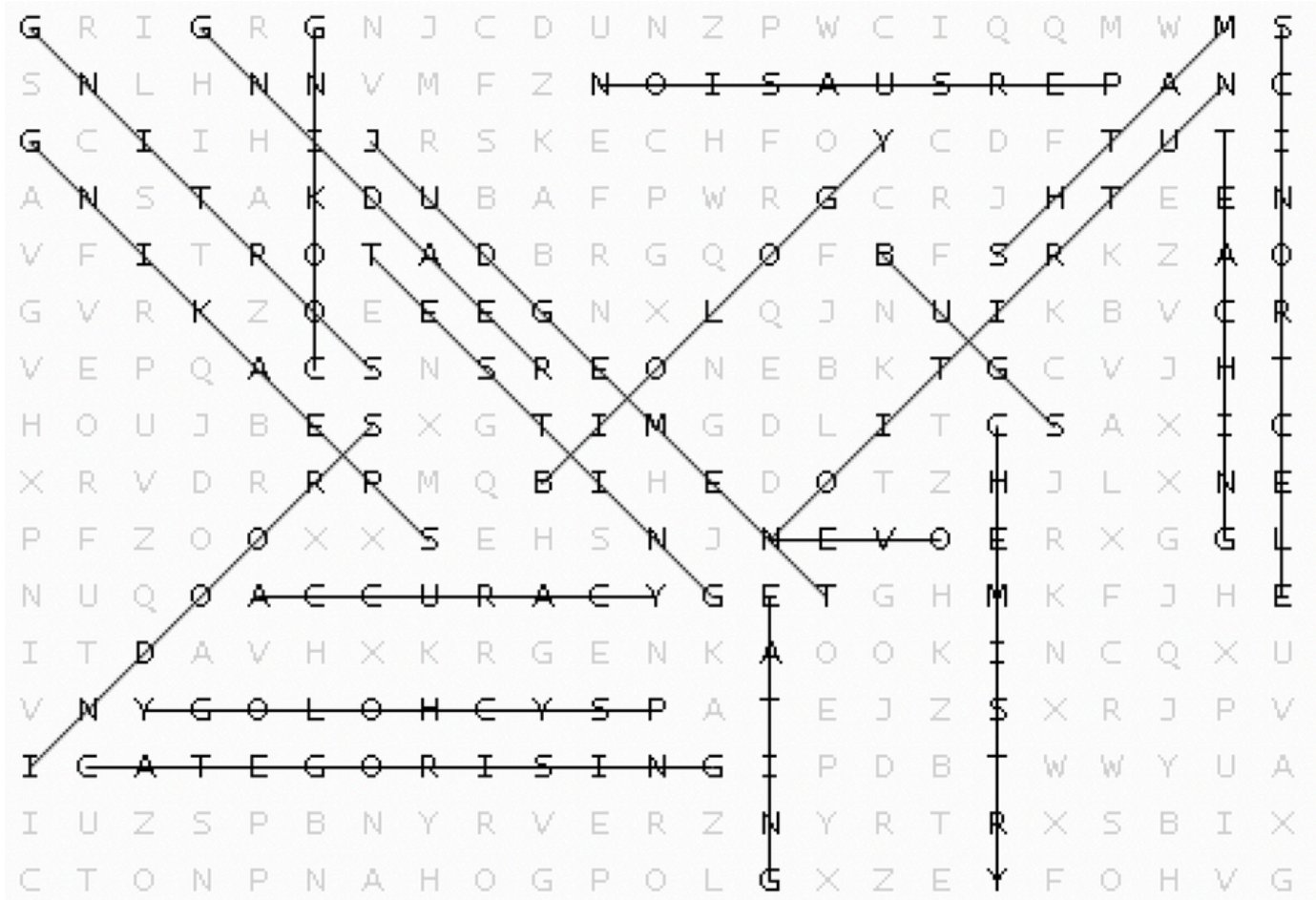
Find 20 words Skye needs to her do her job.

- | | |
|---------------|------------------|
| 1. BUGS | 11. NUTRITION |
| 2. CHEMISTRY | 12. OVEN |
| 3. MATHS | 13. READING |
| 4. PERSUASION | 14. ELECTRONICS |
| 5. SPEAKING | 15. BIOLOGY |
| 6. COOKING | 16. CATEGORISING |
| 7. INDOORS | 17. JUDGEMENT |
| 8. ACCURACY | 18. TEACHING |
| 9. TESTING | 19. PSYCHOLOGY |
| 10. EATING | 20. SORTING |



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 Skye might need to do her job?



A day in the life of an entomologist / food scientist

- 2.00am** I wake up, have a quick breakfast (normally some cricket protein granola) and a shower and hop over to our insect farm and food manufacturing facility.
- 2.30am** Early morning is the best time for us to check on our insects. When I arrive at the farm, I check the data loggers from last night to make sure nothing unusual happened that might need my attention. This could include breakdown of equipment or changes in temperature or humidity in our farm. Our fruit and vegetable waste arrives in a huge truck. I give our early morning shift staff a 10-minute brief about what to expect for the day and they get started on sorting and processing the waste into feed for our insects.
- 3.00am** Our food production manager and technical manager arrives on site. We are running a cricket protein corn chip production today and are doing a small trial of a new flavour right at the end of production to see how well the flavour powder sticks to the chips. We spend about 30 minutes running through the schedule for the day and we talk about issues they had during the previous day and how we can fix them.
- 3.30am** It's time to check my emails and my schedule for the rest of the day. Every day is very different for me, so I find keeping a written schedule to follow helps me keep on track. One of our education staff has had a family emergency and can't do her virtual incursion booking for today, so I adjust my schedule slightly so that I can run the incursion in her place. I quickly familiarise myself with the booking, so I know which information is most relevant to the students I will be speaking to.
- 4.30am** I drive home because my husband is leaving for work, I will be getting our kids ready for school today. My kids are early risers too and they are all normally awake by 5am. I make them breakfast, pack their school lunches and help them with their homework. I can run the virtual incursion from home, so I set up my computer and have the presentation ready to run when I get back from school drop off.
- 8.30am** I take my kids to school and then it's back home to run the incursion.
- 9.00am** I log into the Zoom link so we can start our virtual Future Food incursion. Today I am speaking with some year 11 food science students, and they are interested in food security, nutrition, farming of insect proteins and retail food products containing insect proteins. My favourite part of our incursions is when the students get to taste test some insect protein food products. Today they taste some BBQ Cricket Protein Corn Chips and some whole flavoured mealworms. I have a fantastic discussion with the students about the psychology behind trying new foods and why this is important when developing new food products.
- 10.30am** After a great incursion I buzz back over to our food manufacturing facility to complete some new product development. At our facility, we have a small test kitchen so we can test out new products in smaller batches and try out new ideas or flavour combinations without needing to go through the expense of running our commercial equipment. We have been working on some high protein cookies made using cricket protein powder. We are trying to get the texture of the cookies just right. The cookies we are developing are grain free, which means we won't use flour as an ingredient. I am currently experimenting with different ingredients we can use in the cookies to give them a yummy texture. This includes different types of nut pastes and butters, rice flour, chickpea flour.
- 12.30pm** After experimenting with different ingredients today unfortunately I didn't manage to find a recipe I was happy with. The texture was too crumbly, and the cookies didn't hold together when they were baked. That's OK though, because by testing a few different recipes today, I am getting closer to developing the best recipe for this product. I write down my notes in the New Product Development folder, so we have a record of what I have already tried, and I schedule some time for the following week to work on this again. While I am writing my notes, I have a super quick lunch (left over vegetable stir fry from last night), because I am running a bit late for my next meeting.
- 1.00pm** I fly over to our corn chip production line because our production manager has finished our regular production of Cricket Protein Corn Chips and is about to try out the new flavour powder on the chips. As the new flavour is fed through the tumbler (it's like a big washing machine that rolls the chips into the flavouring), I check that it is not getting stuck in the part that sprinkles the flavour on the chips. After the plain chips roll through the flavour, I take some to test. I inspect the amount of flavour stuck to the outside of the chip, as well as the evenness of the coating (e.g., it's not clumpy or not sticking to some parts of the chip). Then is the best part, the taste test. Our production manager, technical manager and I taste test some of the chips. We all think that there is too much flavouring. We run another batch of chips through, this time reducing the amount of the flavour powder being added to the tumbler. This time they are perfect.
- 3.00pm** It's time to pick up the kids from school and take them to swimming lessons. While they are swimming, I use my iPad to work on a submission presentation document for a retail buyer meeting I have in a few days. I've almost finished it, so I'm mainly formatting and changing the pictures around to see what tells our story best.
- 4.00pm** When we arrive home my online shopping delivery has arrived and it's time to make dinner. Tonight we are having Lemon Myrtle Cricket Protein Fusilli Pasta with baby tomatoes and spinach.
- 6.00pm** Everyone is fed, so I pop into my home office to send an email to our food product photographer with a brief for a product photo shoot we have in a few days.
- 7.00pm** It's time for bed! Waking up early means it's early to bed. I tuck in my kids and then get ready for bed myself. The early bird catches the worm...or cricket!

Entomologist/ Food Scientist

Skye is an entomologist and food scientist who is passionate about sustainable food processes. She educates people about the amazing health, nutritional and environmental benefits of using insect proteins as a source of food. Find out more:

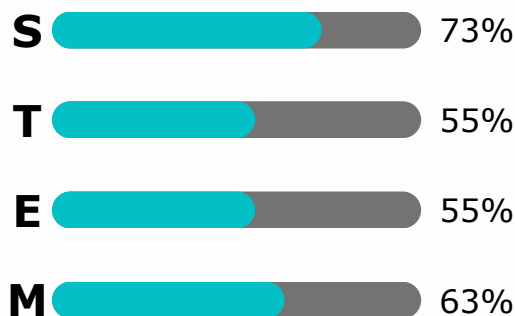
futureyouaustralia.com.au/pathfinders/skye



'I'm in a position where I can actually make a difference.'

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 Teach people about new nutritious food
- 2 Preserve our planet's resources
- 3 Discover new sources of food
- 4 Secure food production
- 5 Protect the ecological balance

3 STEM skills required for this job

Chemistry

Critical thinking

Data analysis

Subjects to develop these skills

Science

Science, Mathematics, Digital Technology

Science, Mathematics