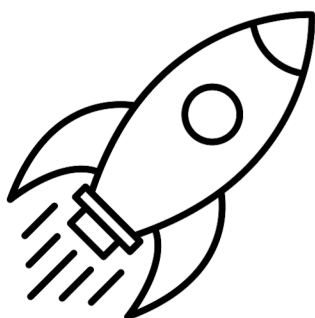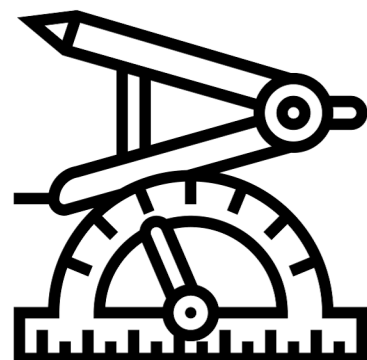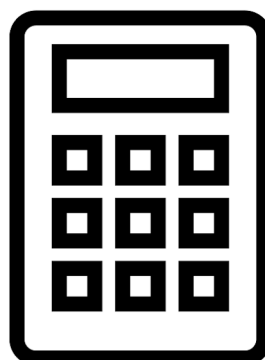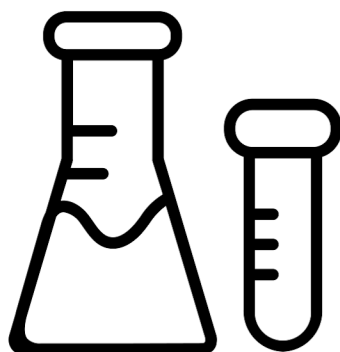# Finding the ME in STEM

Ajay'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
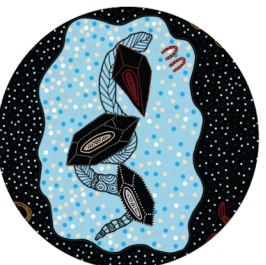
Proof by Gary Lonesborough

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

Ajay

Comprehension Questions

What does Ajay do and where does he work?

What two things is Ajay not good at?

1.

2.

Name two things Ajay is good at.

1.

2.

What did Ajay want to study during school and college?

What does Drishti mean?

How did Ajay incorporate visualisation into his thesis?

When did Ajay move to Australia?

What does Ajay's work allow him to do?

Meet Ajay. He's a visualisation programmer who takes complex data and turns it into easy-to-understand visuals. Fill in the bubbles with 5 STEM (Science, Technology, Engineering and Mathematics) skills he 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.
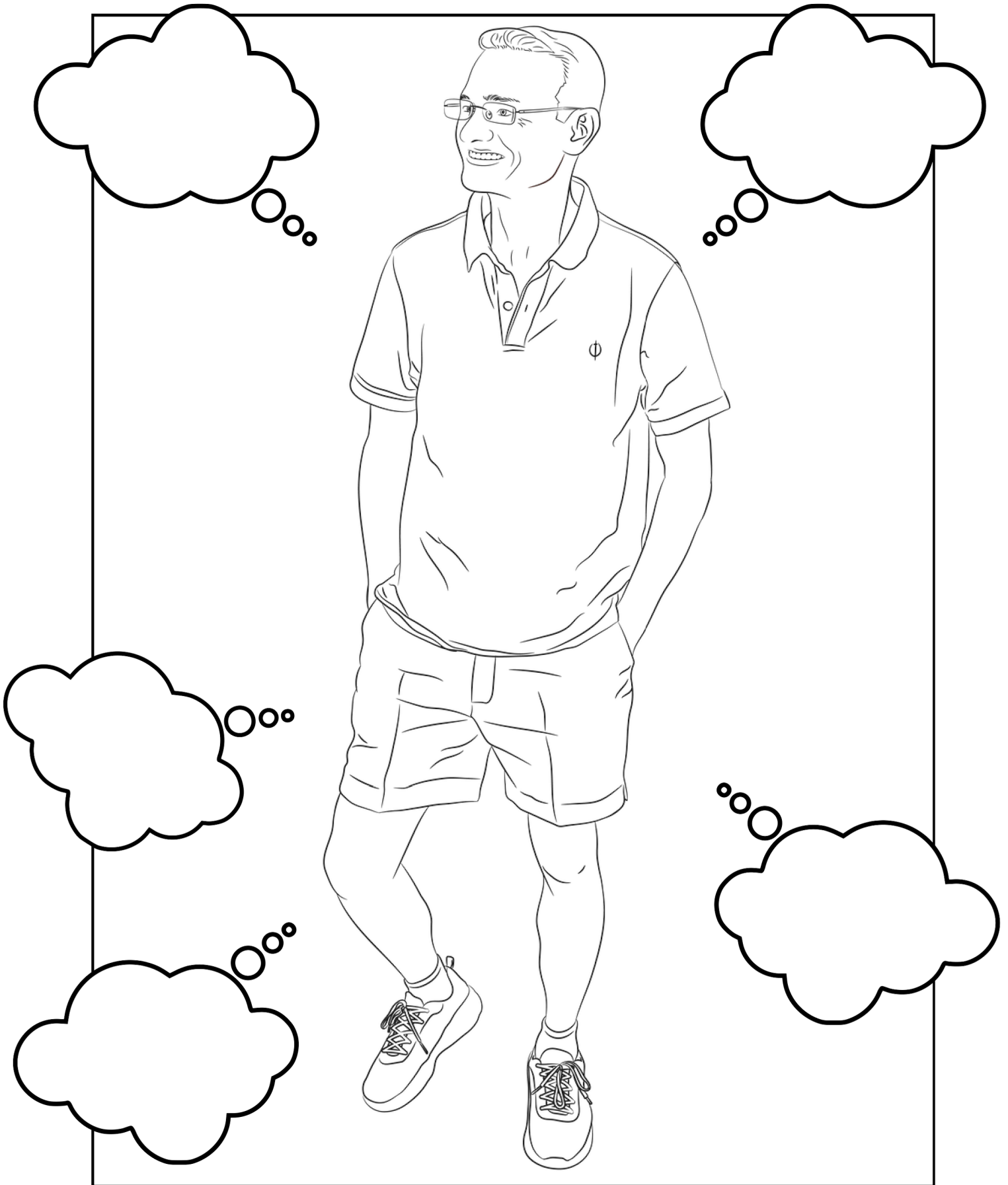
Pathfinder Workwords

Visualisation Programmer

```
M G O Q H R J X J I V K R J O M Y R C Y V I A
S N R L D S U T C M L Q W Y W V J E Q G C Y L
B I E G B P D C D S Z T Y S I Z C C H O T N G
L D N Y N H R C H E O I P S I N V K Z I V Y O
B O D T N I X G E Q M F U N E M I U L S T L R
G C E Z A U M A N I M A T I O N U A E I B S I
H N R M D V G M Y I L Q R W T S E L V A C D T
J N I M Q R V X A I G E N E A R X I A I A W H
F M N L O S A T S R P G R D L R T M H T X R M
O K G V E A T A D X G F U A G A E P U A I S S
N G I S E D T X E V A O U B E D A N C R K O G
Z E T U J I O R T C Z T R R E R W V D M Z Z N
A W R K O Y E M E C R A C P G D U B R U G D O
D Y R N T S O D D I U S E R I N T E R F A C E
S R Y I U Z R O V I N T E R A C T I V E L H V
Y T I L A E R D E T N E M G U A X L H Z Z R R
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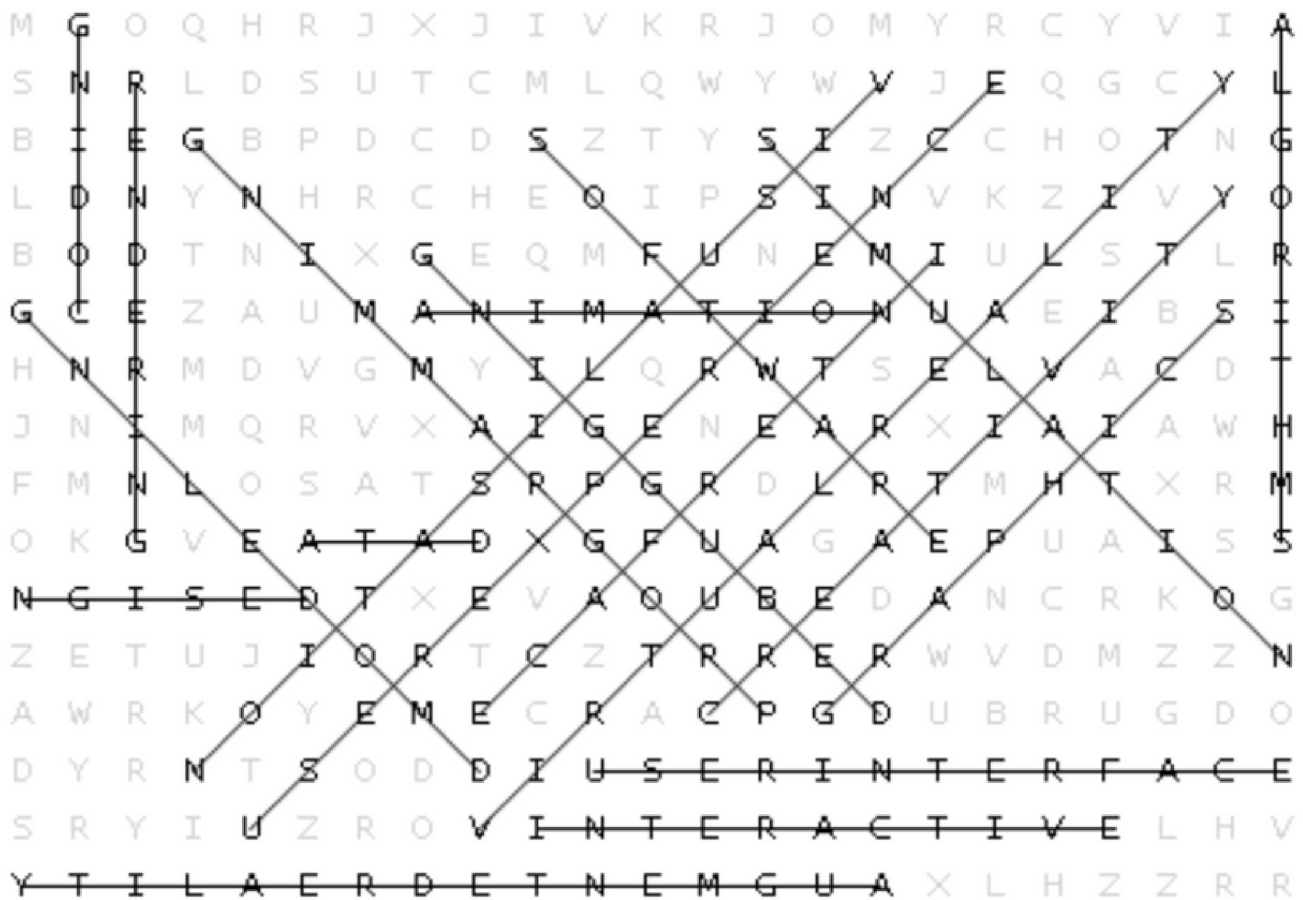
Find 20 words Ajay needs to do his job.

1. PROGRAMMING
2. CODING
3. GRAPHICS
4. ANIMATION
5. SOFTWARE
6. ALGORITHMS
7. VISUALISATION
8. DESIGN
9. 3D MODELING
10. VIRTUAL REALITY
11. USER INTERFACE
12. SIMULATION
13. RENDERING
14. INTERFACE
15. DATA
16. USER EXPERIENCE
17. INTERACTIVE
18. AUGMENTED REALITY
19. DEBUGGING
20. CREATIVITY

Scan this QR code to find out more about Ajay.

SCAN ME

Pathfinder Workwords

Answers

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

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 Ajay might need to do his job?

_____

A example of a day in the life of a visualisation programmer

6.30am   It's an early start for me today. I like to embrace the morning with a nutritious breakfast to fuel my creativity. I normally opt for a quick and energizing meal, so today I have a smoothie packed with fruits and greens.

7.00am   I slide into my workday attire – today I choose some tailored pants and a collared shirt, something comfortable yet professional.

8.00am   I jump in the car. It's a short drive to work for me and I use this time to mentally prepare for the day ahead by listening to my favourite podcast.

8.30am   We started each day with a Team Sync-Up. This is a virtual team meeting where we discuss ongoing projects, share updates, and align our priorities. Collaboration is key, and this is a valuable chance to connect with my colleagues and set the tone for the day.

9.00am   Now, it's time to code. I get to work on data visualisations, tweaking designs, and ensuring a seamless user experience. My focus today is keeping the code active and precise – every line of code should contribute to the bigger picture.

12.30pm I take a well-deserved break to recharge and head out with some of my colleagues to try a new local eatery. I make the most of my lunch break and always step away from the screen. This is an important opportunity for me to refresh my mind, and prepare for the afternoon tasks.

1.30pm   I've got an important appointment this afternoon with a client. I'm going to provide progress updates on an ongoing project, address any concerns, and gather feedback. I make sure I have an agenda. This helps keep the conversation clear and client-focused, ensuring they understand the value I'm bringing to their visualisation needs.

2.30pm   Time for some fun! I'm engaging in a collaborative session with UI/UX designers and fellow programmers. We're going to share ideas, troubleshoot challenges, and brainstorm innovative solutions. I grab a banana because I need to keep my energy high during these discussions.

4.00pm   I allocate a block of time for uninterrupted work every day. This is my chance to delve into complex coding tasks or refine intricate design details.

6.00pm   I wind down for the day by reviewing my progress and ensuring everything is on track. I'll make a to-do list for tomorrow so I can hit the ground running in the morning.

7.00pm   I get home and engage in activities that relax my mind. I make sure I prioritise creating a healthy balance between work and personal life. It makes me happier and better at what I do. Tonight I'm planning on doing some cooking - I love everything visual and that also applies to food.

10.00pm YUM! That was delicious. The clean-up was a bit overwhelming but you can't make magic without making a mess. Once the kitchen is clean I head to bed and spend some time scrolling social media before going to sleep. I follow lots of art pages, so it's a guilty pleasure of mine.

FUTURE you

Visualisation Programmer

STEM Meter

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

S 59%
T 96%
E 75%
M 71%

Source: jobsandskills.gov.au

Ajay is a visualisation programmer who developed a software program that makes complex data easy to understand. It turns huge amounts of complicated information into a clear story. Ajay also hosts a local radio show for his community where he delves into science-related topics. Find out more:
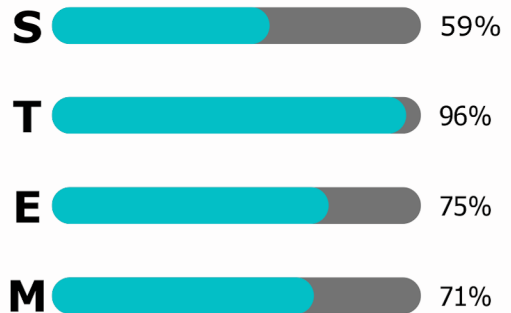
futureyouaustralia.com.au/pathfinders/ajay

"I have always been a visual person, attracted towards visual arts"

5 reasons why you should do this job

1 Bring imagination to life

2 Help scientists solve mysteries

3 Make learning fun

4 Tell stories in a new way

5 Help people see the big picture

3 STEM skills required for this job	Subjects to develop these skills
Programming	Digital Technology, Mathematics
Complex Problem Solving	Design and Technologies, Digital Technology
Mathematics	Mathematics

FUTURE you