

Lisa is an Explorer

NOT GOOD AT

throwing a frisbee, doing sums in my head

CAREER

astrophysicist, astronomer, stargazer

EXPERT ON

helping people connect with the universe and improving equity in STEM

GOOD AT

writing books, stand-up paddleboarding

LOVES

seeing new parts of the universe

STUDIED

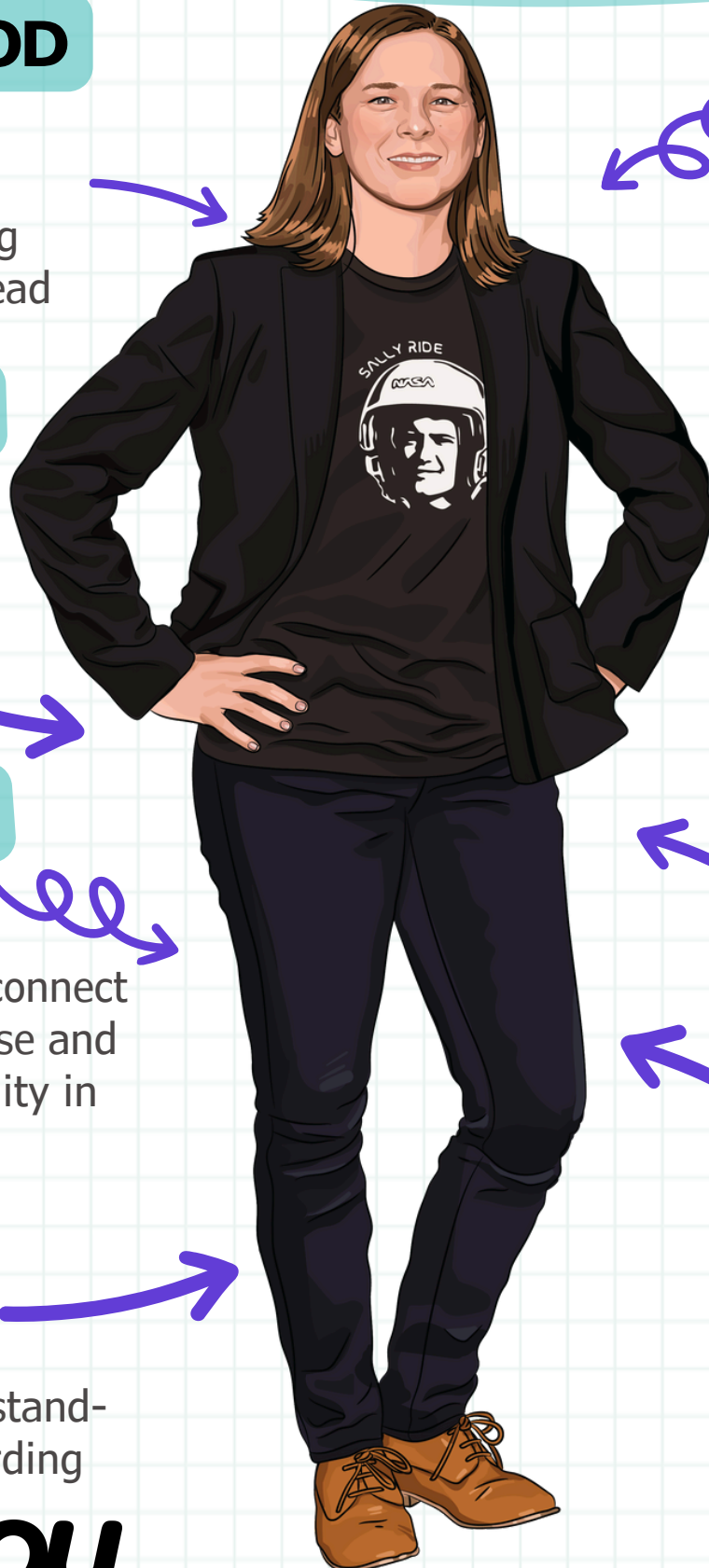
Master of Physics and Ph.D. in Radio Astronomy

WANTS TO

help people fall in love with the night sky

HAPPIEST WHEN

walking up mountains, cuddling dogs



Capability Convos

Australian Curriculum V9.0 links for
Years 3 to 7

English

- Language
- Literacy

General Capabilities:

- Critical and Creative Thinking
- Personal and Social Capability
- Ethical Understanding
- Literacy

Learning outcomes:

All students will be able to:

- identify some likes, dislikes, strengths, abilities and/or interests when showing a personal preference
- acknowledge that people have different needs, emotions and abilities

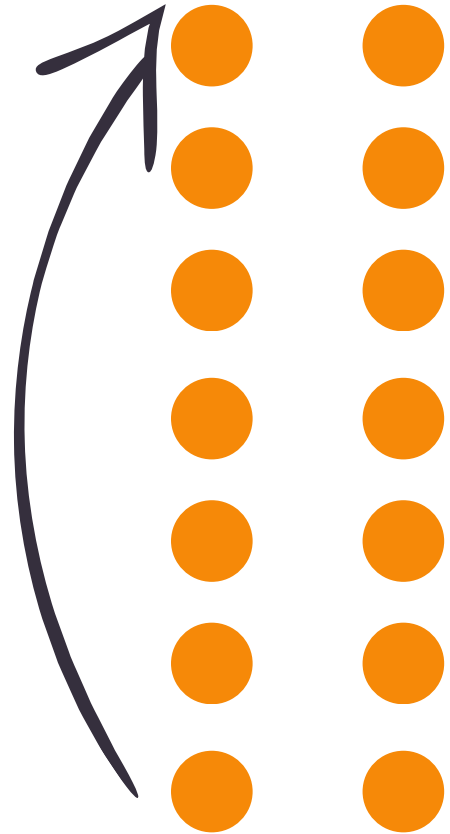
In addition, some students will be able to:

- describe the ways they are connected and can contribute to their community groups

Format

- Interactive game with 10 questions
- Easy to play
- Read Meet Lisa to learn more about Lisa's job and journey with the class
- Print the questions
- Play the game
- Modify or include new questions based on students' needs

Scan this QR code to find
out more about me.



Instructions for students

Line the class up in two lines facing each other to form pairs. Ask the first question. Once each pair has discussed it, get one line to move one person to their right. The person at the end runs around to the other end of the line. Then you ask the next question and repeat the process until all the questions have been asked.

Lisa Astrophysicist

Question 1

What do you think is interesting about Lisa's career?

Question 2

What skills does Lisa have that you also have, and does she have any skills you don't have that you would like to have?

Question 3

Why do you think it's important to find a career that suits your skills and personality?

Question 4

How are your interests and hobbies similar or different to Lisa's career?

Question 5

How do you think Lisa's career contributes to society?

Question 6

What sort of benefits do you think Lisa might have doing this job in a rural or remote location?

Question 7

How important are mathematics and engineering in Lisa's job? Can you think of some examples?

Question 8

What tools or technology do you think Lisa needs to do her job?

Question 9

How do you think AI might change Lisa's job in the future? Can you think of some examples?

Question 10

What do you think would be the biggest challenge in pursuing a career as an astrophysicist?

Comprehension Questions

Australian Curriculum V9.0 links for Years 3 to 7

English

- Literacy

General Capabilities:

- Literacy

Learning outcomes:

All students will be able to:

- Identify that all people have strengths and weaknesses
- Actively think about what is happening in various texts as they read them
- Apply comprehension strategies to different media formats

In addition, some students will be able to:

- Identify different reasons for doing different jobs

Instructions:

- Format/print the students' question sheets (or load them onto school LMS) and direct students to a copy.
- Read the questions as a class to start, discussing any meanings
- Discuss with the class strategies for being able to answer the questions as they read about Lisa
- Read about Lisa as a class, encouraging students to answer questions as you go

Adaptation note: Questions can be modified on the PDF to meet students' needs or learning focus areas in your classroom

Comprehension questions

1. What three job titles does Lisa give herself?
2. What does Lisa love about her job?
3. What inventions are astronomy responsible for?
4. What does Lisa want to do?
5. What two things is Lisa not good at?
6. What two things Lisa is good at?
7. What does astronomy help us to understand?
8. What big decision did Lisa make when she was 11?

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Answers:

1. She's an astrophysicist, astronomer or stargazer
2. She loves seeing galaxies whose light has taken more than a billion years to reach Earth.
3. Medical scanners and wifi
4. Help people fall in love with the night sky, no matter their background
5. Throwing a frisbee and doing sums in her head
6. Writing books and stand-up paddleboarding
7. Where we came from
8. She didn't want to go to regular school anymore.



Comprehension Questions

What three job titles does Lisa give herself?

1.

2.

3.

What two things is Lisa not good at?

1.

2.

Name two things Lisa is good at.

1.

2.

What does Lisa love about her job?

What inventions are astronomy responsible for?

1.

2.

What does astronomy help us to understand?

What does Lisa want to do?

What big decision did Lisa make when she was 11?

Astrophysicist

Lisa is an astrophysicist who loves seeing galaxies whose light has taken more than a billion years to reach Earth. Lisa was homeschooled from the age of 11 and has worked on exciting projects like the Australian Square Kilometre Array Pathfinder telescope at CSIRO. Find out more:

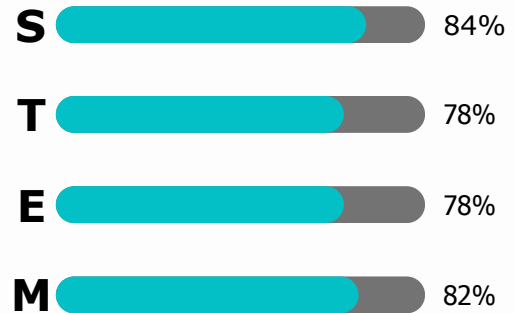
futureyouaustralia.com.au/pathfinders/lisa



"Astronomy helps us to understand where we came from, connect with the universe, and develop awesome inventions like medical scanners and wifi."

STEM Meter

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



Source: jobsandskills.gov.au

Job stats and facts

Future job growth: Over the next five years jobs in this field are expected to grow moderately.

Location: Astrophysicists can work from anywhere.

Employment pathways: A bachelor degree in a related field is required.

3 STEM skills required for this job

Reading comprehension

Critical thinking

Complex problem solving

Subjects to develop these skills

English

Science, Mathematics, Digital Technology

Design and Technologies, Digital Technology

3 other jobs that value this skill

Data Scientist, Lawyer, Radiologist

Human Resources Manager, Software Engineer, Veterinarian

Video Game Developer, Air Traffic Controller, Social Worker

Other careers related to this line of work



Economy

Human Resources Specialist
Social Worker
Psychologist
Market Researcher
Criminal Investigator



Education

Physics Teacher
Planetarium Educator
Science Communicator
STEM Outreach Coordinator
Curriculum Developer



Leadership

Project Administrator
Research Director
Chief Science Officer
Space Program Manager
Chief Technology Officer



People

Science Journalist
Science Policy Analyst
Science Museums Director
Astronomy Outreach Coordinator
Science Librarian



Environment

Environmental Scientist
Atmospheric Scientist
Geophysicist
Space Weather Forecaster
Astrobiologist

The world is changing rapidly, and this means the career possibilities available to our kids are wide-ranging and exciting (and probably, don't exist yet!).

From traditional vocations to emerging fields, there are countless pathways to be explored.

Parents and teachers can create environments that encourage kids to discover and investigate possible careers that match their skills and interests.

We've included some links to other valuable resources that can help guide career conversations and explorations. Find out more at:

www.futureyouaustralia.com.au/resources/other

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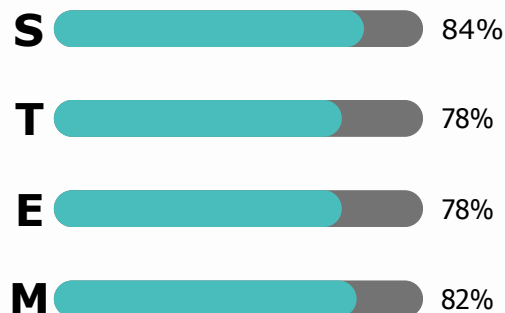
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"Astronomy helps us to understand where we came from, connect with the universe, and develop awesome inventions like medical scanners and wifi."

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** You get to explore the universe
- 2** Solve cosmic puzzles
- 3** Be part of groundbreaking discoveries
- 4** Be a role model for future generations
- 5** Endless opportunities to learn

3 STEM skills required for this job

Reading comprehension

Critical thinking

Complex problem solving

Subjects to develop these skills

English

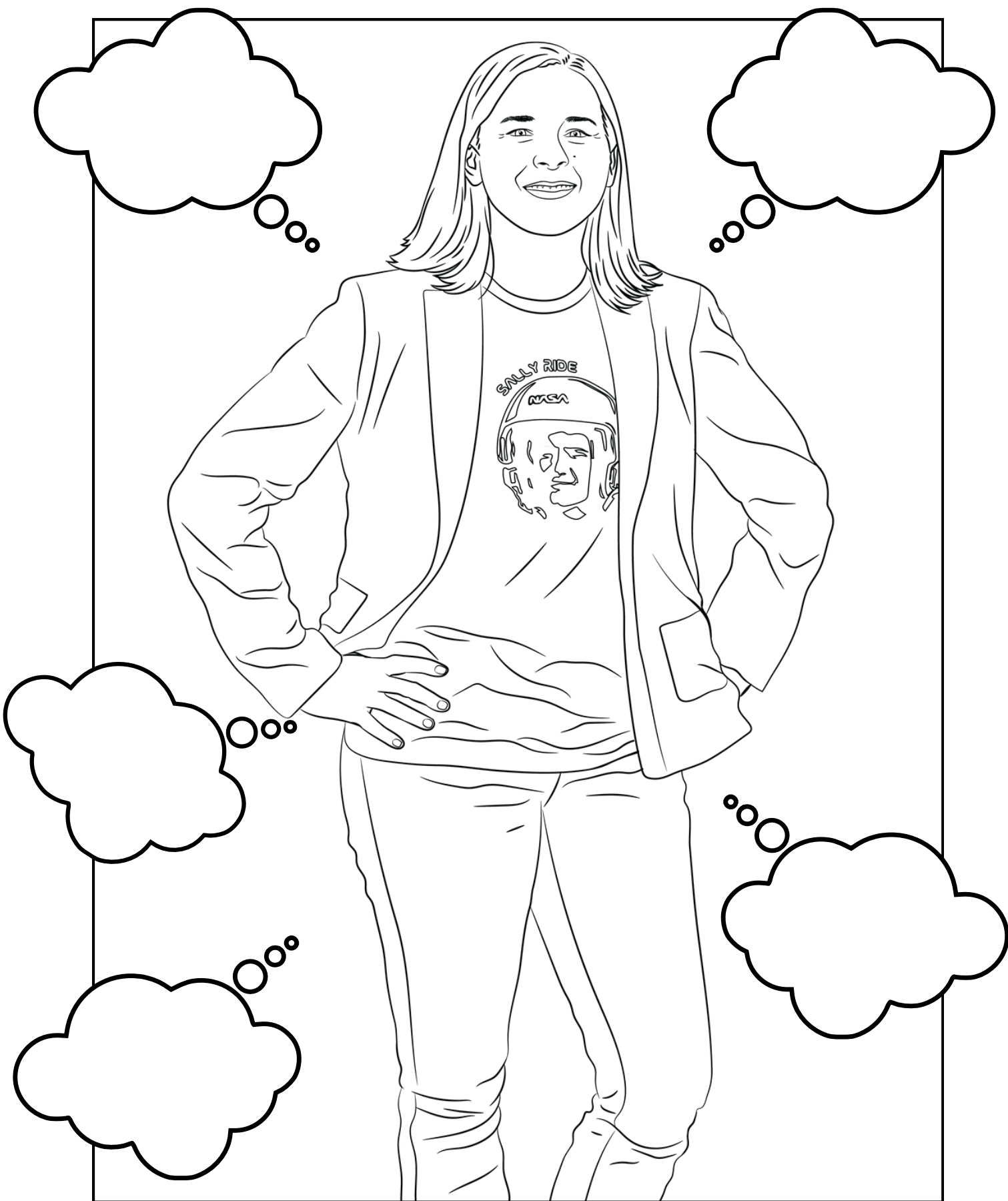
Science, Mathematics, Digital Technology

Design and Technologies, Digital Technology

A example of a day in the life of an astrophysicist

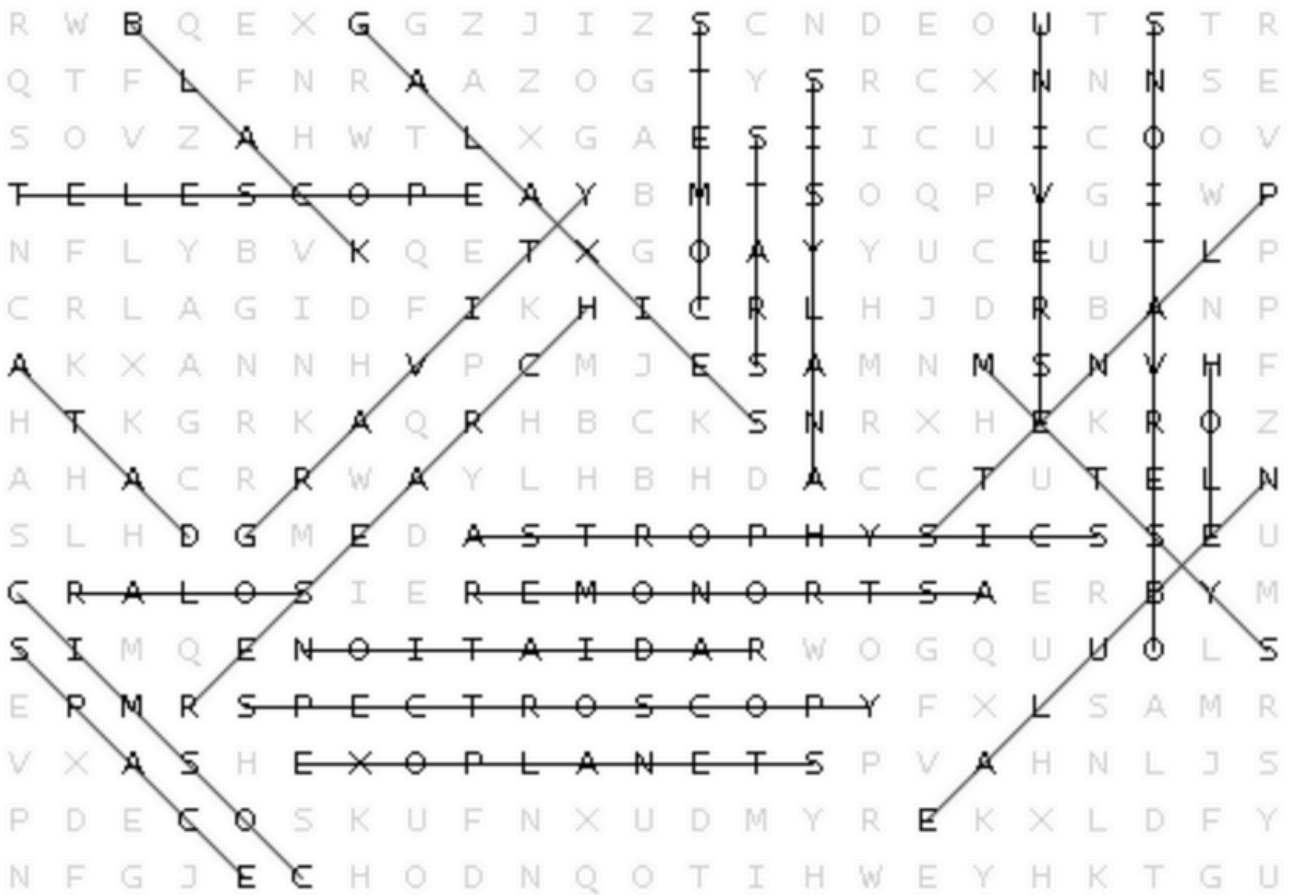
- 6.00am** I'm up before dawn because I love staring each day with some cosmic perspective. I enjoy some overnight oats and watch as the night sky gives way to the day.
- 7.00am** Time to get dressed. Today I choose a comfortable blend of casual and intellectual with a cosmic-themed shirt and some tailored trousers.
- 8.00am** I head out the door and to the bus stop because today I've got telescope time scheduled. Normally I work from home, but today I'm going to the office. I take the bus because it gives me time to mentally prepare for the celestial discoveries that await. Of course, I listen to some space-themed music on my way. It gets me excited for the day.
- 9.00am** I convene with my team for a morning strategy session. We discuss research goals, ongoing projects, and collaborative opportunities. It's important to keep the conversation dynamic, focusing on the astronomical wonders we collectively aim to explore.
- 10.00am** I sit down at my desk in front of my computer and prepare to immerse myself in the sea of astronomical data. I analyse star patterns, study celestial phenomena, and contribute to the scientific tapestry of the cosmos. I put my analytical skills to good use and attempt to decode the language of the universe in concise, active sentences.
- 1.00pm** Time to pause for lunch. I meet my colleagues in the breakroom and we discuss some of the latest discoveries of the universe. There's never a dull moment at lunch and there's always something exciting to talk about.
- 2.00pm** I have a virtual meeting with some fellow astrophysicists. We share hypotheses, exchange insights, and debate the mysteries of the cosmos. This is a great opportunity for us to really delve deeply into some of the questions that I have following my morning of universal language decoding.
- 3.00pm** It's the most exciting part of my day! I head to the observatory for a session with the telescope. This is my chance to witness the cosmic ballet firsthand, capturing images and data to unravel the secrets of distant galaxies. I capture my observations into precise and impactful descriptions using my phone.
- 4.30pm** I get back to my desk and input my observations into the immense data collection I have been compiling for years. This work is vital to helping us better understand the universe and where we come from. I spend the last few hours of my day making sure the data I input is clean and all the correct detail is there. Once I've finished this, I shut down my computer, say goodbye to my colleagues, and head out the door.
- 6.00pm** Tonight I am participating in a public lecture as part of an educational outreach program I'm a mentor for. I love these sessions. I get to communicate complex astrophysical concepts in a clear and accessible manner, ensuring everyone can grasp the wonders of the cosmos. I love watching people's reactions to learning more about the universe.
- 8.00pm** I wrap up my day by heading home and reheating some leftovers from dinner last night. Today was a big day, but very rewarding.
- 9.30pm** To help me wind down I head outside to stargaze from the comfort of my backyard. As an astrophysicist, I find immense joy in taking a moment each evening to stare up at the night sky and wonder what I'll discover tomorrow.
- 10.30pm** Time for bed. I crawl under the covers and hope that I'll dream about galaxies billions of light years away.

Meet Lisa. She's an astrophysicist who loves seeing galaxies whose light has taken more than a billion years to reach Earth. 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

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?

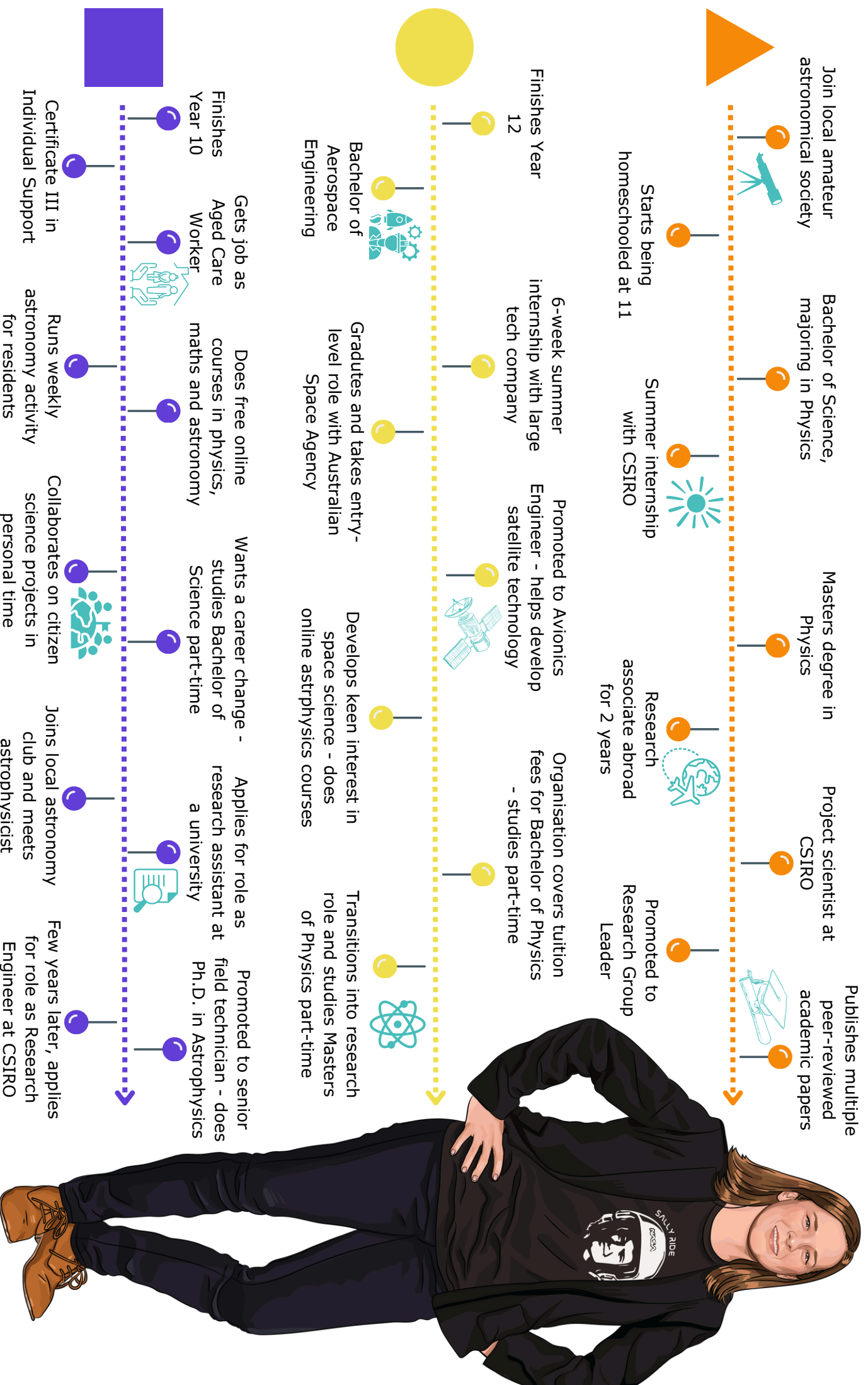
1. _____

2. _____

3. _____

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





Researcher/Scientist career pathways

Find out more at www.futureyouaustralia.com.au/resources/#other/

FUTUREyou

The educational qualifications and levels outlined in these pathways are intended as general guidelines. To obtain accurate and up-to-date information, explore resources specific to your state or territory, available through websites like myfuture.edu.au, YourCareer.gov.au and australianapprenticeships.gov.au.

There is also a range of financial support available for students doing apprenticeships or going to university, visit www.servicesaustralia.gov.au/education to see what's available.



- Bachelor of Science: <https://www.courseseeker.edu.au/>
- Summer internship: <https://womeninstem-careershub.prosple.com/>
- Masters of Physics: <https://www.courseseeker.edu.au/>
- Study abroad: <https://www.unsw.edu.au/study/international-students/study-abroad>



- Bachelor of Aerospace Engineering: <https://www.courseseeker.edu.au/>
- Summer internship: <https://womeninstem-careershub.prosple.com/>
- Bachelor of Physics, Masters of Physics: <https://www.courseseeker.edu.au/>



SCAN ME



- Certificate III in Individual Support: <https://training.gov.au/Training/Details/CHC33021>
- Online maths and science courses: <https://www.open.edu/openlearn/science-maths-technology/free-courses>
- Bachelor of Science: <https://www.courseseeker.edu.au/>

Remember, there are countless pathways to the same career. Each child's unique skills, interests, and strengths will guide them on their personal journey to success.

Aerospace engineer career pathways

Find out more at www.futureyouaustralia.com.au/resources/#other/

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