



Teacher Resource

Astronaut Training

Focus Questions

Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Which space agency did Katherine Bennell-Pegg complete her astronaut training with?
 - a. NASA
 - b. European Space Agency
 - c. Australian Space Agency
2. What did Katherine say was a highlight of the training?
3. Give some examples of the training astronauts do.
4. What skills do you think you need to become an astronaut?
5. What questions would you like to ask an astronaut?

Activity: Are you Curious about space?

Are your students curious about space? Students will make a list of questions they have about the BTN Astronaut Training story. For example:

- How do you become an astronaut?
- What sort of training do astronauts do?
- What is it like being in zero-gravity?
- How long do astronauts stay in space?
- How do astronauts sleep in the International Space Station?
- What happens to your body in space?

Ask your students how they will find answers to their questions. Students will find answers to their questions and share their findings with the class.

What training do astronauts do?

How do astronauts train to stay mentally strong?

EPISODE 10

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KEY LEARNING

Students will explore what training is involved in becoming an astronaut.

CURRICULUM

Science – Year 5

The Earth is part of a system of planets orbiting around a star (the sun).

Scientific knowledge is used to solve problems and inform personal and community decisions.

Science – Years 5 & 6

With guidance, pose clarifying questions and make predictions about scientific investigations.

Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions.

Science – Year 7

Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available.

Activity: Vocabulary

Students will brainstorm a list of key words that relate to the BTN Astronaut Training story. Here are some words to get them started.

ASTRONAUT	ZERO G	MICROGRAVITY
SPACE MISSION	ROBOTICS	SPACECRAFT

Ask students to write what they think is the meaning of each word (including unfamiliar words). They will swap definitions with a partner and ask them to add to or change the definition. Check these against the dictionary definition.

Further activities for students:

- Astronaut is a compound word derived from two Ancient Greek words. What is the Greek meaning of astronaut?
- Expand on your glossary and create your own glossary of astronaut jargon. Include terms like abort, command module, airlock, cosmonaut, G-force, No Go, zero gravity and uplink.
- Who explores the universe? Learn more about the jobs involved with space exploration. Choose one job and investigate what the job involves and what you need to study to become one.

Activity: Prepare for Take-off

Students will imagine they have completed their astronaut training and have been assigned a mission into to space on board the International Space Station. Students will take on the role of an astronaut and plan what they will take into space.

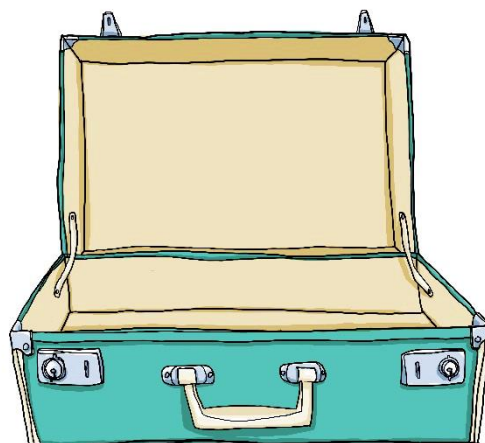
Background

Astronauts bring a Personal Preference Kit (PPK) into space with them. This Kit is used to carry their chosen personal belongings. These Kits have size and weight restrictions (astronauts are limited to 0.680 kg per astronaut). Explore an astronaut's Kit from the Apollo 11 mission in 1969 - [National Air and Space Museum](#)

What is in your kit?

You've been invited on a 1-month trip to the International Space Station. Think about the following questions and then plan what you would take in your Personal Preference Kit.

- What would you bring for entertainment? Think about your favourite hobbies, books, or music.
- Would you bring something to remind you of your family or your culture or religion?
- If you could bring a favourite food or drink, what would you bring?



Look at everything you have chosen - do you have more than five things? This is where it gets tricky - you can't bring any more than five things, and everything has to fit in a bag that is 12.82 centimetres × 20.51 centimetres × 5.13 centimetres.

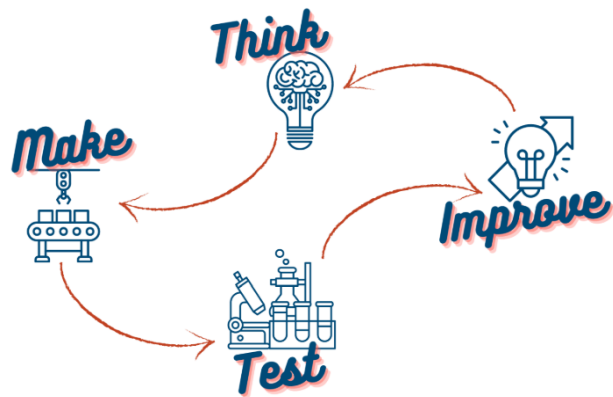
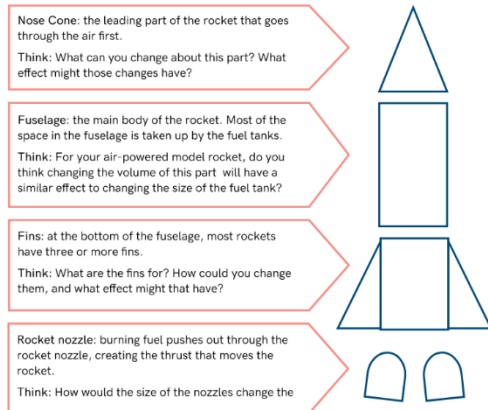
- List the 5 items you would pack in your Kit.
- Find or make a box which has the dimensions of a PPK. Would your chosen items fit?
- What is the total weight of your items?
- Why did you choose these items to take in your Kit? Give reasons.

Measurements – Items in your Kit

Item	Weight in grams	Length in centimetres	Width in centimetres	Height in centimetres	Total Volume
Item #1					
Item #2					
Item #3					
Item #4					
Item #5					

Activity: Design a Rocket

Take part in the Australian Space Discovery Centre’s [S.C.R.A.P Challenge!](#) The S.C.R.A.P Challenge is a paper rocket design challenge which invites students to set their own success criteria for their creations, then follow an iterative process to optimise their designs.



Activity – Choose a Project

Individually or in small groups, students will choose one of the following projects to work on and then present their findings to the class.

Space Lander

Make your own space lander. Visit [NASA](#) and take on the challenge!

DIY Sundial

Make your own sundial with NASA's template and step-by-step [instructions](#).

Nano-Rover

Explore the job of a rover! What do they do, and what have they discovered? Make your own [NASA nano-rover](#).

Tour the ISS

Have you ever wondered how astronauts go to the toilet in space? Watch this [tour of the ISS](#) to learn more. What did you learn?

Useful Websites

- [New Aussie Astronaut](#) – BTN Newsbreak
- [Aussie Astronaut](#) – BTN
- [Aussie Astronauts](#) – BTN
- [Astronaut Training](#) – BTN
- [Life of an Astronaut](#) – TEDEd
- [Astronaut](#) – Australian Space Agency
- [Pathways for a Career in Space](#) – Australian Space Agency
- [Tour of International Space Station](#) – NASA