



Teacher Resource

# Focus Questions

## Green Energy Tech

1. Half of our country's electricity may come from solar by 2050. What is the Government going to do to make it cheaper for people?
2. What is green hydrogen?
3. How is blue hydrogen created?
4. What is carbon capture and storage?
5. What questions do you have after watching this story?

Check out the [Green Energy Tech](#) resource on the Teachers page.

## International Travel

1. What impact has COVID had on international travel?
2. Fully vaccinated Australians can fly in and out of which two airports in Australia?
3. Most other states and territories say they need to get to \_\_\_\_\_ percent vaxxed to open up their borders.
4. What are some concerns with opening up international borders?
5. How do you feel about international borders reopening?

## Parkes Telescope Anniversary

1. What is the Parkes telescope also known as?
2. Radio astronomy is the study of...
3. What has the telescope helped scientists discover?
4. What role did the Parkes telescope play in the Apollo 11 mission?
5. What future missions is it going to be involved in?

Check out the [Parkes Telescope Anniversary](#) resource on the Teachers page.

## Bat Bird Competition

1. What type of bat won the New Zealand Bird of the Year award?
2. A bat is a...
  - a. Bird
  - b. Mammal

### EPISODE 32

9th November 2021

#### KEY LEARNING

Students will view a range of BTN stories and use comprehension skills to respond to a series of focus questions.

#### CURRICULUM

##### English – Year 4

Use comprehension strategies to build literal and inferred meaning to expand content knowledge, integrating and linking ideas and analysing and evaluating texts.

##### English – Year 5

Use comprehension strategies to analyse information, integrating and linking ideas from a variety of print and digital sources.

##### English – Year 6

Use comprehension strategies to interpret and analyse information and ideas, comparing content from a variety of textual sources including media and digital texts.

##### English – Year 7

Use comprehension strategies to interpret, analyse and synthesise ideas and information, critiquing ideas and issues from a variety of textual sources.

c. Reptile

3. What is the aim of the competition?
4. Name three facts about the bat that won the competition.
5. How have people reacted to a bat winning a bird competition?

## Business Kids

1. Describe Monique's business.
2. What does Monique like about running a business?
3. Why did Sienna start a business selling tea?
4. What does she love about having her own business?
5. Why is having a website important for Daisy's slime business?



Teacher Resource

# Green Energy Tech

## 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. Half of our country's electricity may come from solar by 2050. What is the government going to do to make it cheaper for people?
2. What is green hydrogen?
3. How is blue hydrogen created?
4. What is carbon capture and storage?
5. What questions do you have after watching this story?

## Activity: Personal response

Write a personal response to the BTN Green Energy Tech story. Ask students to finish one or more of the following incomplete sentences:

- It was interesting to learn...
- It was surprising to learn that...
- Green energy is...
- Green energy can help...
- We can achieve net zero carbon emissions by...

After watching the BTN story hold a class discussion. Use a mind map to record your student's responses.



## Activity: Persuasive text

Students will develop a persuasive text for the following statement: "We should be using more green energy technologies". Alternatively, students can write their own statement for a persuasive text.

### EPISODE 32

9th November 2021

#### KEY LEARNING

Students will learn more about green energy technologies, how they work and how they will help the environment.

#### CURRICULUM

##### Science – Year 4

Science knowledge helps people to understand the effect of their actions.

##### Science – Year 5

Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives.

##### Science – Years 5 & 6

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

Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts.

##### Science – Year 7

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

Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations.

##### Design and Technologies – Years 5 & 6

Examine how people in design and technologies occupations address competing considerations, including sustainability in the design of products, services, and environments for current and future use.

Encourage students to use as many of the following key words and terms in their persuasive text as they can.

RENEWABLE	FOSSIL FUELS	HYDROGEN
GLOBAL WARMING	GREENHOUSE GAS EMISSIONS	CLIMATE CHANGE
SUSTAINABLE	SOLAR	RESOURCES

Tips for persuasive writing

- Who is your audience? For example, are you directing your argument at kids, teachers or politicians?
- Explore how language choices can have a big impact on persuading your audience.
- Which language devices give the report credibility and authority?
- Which are designed to create an emotional response in the listener?
- Provide facts and evidence to support your argument.
- Write in the present tense.
- Check your spelling and punctuation.

Students can use this [Read Write Think persuasion map](#) to organise the information they find.

## Activity: KWLH

Hold a class discussion about the information raised in the BTN Green Energy Tech story. What questions were raised in the discussion and what are the gaps in their knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic and consider what they would like to know and learn.

<i><b>What do I <u>know</u>?</b></i>	<i><b>What do I <u>want</u> to know?</b></i>	<i><b>What have I <u>learnt</u>?</b></i>	<i><b><u>How</u> will I find out?</b></i>

### Research questions for Inquiry

Students will start to think like a scientist and develop their own question/s for inquiry, collecting and recording information from a wide variety of sources. Students may develop their own question for inquiry or select one or more of the questions below.

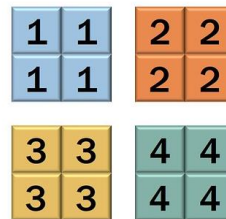
- Why have green technologies? What are the benefits?
- What are the pros and cons of green technologies?

- How have green technologies improved over the years? Choose one form of green technology to explore in more detail.
- What are fossil fuels and what are the issues with continuing fossil fuel use?
- What do you think is the future of green technologies?
- How can a city reach net zero carbon emissions? Design a sustainable community (think about transport, renewable energies, being water smart, recycling programs, growing food locally, changing habits) to represent your findings.

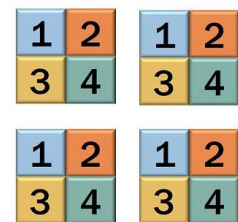
## Activity: Jigsaw learning

In this activity students will work cooperatively to learn more about green energy technology, how they work and how they help the environment. Each group will become experts and then share what they have learnt with other students.

**Round 1 – Focus Groups**  
Divide students into groups and give each group a different text to read and discuss.



**Round 2 – Task Groups**  
Mix the groups so that students can bring their specific focus to a common task or problem.



### Form groups

Divide the class into groups. Each group will be assigned a different type of green energy (wind, solar, hydro, hydrogen, geothermal, bioenergy and marine) and become an expert. Each group will need to decide how they will collect and communicate the information they find during their research.

### Research

Each group will respond to the following questions to become experts:

- What is it?
- How is it made?
- What type of technology does it use? Explain the science behind the technology.
- What are the limitations in producing it?
- What are the benefits or advantages?
- Make a model and/or draw diagrams to help you present your findings.
- What other interesting facts did you learn?

### Share

One student from each of the expert groups will form a new group to share the information they have collected. Students will make sure there is one expert from each group at their table. Students will share the information they have collected and learn from one another.

### Reflect

Students will reflect on the activity by responding to one or more of the following questions:

- What did you enjoy about this investigation?
- What did you find surprising?
- What would you do differently next time?

## Activity: Quiz

1. How much of Australia's energy is expected to come from solar by 2050?

- A. 25%
- B. 50%
- C. 75%

2. Which of these is a green energy?

- A. Hydropower
- B. Solar
- C. Geothermal
- D. All of the above

3. What is the chemical symbol for hydrogen?

- A. H
- B. He
- C. H<sub>2</sub>O

4. Hydrogen is cheap to produce.

- A. True
- B. False

5. What is the most abundant element in the universe?

- A. Hydrogen
- B. Helium
- C. Oxygen

6. What type of hydrogen is generated by renewable energy?

- A. Blue hydrogen
- B. Green hydrogen
- C. Grey hydrogen

7. Where is hydrogen most commonly found?

- A. Coal
- B. Plants
- C. Water

8. What is it called when there is a balance between emitting carbon and absorbing carbon from the atmosphere?

- A. Global warming
- B. Greenhouse effect
- C. Net zero emissions

9. What is the biggest contributor to climate change?

- A. Burning coal
- B. Cutting down forests
- C. Increased livestock farming

10. Australia has committed to net-zero emissions by 2050.

- A. True
- B. False

Quiz Answers: 1B, 2D, 3A, 4B, 5A, 6B, 7C, 8C, 9A, 10A.

## Useful Websites

- [What is green hydrogen, how is it made, and will it be the fuel of the future?](#) – ABC News
- [Solar Energy](#) – BTN
- [Clean Energy Technologies](#) – Clean Energy Council
- [Zero Emissions](#) – BTN
- [Greenhouse Gases](#) – BTN



Teacher Resource

# Parkes Telescope Anniversary

## 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. What is the Parkes telescope also known as?
2. Radio astronomy is the study of...
3. What has the telescope helped scientists discover?
4. What role did the Parkes telescope play in the Apollo 11 mission?
5. What future missions is it going to be involved in?

## Activity: See, think and wonder

After watching the BTN Parkes Telescope Anniversary story, students will respond to the following questions:

- What did you SEE in this video?
- What did you LEARN from this story?
- What was SURPRISING about this story?
- What QUESTIONS do you have about this story?

Discuss the BTN Parkes Telescope Anniversary story as a class. Use the following questions to guide discussion:

- When the Parkes telescope was built, it was the most advanced radio telescope in the world. True or false?
- What important space missions and discoveries has the telescope been involved in?
- Why is the location of the telescope important?
- What is its role in future missions?

## Activity: Glossary

Students will brainstorm a list of keywords that relate to the Parkes radio telescope. Here are some words to get them started.

RADIO TELESCOPE	ASTRONOMY	UNIVERSE
ANTENNA	SOLAR SYSTEM	CSIRO

### EPISODE 32

9th November 2021

### KEY LEARNING

Students will learn more about the Parkes telescope and the role it has played in space exploration.

### CURRICULUM

#### Science – Year 5

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

#### Science – Years 5 & 6

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

#### Science – Year 7

Predictable phenomena on Earth, including seasons and eclipses, are caused by the relative positions of the sun, Earth and the moon.

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



## Activity: Parkes Telescope Research

After watching and discussing the BTN Parkes Telescope Anniversary story, what questions do students have and what are the gaps in their knowledge? Students will develop their own question/s for inquiry, collecting and recording information from a wide variety of sources. Students may develop their own question for inquiry or select one of the questions below.

- How do telescopes help scientists explore space?
- How did Australia help show the world the Moon landing?
- Why was the Parkes telescope used to receive and send transmissions from the Moon to NASA?
- How has the film 'The Dish' helped Australians learn about Parkes and its role in the Moon landing?
- What do we learn from radio astronomy? How has it changed the way we view the universe?

## Activity: Apollo 11 and the Parkes Telescope

Watch [this BTN story](#) to find out more about the important role that Australia played in the Apollo 11 mission, and how the CSIRO's Parkes radio telescope ended up providing pictures of the Moon landing to the world.

Where are the 3 Australian stations that played a role in the Apollo 11 mission? Find using Google Maps.

1. What did scientists at Honeysuckle and Tidbinbilla stations do during the mission?
2. What station relayed to the world the first images of Neil Armstrong setting foot on the Moon?
3. How big is the Parkes radio telescope dish?
4. What happened to the Parkes radio telescope just before it broadcast the Moon landing?
5. What is the name of the film that tells the story of the Parkes Observatory's role in the Moon landing?
6. NASA stayed on the vision from Parkes for the rest of the 2 and a half-hour broadcast. True or false?



Watch the [Interview with John Sarkissian](#) Operations Scientists at the Parkes telescope and respond to the following questions:

- What are the astronomers in California scanning the sky for?
- What are quasars?
- What are pulsars?
- Why was the Parkes telescope critical in the Apollo 13 mission?
- What other missions has the Parkes telescope supported?
- What are the hopes for the telescope for the next fifty years?



## Activity: Memories of the Moon Landing

The Parkes radio telescope played an important part in the Apollo 11 mission in 1969. Students will interview someone who remembers the Moon landing and ask them to share their memories about the event. Students will prepare a list of questions, conduct the interview and then share their interview findings with the class. Below are some example questions.

- How old were you when the first person landed on the Moon?
- Do you remember where you were?
- Did you watch it on TV or listen to it live on the radio?
- What are your strongest memories of the event?
- How did the event make you feel?
- Why do you think it was such a significant event?

Students can present their interview as a podcast. [Audacity](#) or [GarageBand](#) are both well suited to making podcasts. To publish they will need to use a free service like [PodOmatic](#), [Buzzsprout](#)

## 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.

### Apollo 11 Mission

Investigate the Apollo 11 mission.  
What was the purpose of the mission?  
What did the mission discover?  
Which countries were involved in the mission? How has the mission helped us understand the Solar System and beyond?

### Reporter for a day

Imagine you are a reporter on BTN in 1969. Write a news article reporting on the Apollo 11 mission and the role the Parkes telescope played in the mission.

### Kahoot Quiz

Use [Kahoot!](#) to create a quiz about Parkes and its role in the Moon landing.

### Model of 'The Dish'

Create a model or draw a labelled diagram of the Parkes telescope.

## Useful Websites

- [Parkes radio telescope, aka The Dish, celebrates 60 years of scientific discoveries](#) – ABC News
- [Parkes radio telescope](#) – CSIRO
- [What is radio astronomy?](#) – CSIRO
- [Radio signal detected by Parkes telescope is not aliens, but it's still 'weird'](#) – ABC News
- [Moon Landing Special Episode](#) – BTN



Teacher Resource

# BTN Transcript: Episode 32- 9/11/2021

Hey, I'm Amelia Moseley and you're watching BTN. Here's what's coming up. Happy tears for returning Aussies and their families as international borders open up, celebrating sixty years of the Parkes radio telescope and how a bat won a bird competition.

## Green Energy Tech

Reporter: Joe Baronio

*INTRO: But first, lots of countries have been making commitments to fight climate change at the COP26 summit in Glasgow and going into it, the Australian Government set a target to reach net zero emissions by 2050. To get there, it says it's investing 20 billion dollars in greener technologies. Joe looks into it.*

If you're still a little lost or just have a few questions about how Australia's going to reach its net zero emissions target, you're not alone.

JOE: I just need some directions.

AMAL: Yeah, no worries. Where are you going?

JOE: I need to get to net zero.

AMAL: Net zero. This is all you have?

HOE: Yeah.

Actually, no. Because the federal governments recently announced it'll be spending 20 billion dollars to get us to a point where the amount of gases, we're putting into the atmosphere isn't more than the amount we're taking out, net zero. And to achieve net zero, it says we'll need to invest more in new technologies.

AMAL: Alright, so first off, you go straight down and then you take a right on "ultra-low-cost solar" road.

JOE: Ultra-low-cost solar. Solar, that sounds familiar.

Now, solar energy is nothing new. For decades, Aussies have been harnessing the power of the sun. More than 3 million households now have their own rooftop solar system and that numbers only expected to grow. Half of our country's electricity is tipped to come from solar by 2050. Which means we'll need more infrastructure like large-scale solar farms and huge batteries to store and distribute the energy through a new digital grid system.

AMAL: Alright, and once you get there you go up the hill and take a left on "clean hydrogen" avenue.

JOE: Clean hydrogen. Right, okay.

AMAL: Make sure you've got that right, you don't want to miss it.

Hydrogen is the most common element in the universe, and it's got heaps of uses. It can power vehicles, generate electricity, and create products like steel. But hydrogen doesn't exist naturally on Earth on its own. It's found in combinations of elements like with oxygen in H<sub>2</sub>O or water. In order to get pure hydrogen, it has to be separated. When we hear about "clean hydrogen" it's mostly referring to two methods. Green Hydrogen uses electricity from renewable sources like solar to split hydrogen from oxygen in water through a process called electrolysis. While blue hydrogen is created by burning natural gas to create hydrogen from methane and steam called steam reforming. But instead of letting the carbon dioxide emissions from the process go into the atmosphere, it's captured and stored underground which brings us nicely to our next stop.

AMAL: You still with me? This one's pretty interesting, OK. Make sure you go through the industrial roundabout to "carbon capture and storage" lane.

This one is well, pretty much what it sounds like. The idea is that when coal or natural gas is burned in power stations or factories the CO<sub>2</sub> gets separated from other gases and compressed into a liquid. Then it's transported to a storage site where it's injected deep underground and stored. The technology's been around for a while but it's expensive, controversial and some say it's just not a practical solution to the problem.

OLIVIA: That's the map to net zero? I don't know if that's going to get you there. It'll get you about 85 percent of the way there.

These are just some of the technologies the governments talked about, but the plan doesn't cover everything because it says new, emerging technologies will close the gap to net zero by the time 2050 comes around. That's something many people have been critical of, especially because it doesn't put a stop to existing coal or gas production.

CARBON CAPTURE PROJECT DIRECTOR FOR CTSCO, DARREN GREER: They have to have a solution for carbon long-term. I think the ability to emit CO<sub>2</sub> unabated, those days are numbered.

But for now, this is the plan Australia's promised to the rest of the world.

AMAL: Well, good luck, I guess.

## News Quiz

It's been a big week at the global climate conference, COP26 in Scotland. How many countries have signed an agreement to quit using coal power to help fight climate change? Is it 20 countries, more than 40 or every country? More than 40 countries have agreed to phase out coal. Wealthy developed countries have until 2030 while poorer developing ones have until 2040. But some of the biggest coal users like the US, China and Australia didn't sign the agreement.

COP26 isn't over yet. There's still a few more days of talks left and some famous faces like this one, are being included in discussions. What's the name of this Hollywood star? It's Leonardo DiCaprio. The actor and activist drew a huge crowd when he arrived.

Billions of Hindus, Jains and Sikhs around the world celebrated Diwali last week. It's a religious celebration known as the festival of what? Diwali is known as the festival of lights and it celebrates new beginnings and the triumph of good over evil.

And what's the name of this very, very large potato found in a backyard in New Zealand? Yes, it has a name. Is it Duggan, Doug or Dave? It's been dubbed Doug. Makes sense, I guess. This Kiwi couple discovered, named and umm dressed the 7.9 kilogram spud. Doug's now a likely candidate for the record of heaviest potato in the world. Go Doug.

## International Travel

Reporter: Amelia Moseley

*INTRO: Next up, pack your bags Australia because borders have started opening up to international travel. After 20 months of COVID restrictions, some Aussies are waving goodbye to loved ones and others are welcoming them home. But while it's good news for some, experts warn that opening up international travel will be a risky business. Take a look.*

JACK, REPORTER: Whenever I get gloomy with the state of the world. I think about the arrivals gate at Sydney airport. Umm, Sydney airport since November 1st. And, if you look for it, I've got a sneaking feeling you'll realise that love actually is, all around.

AMELIA: This movie gets me every time.

Yes, love is in the airports. For the first time in a long time, some Aussies are being reunited with their loved ones after being separated across countries. Why? You know why. COVID.

AUSTRALIAN TRAVELLER: I'm ecstatic. Like when we touched down this morning just the energy on the plane was insane it's so good to be back.

AUSTRALIAN TRAVELLER: Feels great even like walking through here and hearing people speak with the Australian accent, it's just good to be back home.

Australia was one of the first countries in the world to shut its borders to international travel at the start of the pandemic leaving some Aussies struggling to get home. But now fully vaccinated Australians can fly in and out of Sydney and Melbourne airports overseas as they please. That means no quarantining on this side and way more international flights flying.

AUSTRALIAN TRAVELLER: I'm travelling to Aberdeen in Scotland to see my mum and dad who I've not seen in over two years.

AUSTRALIAN TRAVELLER: Six months I've been waiting to come away. You know with a three year old and a one year old it's been a long lockdown.

Ah, I think he said he's ready for a holiday. And he's not the only one. In fact, some industries are counting on that. You see, many countries rely on tourists visiting them. And airlines, well, they need passengers to pay to fly around.

QANTAS EMPLOYEE: We want to get back to that business and that pace of life we had two years ago.

AMELIA: Of course, all this international travel stuff isn't open to everyone, yet.

KEIRA KNIGHTLEY, LOVE ACTUALLY MOVIE: Oh, hi.

MAN [OUT OF SIGHT]: Who is it?



AMELIA: 'Say it's carol singers'.

KEIRA KNIGHTLEY, LOVE ACTUALLY MOVIE: It's carol singers.

AMELIA: With any luck by next year. I'll be doing this. But most other states and territories say they need to get to 80 per cent vaxxed to open up borders. 'Hopefully before Christmas.'

Lots of people also want to come here to work, study or see the sights. But while some countries have opened up to visitors; Australia plans to do that slowly. Starting with fully vaxxed people from countries with high vax rates, like Singapore. Of course, borders opening up does come with risks. There are worries about the virus spreading, new strains popping up, and healthcare workers being put under a lot of stress.

AMELIA: But some reckon it's worth the risk to bring people and places together again. You know I think this is actually the wrong house.

## Parkes Telescope Anniversary

Reporter: Joe Baronio

*INTRO: The famous Parkes radio telescope in New South Wales has just celebrated its 60th birthday. Over the years, the 64 metre telescope known as The Dish, has been helping scientists make some incredible discoveries in space. Joe can tell you more.*

The universe holds many secrets. A lot of which are still to be discovered. But some of the most important things we do know about it were discovered right here in Australia thanks to this. This is the Parkes radio telescope, or 'the dish' as it's come to be known. It's located here in New South Wales and this year marks 60 years of space-research service.

JOE, REPORTER: In the late 1940s and early 50s, radio astronomy, which is the study of radio waves from outer space, was taking off. Astronomers wanted to know more about things in our galaxy and beyond. So, the UK built an enormous radio telescope and not wanting to be left behind physicist, Dr. Edward George Bowen from the CSIRO said, "hey we need one of those in Australia too".

So, began years of design and construction, and by October 31st, 1961, the dish was ready to go.

JOHN SARKISSIAN, CSIRO PARKES OBSERVATORY OPERATIONAL SCIENTIST: When it was built it was the second largest but most advanced radio telescope in the world. The Parkes telescope is essentially just a glorified radio antenna but whenever you say telescope the first thing everybody imagines is something that you look through but with our telescope, we detect the radio emissions, the extremely weak, very feeble radio emissions from the stars.

And by studying those radio emissions, scientists are able to learn way more about stars than by just looking at them. It's helped discover lots of things like pulsars, which are compact stars the size of a city but more dense than our sun, the Magellanic Stream which is a huge cloud of gas arching over our Milky Way, and hundreds of whole new galaxies containing billions of stars, just to name a few.

JOHN SARKISSIAN, CSIRO PARKES OBSERVATORY OPERATIONAL SCIENTIST: Also, closer to home you know, the telescope is a near ideal instrument for tracking space craft in deep space.

And one of the telescope's most famous moments was doing just that. When the Apollo 11 mission touched down on the surface of the Moon in 1969, the Parkes telescope was responsible for receiving the

signal from the lunar module and sharing it with 600 million people across the globe.

NEIL ARMSTRONG, ASTRONAUT: It's one small step for man, one giant leap for mankind.

JOE: The reason the Parkes telescope was given this huge responsibility was not just because of its size and sensitivity but because of its location.

It was built in the middle of a paddock far away from any other radio signals that could have interfered with the transmission.

JOE: It's just as useful today. Although sometimes it picks up things that are a little harder to explain. Back in 2015, mysterious signals that got picked up got people speculating about alien contact.

JOHN SARKISSIAN, CSIRO PARKES OBSERVATORY OPERATIONAL SCIENTIST: There are occasions when we detect signals that don't appear to be of natural origin.

But it turned out to just be someone using a microwave in the staff kitchen.

JOE: Oh.

Aliens or not, the dish has come a long way from where it all began 60 years ago.

JOHN SARKISSIAN, CSIRO PARKES OBSERVATORY OPERATIONAL SCIENTIST: And so, the combined upgrades over the years have meant that the telescope today is over 10,000 times more sensitive than when it was built.

And the upgrades are getting put to good use straight away. NASA say that from next year it'll use the telescope to help with its Artemis program that will eventually send humans back to the Moon.

JOHN SARKISSIAN, CSIRO PARKES OBSERVATORY OPERATIONAL SCIENTIST: It's the premier scientific instrument in Australia's history, still doing world class science, still making great discoveries and something that I think all Australians should be rightly proud of.

## Ask a Reporter

Do you have a question about the telescope? Well, you can ask me during Ask a Reporter live on Friday. Just head to our website for all the details.

## Bat Bird Competition

Reporter: Jack Evans

*INTRO: Next up, New Zealand's Bird of the Year has been announced and it's not a bird, it's a bat. Yep, for the first time a bat has won the competition and there's a good reason for this surprising twist. Here's Jack.*

We now return to the final episode of New Zealand's Bird of the Year.

HOST: Three birds stand before me, but only one of you has what it takes to be New Zealand's next bird of the year. So, who will it be? Red Billed Gull, we love your seabird quips, but you stole my chips. Fiordland Crested Penguin, black and white is what you wore, but after a while it was a bore. I'm sorry my dears but neither of you are New Zealand's next Bird of the Year. It's time to squawk away. Which means, for the first



time in New Zealand Bird of the Year history, the winner is the Long Tailed Bat. Well, what do you have to say?

OK, so it might seem a little odd for a bat to win a bird competition. Because well bats aren't birds, they're mammals. But the organisers, not that guy, but the real organisers say it's all for a good cause. For the past 16 years our neighbours across the ditch have held an online poll. Where everyone and anyone can vote on their favourite feathery New Zealand friend. And let's just say people get pretty into it.

In the past we've had winners like the Grey Warbler, the Kākāpō, the kiwi, the Pūkeko, the Kea, the Kākāpō again. And now joining the hall of fame, with a little over 7,000 votes, is the Pekapeka-tou-roa or the long-tailed bat.

HOST: Con-BIRD-ulations Pekapeka-tou-roa. As winner you'll receive a tiny crown and sceptre as well as a sickening supply of awareness.

Yep, the whole competition is to raise awareness for native wildlife and these guys could do with it. You see, the tiny native bats are just one of two land dwelling mammals in New Zealand, and they are so rare that scientists don't actually know how many remain in the wild. So, organisers thought the competition would be a great way to raise awareness of this tiny threatened species.

LAURA KEOWN: They face a lot of the same threats that our birds do. So, we thought that including the bats was a good way for people to get to know them and learn more about them.

This is Laura one of the real organisers of the competition and she says reactions to the announcement have been mixed.

LAURA: Well, we've certainly ruffled some feathers by letting this little bat fly to victory. But I think a lot of people are only just hearing about the competition, and they've got a reaction, but they didn't. They didn't exercise their Bird-ocratic rights to vote in the election. So, I'd say you're not allowed to complain about the result unless you voted in the election.

Believe it or not this isn't the first time the competition has had its share of controversy. Last year more than 1,500 fake votes were slipped into the ballot in favour of the Kiwi Pukupuku. With many accusing Russia for the hack. And back in 2019 Australia was accused of rigging the comp in favour of the Kakapo.

HOST: A bird contest is no place for fowl play.

But don't worry Laura assures me that this time there was no rigging.

LAURA: I'm happy to report we had a free and fair bird election.

Laura says that it doesn't matter if it's a bat or a bird that wins. At the end of the day, it's about giving all of these creatures a moment to shine

HOST: And remember, if you can't protect yourself then maybe enter a competition and someone else will do it for you. Now fly my pretties. Fly, fly.

## Sport

T20 World Cup semi-finals here we come. The Aussies got there thanks to a huge win over the West Indies in Abu Dhabi in their final match of the Super 12 stage. David Warner put on a show with the bat scoring an unbeaten 89 to chase down the target set by the West Indies with 22 balls to spare.

The Wallabies five game winning streak has ended. Australia went down to Scotland 15 to 13 win in front of a packed crowd. The Wallabies had their chances but couldn't get it done. They'll now take on England on Saturday.

Australian Madison de Rozario has won the women's wheelchair race in the New York Marathon. It tops off a fantastic year for the athlete, who also won gold at the Tokyo Paralympics.

## Business Kids

Reporter: Jack Evans

*INTRO: Finally, today we're going to meet three young entrepreneurs from New South Wales. They used their time during lockdown to each set up their own business, selling everything from tea to slime. So, if you're a kid, how do you go about opening and running a business in the middle of a pandemic? Monique, Sienna and Daisy have some answers for you.*

MONIQUE: Hi BTN I'm Monique and this is Jack and I live in sunny Port Macquarie with my parents, my three siblings. I run my own small business called Pursew, where I sew purses, pencil cases, masks and tote bags. I first got the idea of sewing from a book in my school library and I taught myself to sew from watching YouTube. I started selling my creations at the local markets when I was about nine years old. Then I decided I wanted to make an Instagram account and I created a website which really helped my business take off. The best part is getting to choose the different fabrics I want to use. I love designing and matching the colours and finding out what works best. During lockdown it did get a bit tough to source my materials as I couldn't walk into the shop and pick out the fabrics I wanted to use. My sewing skills have now progressed to making my own clothes and one day I hope to start a small handmade clothing brand.

SIENNA: Hi BTN I'm Sienna and I'm 15 year old 10 student and business owner based in rural New South Wales. During COVID lockdown last year whilst I was home partaking in online schooling and drinking copious amounts of herbal tea, I noticed a major gap in the market, a new fun aesthetic approach to loose leaf and fruit based tea. Each blend is handcrafted with carefully chosen ingredients and made for different health needs and occasions. The blends are also packaged up in cute pastel coloured cylinders that are environmentally friendly. I love watching what you've created and seeing others enjoy, appreciate and love your products just as much as you do.

DAISY: Hi, I'm Daisy, I'm 10 years old, and I live at Umina beach with my family. My business is a slime business. And it's called Mushroomslime.com. And it's just a fun toy that you get to play with. I used to make slime. And then that's really just how it all evolved. First, I had to get the supplies. Secondly, once I had all the supplies, I had to get some stock. And then third of all, I had to start getting some orders. So, I had to start making things like my website. Because I have started my business in lockdown I couldn't like sell, like at stores and stuff. But I kind of found a way like using my website. The best part has been just seeing people support me throughout my business. Bye.

## Closer

Love your work. That's it for today, thanks for hanging out with us. Don't forget there's heaps more content on our website. There's also our YouTube channel if you're 13 or over and you can keep up to date with Newsbreak every weeknight. Stay safe and I'll catch you soon. Bye.