

**EPISODE 4**  
22nd February 2022

**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.

Teacher Resource

**Focus Questions**

As a class, discuss the stories featured in the episode of BTN Classroom and record the main points of the discussion. Students will then respond to the following focus questions.

# International Tourism

1. Summarise the BTN International Tourism story.
2. When will Australia’s borders open up to international travellers?
3. International travellers will need to be double vaccinated before entering Australia. True or false?
4. How will opening the borders impact on the tourism industry?
5. How much money does the tourism industry normally bring in to our economy?

# Coping with COVID

1. How has COVID affected you? Discuss in pairs.
2. Who is running the Kids COVID Survey?
3. What sort of questions will the survey ask? Give an example.
4. Who can kids talk to if they are feeling anxious or upset?
5. What is the name of the children’s phone counselling service?

**Battery Recycling**

1. Complete the following sentence. When a battery is connected \_\_\_\_\_\_\_\_\_\_\_ flow out of the negative terminal.
2. Why shouldn’t batteries be put in landfill?
3. Why is the demand for battery recycling increasing?
4. How many batteries were recycled in Australia in 2018?
   1. 10%
   2. 50%
   3. 70%
5. How can you safely recycle batteries?

Check out the [teacher](https://www.abc.net.au/btn/teachers/) resource on the Teachers page.

**Endangered Koalas**

1. Why are koala populations in parts of Australia struggling? Give an example.
2. What is the conservation status of koalas in NSW, QLD and the ACT?
3. How much have koala numbers fallen in NSW since 2000?
   1. 5%
   2. 50%
   3. 85%
4. What is the federal government doing to help protect koalas and their habitats?
5. What are koala numbers like in SA and Victoria?

**Shackleton’s Endurance Expedition**

1. Where is Ernest Shackleton from?
2. What was the name of the ship that Shackleton sailed on to explore Antarctica in 1901?
3. What island did Shackleton sail to on Endurance’s life boat?
   1. Elephant Island
   2. Disappointment Island
   3. Fabulous Island
4. Where is the Endurance shipwreck? Find the sea on a map of the world.
5. What are the Endurance22 crew using to look for the ship?

Check out the [teacher](https://www.abc.net.au/btn/teachers/) resource on the Teachers page.



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**KEY LEARNING**

Students will learn how batteries work and why it is important to recycle them safely.

**CURRICULUM**

**Science – Year 5**

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

**Science – Year 6**

Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources.

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

**Science – Year 7**

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

**Design & Technologies – Years 5 & 6**

Investigate how electrical energy can control movement, sound or light in a designed product or system.

Select appropriate materials, components, tools, equipment and techniques and apply safe procedures to make designed solutions.

Teacher Resource

**Battery Recycling**

# 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. Complete the following sentence. When a battery is connected \_\_\_\_\_\_\_\_\_\_\_ flow out of the negative terminal.
2. Why shouldn’t batteries be put in landfill?
3. Why is the demand for battery recycling increasing?
4. How many batteries were recycled in Australia in 2018?
   1. 10%
   2. 50%
   3. 70%
5. How can you safely recycle batteries?

# Activity: Note taking

A picture containing text, monitor, close

Description automatically generatedStudents will practise their note-taking skills while watching the BTN Battery Recycling story. After watching the story, ask students to reflect on and organise the information into three categories. What information in the story was...?

* Positive
* Negative or
* Interesting

# Activity: Class Discussion

Discuss the BTN Battery Recycling story as a class and record the main points on a mind map. Students will then respond to the following and share their ideas as a class.

* What did you learn from this story?
* What does this story make you wonder?
* What are some items that use batteries?
* Does your school recycle its batteries? Discuss the recycling programs your school currently has in place.
* Think of three questions you would like to ask about the story.
* What does recycling mean to you?

# Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN Battery Recycling story. Students may want to use pictures and diagrams to illustrate the meaning and create their own glossary. Here are some words to get students started.

|  |  |  |
| --- | --- | --- |
| BATTERY | ELECTRIC CURRENT | TERMINALS |
| ELECTROLYTE | ELECTRONS | VOLT |

# Activity: Research project

Discuss the information raised in the BTN Battery Recycling story. What questions were raised in the discussion and what are the gaps in students’ knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic.

|  |  |  |  |
| --- | --- | --- | --- |
| What do I **know**? | What do I **want** to know? | What have I **learnt**? | **How** will I find out? |
|  |  |  |  |

Students will develop their own question/s to research or choose one or more of the questions below.

* Who invented the first battery? Create a biography.
* What is the history of the battery? Explore the history and development of batteries and plot your findings on a timeline.
* How do batteries work? Explain using your own words.
* What is inside a battery that helps produce current electricity?
* What are the components of a battery? Choose one battery to research in more detail and label each part of the battery.
* What can happen if batteries are placed in landfill? What problems can it cause?
* How can you recycle your batteries responsibly?
* What is the difference between disposable batteries and rechargeable batteries? Create a Venn diagram.
* Should there be incentives for people who reduce, reuse and recycle? What do you think the incentives should be?

# Activity – How batteries work

As a class, watch this TedEd video [How batteries work](https://ed.ted.com/lessons/why-batteries-die-adam-jacobson#watch) and then students will respond to the following questions.

1. A picture containing square

   Description automatically generatedWhat animal helped scientists create the first battery?
2. What two chemicals did Alessandro Volta use in his experiment to test his idea? Describe his experiment.
3. Why is our standard unit of electrical potential called the volt?
4. What happens when most of the metal in a battery oxidises?
5. How are rechargeable batteries different to standard batteries?

# 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.

A picture containing shape

Description automatically generated

**Campaign**

Design and run a campaign educating others in your community about how they can recycle their flat batteries.

**Take action**

Set up a battery recycling initiative in your school. Educate your school community about your new initiative and get them involved!

**Eco-activity**

Design and build your own battery collection box to safely store flat batteries. Find a place to keep the box at school and promote your new recycling initiative.

**Test your classmates**

Brainstorm the different types of waste produced at your school. Do you know where they can be recycled? Create a quiz to test your classmate’s knowledge about recycling.

# Activity – Interactive Game

Graphical user interface

Description automatically generatedWhich is the right bin? This [interactive game](http://www.kesab.asn.au/stuff/interactive/) helps students to understand the correct way to dispose of household items. Students make their way through six rooms and look for flashing stars that indicate which items need to go in the bin. They decide which items need to go in landfill, can be recycled, placed in an organics bin or require special collection. Ask students to think of other things at their home that need to be disposed of. Which bin do they go in? Do the bins in this game match the ones they have at home?

[Teacher Guide](http://www.kesab.asn.au/stuff/wp-content/uploads/sites/12/pdfs/teacher-guide.pdf)

# Useful Websites

* [How batteries work](https://ed.ted.com/lessons/why-batteries-die-adam-jacobson) – TedEd
* [How a battery works](https://www.science.org.au/curious/technology-future/batteries#:~:text=A%20battery%20is%20a%20device,be%20used%20to%20do%20work.) – Australian Academy of Science
* [Battery Recycling](https://bcycle.com.au/) – B - cycle
* [Australia’s first national recycling scheme for household batteries launches](https://www.abc.net.au/news/2022-02-15/national-recycling-battery-product-stewardship-economics/100829954) – ABC News
* [War on e-waste](https://www.abc.net.au/btn/classroom/war-on-e-waste/10488766) – BTN



**EPISODE 4**  
22nd February 2022

**KEY LEARNING**

Students will learn more about the life of Ernest Shackleton and his expedition on the Endurance.

**CURRICULUM**

**Science – Years 5 & 6**

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

**Science – Year 7**

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

**HASS – Year 4**

Pose questions to investigate people, events places and issues

Sequence information about people’s lives and events

**HASS – Years 5 & 6**

Develop appropriate questions to guide an inquiry about people, events, developments, places, systems and challenges

Teacher Resource

**Shackleton’s Endurance Expedition**

# 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. Where is Ernest Shackleton from?
2. What was the name of the ship that Shackleton sailed on to explore Antarctica in 1901?
3. What island did Shackleton sail to on Endurance’s life boat?
4. Where is the Endurance shipwreck? Find the sea on a map of the world.
5. What are the Endurance22 crew using to look for the ship?

# Activity: Class Discussion

A picture containing text, vector graphics

Description automatically generatedDiscuss the BTN Shackleton’s Endurance Expedition story as a class. What do students know about Antarctica and polar explorers? Which polar explorers have they heard of? What questions do they have? In small groups, ask students to brainstorm responses to the following questions:

* Where is Antarctica? Locate on a map.
* What happened to Shackleton’s Endurance expedition?
* What is the purpose of the Endurance22 expedition?
* What questions do you have about the BTN story?

# Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN Shackleton’s Endurance Expedition story. Here are some words to get them started.

|  |  |  |
| --- | --- | --- |
| EXPEDITION | POLAR EXPLORER | SEA ICE |
| ANTARCTICA | CONTINENT | SOUTH POLE |

# Activity: Shackleton Research

Discuss the information raised in the BTN Shackleton’s Endurance Expedition story. What questions were raised in the discussion and what are the gaps in students’ knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic.

|  |  |  |  |
| --- | --- | --- | --- |
| What do I **know**? | What do I **want** to know? | What have I **learnt**? | **How** will I find out? |
|  |  |  |  |

Students will develop their own question/s to research or choose one or more of the questions below.

* What did Ernest Shackleton achieve on his expeditions to Antarctica?
* Why did Shackleton abandon the 1907-09 expedition to the South Pole within 100 miles of the destination? What happened after he abandoned the ship?
* How might Shackleton’s expeditions be similar or different to expeditions undertaken today?
* What were some of the challenges faced by Shackleton and other Antarctic explorers?
* Why is Ernest Shackleton remembered as a significant person?
* What is the `Heroic Age of Antarctic Exploration’?
* Do you think it's important that we learn more about Antarctica? Why or why not?

**Activity: Who was Ernest Shackleton?**

A picture containing person, person, wall, indoor

Description automatically generatedStudents will develop a biography of Sir Ernest Shackleton. Begin by discussing with students what a biography is. What information is included in a biography and what does it tell us about a person? The biography organiser template at the end of this activity will help students to structure their biography. Students can use the following questions to guide their research.

* Where and when was Ernest Shackleton born?
* Describe his family life growing up.
* What other jobs did Shackleton have?
* What challenges did he face?
* How did he make an impact on others’ lives?
* Imagine you could sit down and talk to Ernest Shackleton. What questions would you ask him about his life and work?

***Further Investigation***

Sketch a portrait of Ernest Shackleton. Explore and experiment with different techniques and media to produce a portrait. Around the sketch brainstorm and record important things that Shackleton did in his life.

# Activity: Visual literacy

Below are photographs depicting events in Ernest Shackleton’s expedition to Antarctic. Ask students to look at the images and then respond to the following questions:

* What is happening in the image?
* How do you think the people in the image might be feeling?
* What does the image tell you about polar exploration and Antarctica?
* Create a caption for the image.
* What questions do you have about what you see in the image?

|  |  |
| --- | --- |
| Endurance slips beneath the ice  [*Source*](https://en.wikipedia.org/wiki/Endurance_(1912_ship)#/media/File:Endurance_Final_Sinking.jpg) | A group of people standing in a body of water with a mountain in the background  Description automatically generated with low confidence[*Source*](https://upload.wikimedia.org/wikipedia/commons/8/8e/AllSafeAllWell.jpg) |
| A picture containing snow, outdoor, transport, old  Description automatically generated  [*Source*](https://upload.wikimedia.org/wikipedia/en/8/89/Endurance4.jpg) | Establishing camp  [*Source*](https://www.coolantarctica.com/Antarctica%20fact%20file/History/Ernest_Shackleton_pictures2.php) |
|  |  |

# Activity: Shackleton’s Hut Tour

Watch the [tour of Shackleton’s hut](https://youtu.be/K7bDzYS03Eo) then respond to the following questions:

* Where is Shackleton’s hut? Locate it on a map.
* How would you describe Shackleton’s hut?
* What objects did you see in the hut?
* Do you think that Shackleton’s hut is an important part of history? Give reasons for your answer.

# Activity: Ships of Science

Students can learn more about the important role ships have played in our understanding of Antarctica. Watch the [Ships of Science](https://youtu.be/OI-HJwywOTA) video and respond to the following questions:

* Why have ships played an important role in Australia’s scientific endeavours in Antarctica?
* What did you learn watching the Science of Ships video?
* What questions do you have?

# Activity: Imagine you are an explorer

Students will imagine they are an explorer visiting Antarctica for the first time. Below is a suggested framework for their research.

**Preparation** – make a list of what you will need to take with you on your expedition. Consider clothing, food, scientific equipment.

**The journey** – Organise your journey to Antarctica. Consider what modes of transport you will use to get there and how long it will take. Plot your journey on a map. Create an itinerary for your journey.

**Living in Antarctica** – Where will you be based in Antarctica? Describe the living conditions. What are some of the challenges? Check out these [live webcams](https://www.antarctica.gov.au/antarctic-operations/webcams/) to get an idea of the conditions.

**Reflection** – Write a journal entry in your diary about your experiences. Title your entry ‘*A day in the life of a scientist living and working in Antarctica’*.

Visit the [Australian Antarctic Division’s website](http://www.antarctica.gov.au/living-and-working) on living and working in Antarctica. This website is an important reference for expeditioners before they depart for Antarctica, and anyone seeking information on the unique challenges of living and working on station and in the field.

# A picture containing plant Description automatically generated

**Journal Writing**

Imagine you are Ernest Shackleton or a person on his expedition to Antarctica. Write a journal entry describing your experiences on the expedition.

**Postcard Writing**

Imagine you are Ernest Shackleton on his expedition. Write a postcard to a family member explaining your experiences. Include photos, drawings or maps to decorate your postcard.

# Activity: BTN Antarctica Special

BTN reporter Emma went on a journey to one of the world’s most remote and amazing places - Antarctica! She’s met the people that live and work there, discovered why the frozen continent is so important to science and spotted some of the amazing animals that call it home. Check out the special [here.](https://www.abc.net.au/btn/classroom/antarctica-special/10937004)

Take a look at this [BTN video](https://www.abc.net.au/btn/classroom/antarctica-q&a/10925992), where a group of experts answer questions that kids had about Antarctica and the people and animals that live there. What questions would they ask an expert about Antarctica?

# Useful Websites

* [Endurance 22: The hunt for Shackleton’s lost ice ship](https://endurance22.org/) – Endurance 22
* [Endurance 22: Antarctic expedition to search for Shackleton’s wrecked ship](https://www.bbc.co.uk/newsround/59891675) – Newsround
* [Shackleton’s Endurance: Modern star maps hint at famous wreck’s location](https://www.bbc.com/news/science-environment-60352606) – BBC News
* [Quest begins for Ernest Shackleton’s wrecked ship off Antarctica](https://www.abc.net.au/news/2022-02-19/quest-begins-for-ernest-shackleton%E2%80%99s-wrecked-ship-antartica/13762320) – ABC News

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Teacher Resource

**BTN Transcript: Episode 4 - 22/2/2022**

Hey, I'm Amelia Moseley and you’re watching BTN. Thanks for joining us for another episode. Let's jump into it and see what’s coming up. We learn why Australia's koalas have been declared endangered, find out why you shouldn't put your batteries in the bin and follow in the footsteps of a famous Antarctic explorer.

# International Tourism

Reporter: Amelia Moseley

*INTRO: There were some happy scenes at airports on Monday as international tourists were welcomed back to Australia. It's been two years since our borders were first closed because of COVID-19 and it's been a really hard time for a lot of businesses. So, let’s find out more about how the pandemic has affected tourism here and overseas and what's next for international travel. Check it out.*

Pilot Intercom: Ladies and gentlemen, please return to your seats and fasten your seatbelts, we're about to make our descent.   
  
Amelia, Reporter: Ahhh international travel**.** It's something a lot of people around the world have been dreaming about, including me**.** But, for the past two years it's been just that. A daydream**.**  
  
Joe, Reporter: Wait, is this a toilet seat?  
  
AMELIA, REPORTER: Yes. Yes, it is.

Now countries are starting to work out how to live with this whole COVID thing and many are opening back up to the world again, including Australia**.**

Joe, Reporter: Can I put this down? My arm is starting to hurt.

AMELIA: No.  
  
SCOTT MORRISON, AUSTRALIAN PRIME MINISTER: Our borders will be open from the 21st of February and welcoming the world back to Australia.  
  
While our borders opened up late last year to returning Aussies, not many other people were allowed in, or in without quarantining**.** Now people can come to Australia again from all over the place to work, study, or see the sights**.**   
  
TOURIST 1: Very, very emotional and especially that I made it for my sister's 80th birthday**.**  
  
TOURIST 2: It's lovely to be here. I understand the weather's even better than in Britain and I understand sometimes the cricket is too**.**  
  
But there is one thing for visitors to remember.  
  
SCOTT MORRISON, AUSTRALIAN PRIME MINISTER: Don't forget to bring your money with you**.**  
  
Ah, OK two things.  
  
SCOTT MORRISON, AUSTRALIAN PRIME MINISTER: You must be double vaccinated to come to Australia. That's the rule. Everyone's expected to abide by it**.**  
  
It's up to each state and territory to decide if they only wanna let in a certain amount of people or make people quarantine. But most have decided to ditch those restrictions for the fully vaccinated. The change is good news for people in Australia's tourism industry.  
  
MARGY OSMOND, CEO TOURISM AND TRANSPORT FORUM: Across the country you'll probably see tourism operators quietly doing a happy dance**.**   
  
Yeah, they're happy dancing because tourism usually brings in about 60 billion dollars a year to our economy. When COVID happened, the industry took a huge hit and lots of people and businesses were out of work. But we're not the only country that's really missed having tourists**.** Stats show the pandemic cost the global tourism industry more than 2 trillion dollars just last year**.** Wow**.** That's why many countries, including some of Australia's neighbours, have also just opened up to international visitors again, like the Philippines and Bali in Indonesia**.**  
  
BELGIAN TOURIST: I'm really happy that I can come because it was difficult before, due to the long quarantine and so now I hope everything can go back to normal.   
  
But some reckon "normal" doesn't have to mean doing things the same way**.** Some very popular tourist cities around the world say the pandemic could be a good opportunity to re-think the way they do tourism. Like putting a stop to overcrowding and reducing damage to the environment.  
  
Amelia: But while this all sounds like a good step away from covid times, some experts do say that it might take a year or two before things really take off again. So, until then, people can expect their travel plans to not always go according to plan. But at least right now, this dream could be a reality**.**

AMELIA: Oh, thank you.

JOE: Amelia, can I go home now?  
  
AMELIA: Just another ten minutes.

# News Quiz

Can you name this foreign leader and which country he’s in charge of? It’s Vladimir Putin who’s the president of Russia. An as you may know he’s been in the news because of a tense situation on the border of Ukraine where Russian soldiers have gathered. Many are worried there’ll be conflict and leaders have been in talks trying to calm things down.

Can you name the powerful storm which hit the UK and parts of Europe over the weekend? Was it Eunice, Ernest or Ethel? It was Eunice. The deadly storm brought some of the strongest winds ever recorded in the UK, bringing down trees and damaging buildings, including the famous O2 Arena.

There were ceremonies in the Northern Territory on the weekend to mark 80 years since Darwin was bombed by Japanese aircraft during which world war? The Bombing of Darwin began on 19 February 1942 which was during World War 2.

HISTORIAN: Around 230 to 250 people were killed on that first day and over the nearly 2 years of bombings around 1700 people lost their lives.

A Russian security guard is facing charges after admitting that he vandalised this 1.3-million-dollar painting. What did he draw on it? He drew eyes. Luckily the damage was minor, and the painting can be fixed

# Coping with COVID

Reporter: Cale Matthews

*INTRO: As we all know, it's been a pretty weird couple of years and you guys have faced a lot of unusual things like home learning and isolation. Now, fingers crossed, we're starting to get back to normal. But some experts say Aussie kids might need some help to get back on track. Cale's had a chat to the National Children's Commissioner to find out about their plan to hear from you guys.*

Remember two years ago when things started to get well a bit weird, and we all learnt a new word. And who woulda thought after all this time, we'd still be hearing it every day. Look I am pretty over it, so how are you guys doing?  
  
COHEN: Well, it's affected me a lot since I just had COVID. And I was about to get my first dose. So, we had to push it off a bit.  
  
MAYA: I rather would have been at school, just because, like, it's a new year. I want to meet my teacher.  
  
LILAH: It hasn't really affected me that much, but sometimes, like when you think some people might have it, it scares you a bit.  
  
XAVIER: I feel like people kind of stopped doing things and just sitting on the couch and watching TV and all that sort of stuff. So I think we'll need a bit of help to get back into the routine that we used to have.  
  
While the last couple of years have affected everyone differently, experts are worried that some of you guys might be struggling.  
  
ANNE HOLLONDS, NATIONAL CHILDREN'S COMMISSIONER: There's no question, it's been a very, very challenging time for many children and young people across Australia.  
  
That's the National Children's Commissioner, Anne Hollonds and she reckons the government will have some work to do to make sure you guys come out the other side of the pandemic in tip top shape, which is why she wants to hear from you.  
  
ANNE HOLLONDS, NATIONAL CHILDREN'S COMMISSIONER: So at the moment, what I'm doing is I'm inviting all kids across Australia, aged between 9 and 17 to do this short survey, it’s at kidscovidsurvey.com.  
  
The survey is open now until March 20th and it'll ask things like how you've coped over the last few years, things you did or didn't like about school or what's changed at home

ANNE HOLLONDS, NATIONAL CHILDREN'S COMISSIONER: We're going to use that to really say to government to say to the Prime Minister and all of the governments around Australia, these are the things that Australian kids are saying that they want to help them with their mental health and wellbeing.  
  
It’s not just the Children's Commissioner, last week some of Australia's top doctors called on the government to put together a recovery plan to make sure kids mental and physical health is looked after the pandemic. In the meantime, experts say we all have to look after each other and ourselves and that means talking to someone if you are feeling anxious or upset.  
  
ANNE HOLLONDS, NATIONAL CHILDREN'S COMMISSIONER: You find a grown up that you can trust someone in your family or teacher or school counsellor, or contact Kids Helpline, because the thing is, there's always someone there who you can reach out to.

Or you can take the advice of these guys.

COHEN: I talked to my family like I can call my Nana and Pappa, my uncle, my aunty.  
  
LILAH: I like to talk to my family a lot. And sometimes my pets, if I need to.  
  
XAVIER: Just trying to get back into the routines you had before COVID started and just trying to get back to normal.

# Battery Recycling

Reporter: Alex Aarao-Ward

*INTRO: Now, have you ever thrown a battery in the bin? If you have, you're not alone. Around 90 percent of our flat batteries get tossed away, but that's not good. They can actually be dangerous if they end up in landfill. Alex found out about a new recycling scheme that's just been launched to help us get our batteries where they belong. Take a look.*

BATTERY: It's hard being a flat battery. For a while, you're in everything: TV remotes, toys, ahh. The good old days. Yesterday you were powerful, today you're powerless, unwanted, unsure of where to go.   
  
Yep, those flat batteries can be a bit of a problem. You see, they don't actually belong in any of your household bins. Not the rubbish, not the recycling, and not the green bin. And there's a good reason for that. These guys are basically a can of chemicals.   
  
BATTERY: Yeah.   
  
Different batteries use different chemicals, but the principle is the same. Batteries work by creating a slow chemical reaction. That causes electrons to move around, and moving electrons equals electricity.  
  
When the battery is connected the electrons can flow out of the negative terminal, through the electrical circuit, and back into the positive terminal. Eventually, when all the chemicals have reacted, the battery goes flat. But they can still be dangerous. If they end up in landfill, the chemicals can leak into the environment. And even a flat battery can make enough power to produce a spark if it comes into contact with metal. And that can start a fire.  
  
BATTERY: So, what am I supposed to do? I don't belong anywhere.  
  
Well, there's some good news. You see, batteries can be recycled. For years, there have been places across the country to drop off batteries for recycling. They can be pulled apart and anything useful can be repurposed. In fact, the stuff in batteries can be quite valuable. The demand for battery recycling around the world is charging up as more things go battery operated.

MAX LANE, ENVIROSTREAM: If we can divert them from landfill there are great commodities within those batteries that are fully recyclable and that can go into new battery manufacturing or into other applications rather than needing to re-mine those minerals from the earth.   
  
The trouble is not enough people are doing it. In 2018, Australia had 20,000 tonnes of used batteries, but only recycled 2000 tonnes. That's only 10%. In the same year, countries like Sweden and Belgium recycled between 60 and 70%, so we could be doing a lot better.   
  
Which is why the government has put money towards a new national scheme designed to make it easier for people to recycle them.

LIBBY CHAPLIN, B-CYCLE: What we're launching today is a nationwide scheme of 2300 drop-off locations, so that consumers can safely take their batteries to a drop-off location and be assured that they are going to be safely and professionally recycled.   
  
The drop-off bins will accept double A, triple A, 9-volt, 6-volt, button batteries, basically the types you find in tv remotes, torches, toys and even power tools.  
  
ALEX: But you can't just chuck it away. First you need to put some tape over the terminals of the battery to make sure it doesn’t spark. Second: You need to chuck it into a clear plastic bag. Third: Go online to find your nearest drop-off point.  
  
It’s hoped that the scheme will encourage people to do the right thing and give those poor old batteries a place to go and a second charge at life.

# Endangered Koalas

Reporter: Amelia Moseley

*INTRO: Last week we got some worrying news about one of the most famous and adorable Aussie animals - koalas. The government decided to declare northern koalas endangered. But while it sounds like a bad thing, some conservationists say it could actually be a good move. Check it out.*

KOALA 1: Have you heard the news, Susie?   
  
KOALA 2: What Gary?   
  
KOALA 1: We're now an endangered species.  
  
KOALA 2: Well, that's not good.   
  
Yup, Gary's unfortunately right. Experts say koala populations in parts of Australia are really struggling because of things like climate change, diseases and habitat loss. Oh, and not to mention bushfires, like the black summer fires just over a year ago.

KOALA 1: Oh yeah, I remember that.  
  
Michael Pyne, Currumbin Wildlife Hospital: The change in climate, the droughts of 2019, the fires that followed really put so much pressure on our koalas and they've not recovered since.  
  
STUART BLANCH, WWF AUSTRALIA: In Queensland and New South Wales, the best science shows that their numbers have fallen by 50 percent since 2000.   
  
That's why Australia's federal government has decided to change its status of the iconic creatures from vulnerable to endangered. But not koalas everywhere, only in New South Wales, Queensland and the ACT where stats show they're struggling the most.  
  
You see, Australia has special environmental laws designed to recognise and help protect native species that aren't doing so well by giving them a conservation status. It goes from conservation dependent, meaning they could be in trouble without help, all the way up to extinct. You don't want to end up there.   
  
KOALA 1: But Susie, being listed as endangered might help us.  
  
KOALA 2: How? What are you on about Gary?   
  
Well optimistic Gary could be right. The listing is something environmentalists say they've wanted for a long time. They reckon it could help shine a light on the problems koalas are facing.  
  
STUART BLANCH, WWF Australia I think the endangered list thing helps raise even higher people's understanding. We have to do things differently if we're going to save koalas.  
  
KOALA 1: And that's why I've also been given 50 million dollars.  
  
KOALA 2: What?  
  
KOALA 1: Yup, I'm rich.  
  
KOALA 2: Righto.   
  
No, you don't get all of it, Gary. The federal government says it's going to put 50 million dollars into protecting koalas and their habitats. Some of that money will go towards stuff like planting trees and studying koala populations.   
  
KOALA 1: But what about my cousins in SA and Victoria?   
  
Well at the moment southern koala numbers are considered pretty healthy, although they've also faced threats like fires and climate change, and some reckon they need more protection. As for their northern mates, some are worried the listing won't help unless laws also change to better protect koala habitats.  
  
STUART BLANCH, WWF: Today's a day about saying we are all not doing enough. We need to use the Endangered Species listing to change the laws, change the culture. That we don't just keep waiving through developments that destroy koala habitats and kill koalas. That's gotta stop.   
  
So, all eyes will be on these loveable little cuties to see if things get better for them.

KOALA 1: Love you, Susie.  
  
KOALA 2: Love you, Gary.  
  
**Did You Know?**

Did you know the world koala comes from the Dharug word gula meaning "no water"?

# Sport

The Winter Olympics have wrapped up with a bang in Beijing. It was Australia's best Winter Olympics ever, taking home one gold, two silvers and a bronze. But the real star of the show was probably Bing Dwen Dwen, Beijing’s incredibly popular mascot. People were still lining up for merchandise after the closing ceremony.  
  
Meanwhile Sri Lanka has ruined the Aussie's winning streak in the T20 - taking out the fifth and final match. They managed an exciting five wicket win thanks to an unbeaten 69 from Kusal Mendis. While it wasn't a total whitewash, the Aussies still walked away with a solid 4-1 series win.  
  
Everyone give it up for Hannah Green who's made golf history. She managed a four shot victory in the TPS Murray River to become the first woman to win a 72-hole mixed-gender tournament on any of the world's leading golf tours. Not bad.  
  
Speaking of not bad, check out this goal-of-the-year contender from Western United's Ben Garrucio during their win against Western Sydney Wanderers. Wow.  
  
Finally, best of the NBA have been showing off their skills at the All-Star weekend. Some complained that the Slam Dunk contest was a little underwhelming, but the skills challenge made up for it. Aussie Josh Giddey's team came in 2nd, after this half-court shot from Evan Mobley sealed the win. As for the All-star game, Team Lebron won, and Steph Curry took home the MVP with a whopping 50 points.

# Shackleton’s Endurance Expedition

Reporter: Cale Matthews

*INTRO: A team of scientists, archaeologists and technicians have just set off on an epic quest to find the remains of an epic quest. They're searching for the wreck of the Endurance, the ship that Ernest Shackleton took on an expedition to cross Antarctica. Here's Cale, I mean um Ernest Shackleton, to tell you all about it.*

ERNEST SHACKLETON: Right, there we are, hello. Foremost, apologies about the beard and the face, it's been a ghastly few months. You can probably hear the weather outside, awful. My name is Ernest Shackleton.  
  
I was born in 1874 in Ireland but grew up in London and always had legs for the sea and a heart for adventure. In 1901 I joined the Royal Navy and was away on my first trip to Antarctica, an unexplored continent of mystery and intrigue. I sailed aboard the Discovery with the famous explorer Robert Falcon Scott, Scott of the Antarctic. But a few years in I fell ill and was sent home.   
  
6 years on I was captain leading a crew back to Antarctica with a ship called the Nimrod. Ghastly ship that one but it carried good people. There's Douglas Mawson, good lad good lad. We tried to reach the South Pole, but didn't quite make it, and that brings me to now.  
  
In 1914, I set sail on the Imperial Trans-Antarctic Expedition. Our goal was simple, make the first land crossing of the Antarctic continent. But it wasn't simple to say the least. Venturing deep into the Weddell Sea we came across ice and lots of it. The Endurance was designed to break through the ice, but this was.   
  
CAPTAIN FRANK WORSLEY: Too much, Shackleton. We're stuck in the ice.  
  
After 10 months of drifting, we abandoned the ship and camped out on the ice and watched the Endurance sink. Luckily our Captain Frank Worsley had some sense.  
  
CAPTAIN FRANK WORSLEY: I'll record the coordinates sir, so hopefully someone can come back and find the wreck.  
  
ERNEST SHACKELTON: Smart lad, smart lad. But now we had to escape Antarctica alive. We sailed to Elephant Island using the Endurance's life boat in what I said was the worst portion of the worst sea in the world. The rest of the crew camped out here while Worsley myself and 4 others rowed for 16 days and trekked for 36 hours arriving at Stromness whaling station where I could send help for my men.  
  
Everyone survived, remarkable really. Well, everyone except the Endurance, that ship is 3000m underneath the ice and the Weddell Sea. But with Worsley's co-ordinates I hope one day someone will uncover it. I'm sure they will, Shackleton out.  
  
Fast forward 105 years, 5 months and 23 days and a new batch of adventurers are on their own epic quest to find the endurance. The expedition called Endurance22 set sail this month from South America across the treacherous Southern Ocean. It'll use Frank Worsley's co-ordinates to send these robots called Sabertooths deep down under the ice to see if they can find the wreck and snap some photos of it.  
  
TIM JACOB, CREW MEMBER: We're not gonna touch the ship in any way, the ship stays right where it is, it’s a protected monument we're not gonna bring anything up from the surface it stays where it is.  
  
School kids across the globe have been following the expedition online and talking to the crew as we all wait to see if one of the most famous shipwrecks in history will finally be found.

# Closer

Thanks Shackleton. We'll keep you up to date on that one. Well that's it for today. I hope you've enjoyed the show don’t worry, we'll be back next week with more and in the meantime, you can jump online whenever you like to check out more stories and teacher resources. There's also our YouTube channel if you're 13 or over and, as always, Newsbreak will be here every weeknight to keep you up to date. Have an awesome week and I’ll see you next time. Bye.