

### Garma Festival 2019

1. Discuss the BTN *Garma Festival 2019* story with another student.
2. Where is the Garma Festival held? Find using Google Maps and then this [map](#) of Indigenous Australia.
3. The Garma Festival is a celebration of what cultures?
4. How many years ago did the festival first start?
5. What happens at the Garma Festival? Describe using your own words.
6. What are some of the activities for kids to do at the Garma Festival?
7. How do the kids feel about being at the festival?
8. What three words would you use to describe the festival?
9. Why do you think the Garma Festival is important?
10. Illustrate an aspect of the BTN *Garma Festival 2019* story.

### Constitutional Recognition

1. Discuss the *Constitutional Recognition* story as a class and record the main points of the discussion.
2. What is a constitution?
3. When was the Australian Constitution written?
4. What is a referendum?
5. To change the Constitution there has to be a referendum. True or false?
6. What needs to happen for a referendum to be passed?
7. In 1967 what percent of Australians voted 'yes' to change the Constitution?
8. What are some of the changes that people want to make to the Constitution?
9. Name three things you learnt watching the BTN story.
10. What questions do you have after watching the BTN story?

Check out the [Constitutional Recognition resource](#) on the Teachers page.

### Sports Supplements Warning

1. Explain the *Sports Supplements Warning* story to another student.
2. Sport supplements come in lots of different forms. Name one.
3. Why do sportspeople take supplements?
4. Is it safe for adults to take supplements?
5. Complete the following sentence. Recently, Aussie swimmer Shayna Jack tested \_\_\_\_\_ to a banned substance
6. Ligandrol was developed to help treat what type of bone condition?
7. Why was Ligandrol banned by professional sports authorities?
8. What does ASADA say to athletes about taking supplements?
9. How many athletes test positive to banned supplements every month?
10. What food can you get protein from?

## Fatbergs

1. Explain the *Fatbergs* story to another student.
2. What are the 'three Ps' that should be flushed down the toilet?
3. Describe the Waste Water Treatment Works that Olivia visits in the BTN story.
4. What percent of the material that goes to the plant is poo?
  - a. 1%
  - b. 10%
  - c. 100%
5. Once the water has been cleaned who is it sent to?
6. What are the solids turned into?
7. What things are being flushed down the toilet and causing big problems for our sewerage systems?
8. What is a fatberg?
9. How can we prevent fatbergs from forming?
10. Summarise what you have learnt from watching the BTN story.

Get your class involved in BTN's [Ask A Reporter!](#) This week's topic is fatbergs.



## Radiated Tortoises

1. Before watching the BTN story discuss what you know about tortoises.
2. Complete the following sentence. The tortoises in the BTN story were rescued from wildlife \_\_\_\_\_.
3. When do radiated tortoises raise their shells?
4. Which country do radiated tortoises come from? Find using Google Maps.
5. Why do they have the name radiated tortoise?
6. Why are radiated tortoises targeted by poachers?
7. What is the conservation status of the radiated tortoise?
  - a. Vulnerable
  - b. Endangered
  - c. Critically endangered
8. In how many years is it thought the species will become extinct in the wild?
9. How can you help prevent animal trafficking?
10. How did this story make you feel?

Check out the [Radiated Tortoises resource](#) on the Teachers page.

## Teacher Resource

# Constitutional Recognition

## Focus Questions

1. Discuss the *Constitutional Recognition* story as a class and record the main points of the discussion.
2. What is a constitution?
3. When was the Australian Constitution written?
4. What is a referendum?
5. To change the Constitution there has to be a referendum. True or false?
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7. In 1967 what percent of Australians voted 'yes' to change the Constitution?
8. What are some of the changes that people want to make to the Constitution?
9. Name three things you learnt watching the BTN story.
10. What questions do you have after watching the BTN story?

## Activity

### Class discussion

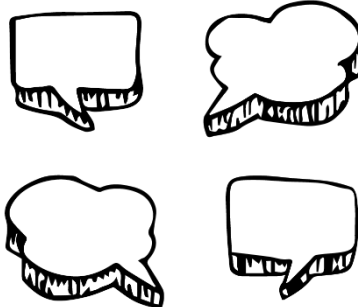
After watching the BTN *Constitutional Recognition* story, hold a class discussion about the information raised in the story. The following questions may help guide the discussion:

- What did you SEE in this video?
- What does this video make your WONDER?
- What did you LEARN from this story?
- What QUESTIONS do you have after watching the story?

### Further investigation

Students will respond to one or more of the following questions:

- Who are the traditional owners of the land, where The Garma Festival is held? Find the land using this [map](#).
- What are some of the important issues that are talked about at The Garma Festival?
- Discuss how you think being left out of the Australian Constitution affected Aboriginal people?



## Key Learning

Students will describe the process for constitutional change through a referendum.

## AC Curriculum

### HASS – Year 4

Sequence information about people's lives and events.

### HASS – Year 6

Key figures, events and ideas that led to Australia's Federation and Constitution.

Experiences of Australian democracy and citizenship, including the status and rights of Aboriginal and Torres Strait Islander Peoples, migrants, women and children.

### HASS – Year 7

Sequence information about events, developments, periods and phenomena using a variety of discipline-appropriate formats and conventions including chronological frameworks that use dating conventions.

### Civics & Citizenship – Year 7

The process for constitutional change through a referendum.

Critically analyse information and ideas from a range of sources in relation to civics and citizenship topics and issues.

Present evidence-based civics and citizenship arguments using subject-specific language.

## Activity

### Glossary

Students will brainstorm a list of key words that relate to the BTN *Constitutional Recognition* story. Students will then use the words to write their own sentences about the issue. Students may want to use pictures and diagrams to illustrate the meaning and create their own glossary. Here are some words to get you started.

Constitution	Referendum	Recognition
Rights	Reconciliation	Australia's First Peoples

### BTN Explainer

Constitutional recognition is something a lot of Indigenous people in Australia have been campaigning for, for a long time. But, what exactly is it and why is it such a big deal? Watch BTN's Explainer on Constitutional Recognition as a class and hold a class discussion to clarify terms and meanings. [Link to BTN Explainer](#)



## Activity

### KWLH

The KWLH organiser provides students with a framework to explore their knowledge on the topic of constitutional recognition and consider what they would like to know and learn.

<i>What do I <u>k</u>now?</i>	<i>What do I <u>w</u>ant to know?</i>	<i>What have I <u>l</u>earnt?</i>	<i><u>H</u>ow will I find out?</i>

## Research questions for inquiry

Students will determine a focus for their inquiry and develop a key question to guide their inquiry (below are some examples). Students will collect and record information from a wide variety of sources (internet, books, newspaper and magazines).

- What is the Australian Constitution? When and why was it written? Include the following words in your explanation: colonies, nation, federation, Australian Constitution and system of government.
- Were Aboriginal and Torres Strait Islander peoples included in the process? Who wrote the Constitution? And who voted for it when it was first formed?
- What are the steps to change the Australian Constitution? Investigate what a referendum is and how it works. Use a timeline to highlight important referendums in Australia.
- What is meant by the term constitutional recognition? Explore the progress of constitutional recognition in Australia using a timeline to highlight important events.
- Why was the 1967 Referendum important in Australia's human rights history? Use the term constitutional recognition in your explanation.
- How could you get the message out to all Australians that there needs to be a change in the Constitution to formally recognise Aboriginal and Torres Strait Islander peoples? Design a campaign to spread your message.

## Activity

### BTN story – 1967 Referendum

The 1967 referendum saw the majority of Australians vote to change our country's laws to count Indigenous Australians as full citizens. Watch BTN's [1967 Referendum](#) story and then students will respond to the following questions.

1. How long ago did Australians vote to change our country's laws to recognise Indigenous Australians as citizens?
2. Describe what it was like in Australia in the 1960s.
3. Did Aboriginal people have equal rights to other Australians in the 1960s? Explain.
4. In what year were Indigenous Australians given the right to vote in Federal Elections?
5. To change the constitution there has to be a referendum. True or false?
6. What is a referendum?
7. In 1967 what percent of Australians voted 'yes' to change the Constitution?
8. Discuss why it is important to remember Australia's 1967 referendum.
9. What does it mean to have equal rights? Explain your answer.
10. Name three things you learnt watching the BTN story.



## Activity

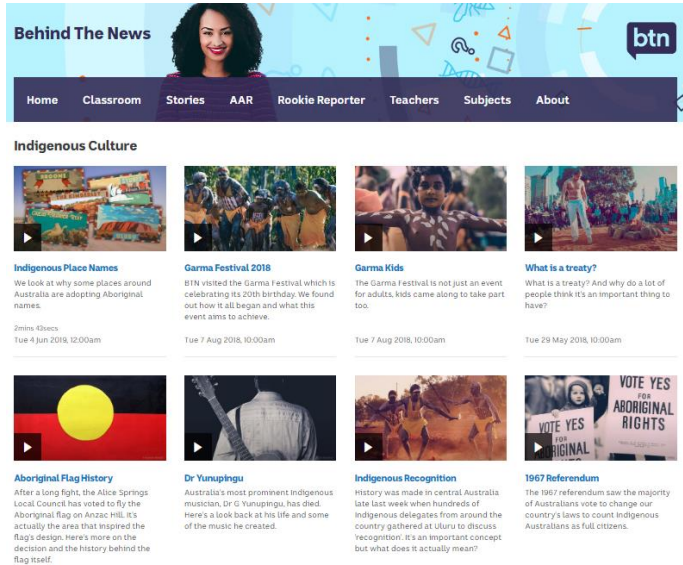
### BTN stories – Indigenous Culture

Visit BTN's collection of stories which focus on Aboriginal and Torres Strait Islander peoples' culture and issues.

After watching any one of the BTN videos ask students to respond to the discussion questions (to find the discussion questions and teacher resources go to the related BTN Classroom Episode and download the Episode Package).

### Link to collection of BTN stories about Indigenous culture

<https://www.abc.net.au/btn/indigenous-culture/10576610>



The screenshot shows the 'Behind The News' section of the BTN website. It features a navigation bar with links for Home, Classroom, Stories, AAR, Rookie Reporter, Teachers, Subjects, and About. Below the navigation bar, there is a section titled 'Indigenous Culture' with a grid of video thumbnails and their descriptions. The stories include:

- Indigenous Place Names:** We look at why some places around Australia are adopting Aboriginal names. (Jenna Kliesch, Tue 4 Jun 2019, 12:00am)
- Garma Festival 2018:** BTN visited the Garma Festival which is celebrating its 20th birthday. We found out how it all began and what this event aims to achieve. (Tue 7 Aug 2018, 10:00am)
- Garma Kids:** The Garma Festival is not just an event for adults, kids came along to take part too. (Tue 7 Aug 2018, 10:00am)
- What is a treaty?:** What is a treaty? And why do a lot of people think it's an important thing to have? (Tue 29 May 2018, 10:00am)
- Aboriginal Flag History:** After a long fight, the Alice Springs Local Council has voted to fly the Aboriginal flag on Anzac Hill. It's actually the area that inspired the flag's design. Here's more on the decision and the history behind the flag itself.
- Dr Yunupingu:** Australia's most prominent Indigenous musician, Dr Yunupingu, has died. Here's a look back at his life and some of the music he created.
- Indigenous Recognition:** History was made in central Australia late last week when hundreds of Indigenous delegates from around the country gathered at Uluru to discuss 'recognition'. It's an important concept but what does it actually mean?
- 1967 Referendum:** The 1967 referendum saw the majority of Australians vote to change our country's laws to count Indigenous Australians as full citizens.

## Useful Websites

Constitutional Recognition – Reconciliation Australia

[https://www.reconciliation.org.au/wp-content/uploads/2017/11/NRW2014\\_Constitutional-Recog\\_FactS.pdf](https://www.reconciliation.org.au/wp-content/uploads/2017/11/NRW2014_Constitutional-Recog_FactS.pdf)

Indigenous Parliament – BTN

<https://www.abc.net.au/btn/classroom/indigenous-parliament/10528188>

What is a Treaty? – BTN

<https://www.abc.net.au/btn/classroom/what-is-a-treaty/10489008>

Constitution – BTN

<https://www.abc.net.au/btn/classroom/constitution/10529046>

1967 Referendum – BTN

<https://www.abc.net.au/btn/classroom/1967-referendum/10523010>

# Radiated Tortoises

## Focus Questions

1. Before watching the BTN story discuss what you know about tortoises.
2. Complete the following sentence. The tortoises in the BTN story were rescued from wildlife \_\_\_\_\_.
3. When do radiated tortoises raise their shells?
4. Which country do radiated tortoises come from? Find using Google Maps.
5. Why do they have the name radiated tortoise?
6. Why are radiated tortoises targeted by poachers?
7. What is the conservation status of the radiated tortoise?
  - a. Vulnerable
  - b. Endangered
  - c. Critically endangered
8. In how many years is it thought the species will become extinct in the wild?
9. How can you help prevent animal trafficking?
10. How did this story make you feel?

## Activity

### What do you see, think and wonder?

Discuss the BTN *Radiated Tortoises* story as a class. Students will then write a personal response to the BTN story.

Students can finish one or more of the following incomplete sentences:

- It was interesting to learn that...
- Radiated tortoises are in danger because...
- Radiated tortoises are special because...
- It's surprising that...

Students will respond to the following questions. Students can then leave a comment on the BTN *Radiated Tortoises* story page.



## Key Learning

Students will explore the impact of the illegal wildlife trade on radiated tortoises. Students will explore the features of radiated tortoises, including habitat and threats.

## Curriculum

### Science – Year 4

Living things have life cycles.

Living things, including plants and animals, depend on each other and the environment to survive.

### Science – Year 5

Living things have structural features and adaptations that help them to survive in their environment.

### Science – Year 6

The growth and survival of living things are affected by physical conditions of their environment.

### Science – Year 7

Interactions between organisms, including the effects of human activities can be represented by food chains and food webs.

### HASS – Year 6

The obligations citizens may consider they have beyond their own national borders as active and informed global citizens.

## Activity

### Glossary

Students will brainstorm a list of key words that relate to the BTN *Radiated Tortoises* story. Students will then use the words to write their own sentences about the issue. Students may want to use pictures and diagrams to illustrate the meaning and create their own glossary. Here are some words to get you started.







Threats	Habitat	Illegal wildlife trade
Species	Conservation	Endangered
Trafficking	Ecosystem	Population

## Activity

### Six Hat Thinking

As a class, use Edward De Bono's Six Hat Thinking to explore the issues raised in the BTN *Radiated Tortoises* story. Make your own coloured hat cut-outs and place on the floor. Students will take it in turns answering questions in relation to what they already know about the issue, what they have learnt from the BTN *Radiated Tortoises* story and what they want to learn further about the topic.

Ask students to respond to the following questions:

 feelings and emotions	How did the <i>Radiated Tortoises</i> story make you feel?
 facts and information	What do you know about tortoises? What have you learnt from the story?
 positives	Were there any positives from the story? If so, what were they?
 negatives	What are some of the negatives or challenges that you learnt from the story?
 creativity	Why is it important to find out more about the issue?
 thinking about thinking	What questions were raised during this activity? What do you want to learn further about this topic?

### Reflection

After this activity, ask students to reflect on what they have learnt. Students can include details about how their thinking on this issue has changed and why they think we should act.



## Activity

### Creature Feature

Students will research and write a *Creature Feature* about radiated tortoises. Students will use the Creature Feature worksheet at the end of this activity to record their findings. Encourage students to use a range of sources to find their information.

Students will research the following for their project:

- Common and scientific name
- Appearance - what are some of their physical characteristics?
- Habitat - where do radiated tortoises live? Describe their habitat.
- Conservation status
- Threats - what are some of the threats to the survival of radiated tortoises?
- Interesting features.
- *Further investigation* – how can we help tackle the issue of declining radiated tortoise numbers?

**btn**

### Creature Feature

COMMON NAME: \_\_\_\_\_  
 SCIENTIFIC NAME: \_\_\_\_\_  
 TYPE: \_\_\_\_\_  
 SIZE: \_\_\_\_\_  
 WEIGHT: \_\_\_\_\_  
 CHARACTERISTICS: \_\_\_\_\_  
 THREATS TO SPECIES: \_\_\_\_\_

CONSERVATION STATUS (highlight):

Least concern	Near threatened	Vulnerable	Endangered	Critically endangered	Extinct in the wild	Extinct
LC	NT	VU	EN	CR	EW	EX

HABITAT: \_\_\_\_\_  
 BEHAVIOUR: \_\_\_\_\_  
 INTERESTING FEATURES: \_\_\_\_\_

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## Activity

### Haiku poetry

Write a haiku poem focusing on one or more of the themes explored in the BTN *Radiated Tortoises* story. Use [Read Write Think's Haiku Starter graphic organiser](#) which allows students to brainstorm a list of words about their chosen theme.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Haiku Starter

Haiku is a form of Japanese poetry. Typically, haikus are written about nature, but they can be about any topic. Haikus have a very specific syllable structure. The first line of every haiku has 5 syllables, the second line has 7 syllables, and the last line has 5 syllables.

Use the space below to brainstorm, plan, and write your own haiku.

**Choose Your Topic:**

\_\_\_\_\_

**Brainstorm Words**

Brainstorm a list of words about your topic. Next to each word, write the number of syllables in the circle.

_____	○	_____	○	_____	○
_____	○	_____	○	_____	○
_____	○	_____	○	_____	○
_____	○	_____	○	_____	○
_____	○	_____	○	_____	○

(continued)

### Haiku Starter (Continued)

**Write Your Draft**

Now that you have brainstormed some words about your topic, you can draft your haiku below. You do not have to use only the words from your brainstormed list, but each line will need to form either 5 or 7 syllables. Be creative!

Title: \_\_\_\_\_

**Line 1 (5 syllables)**

\_\_\_\_\_

**Line 2 (7 syllables)**

\_\_\_\_\_

**Line 3 (5 syllables)**

\_\_\_\_\_

readwritethink

Source: [Read Write Think](#)

## Activity

### Persuasive text – save the radiated tortoise campaign

Imagine you are an ecologist and you work for an organisation dedicated to protecting wildlife and the environment. You are particularly concerned about saving radiated tortoises. (Alternatively choose another wild animal that is at threat due to the illegal wildlife trade). Write a persuasive text to convince people to support your cause.

- What is the value of the animal to humans? Is it unique? Beautiful?
- What is its value to the ecosystem (other species and the environment)?
- What could be done to help it? Look at what is already being done to help protect radiated tortoises.

Use the following structure and tips to help write your persuasive text.

#### Structure

##### Introduction

- What is the point you are trying to argue? Construct an introductory paragraph which states the issue or topic.
- Introduce the arguments that will be developed in the body of the text.

##### Body

- Construct arguments that support your point of view.
- Each paragraph starts with a topic sentence which introduces each point.
- The rest of the paragraph gives more reasons.
- Arguments can be ordered from strongest to weakest.

##### Conclusion

- Restate your position on the argument.
- Construct a concluding paragraph that provides a summary of your arguments and a call to action.

#### Tips

- 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.

Use this [Read Write Think persuasion map](#) to plan your exposition text.

## Useful Websites

Radiated Tortoise – Perth Zoo

<https://perthzoo.wa.gov.au/animal/radiated-tortoise>

Radiated Tortoise – IUCN Red List of Threatened Species

<https://www.iucnredlist.org/species/9014/12950491>

Exotic pet trade explained – National Geographic

<https://www.nationalgeographic.com/animals/reference/exotic-pet-trade/>

Forest Rangers – BTN

<https://www.abc.net.au/btn/classroom/forest-rangers/10522466>

Priority Species – WWF

[http://www.wwf.mg/en/our\\_work/priority\\_species/](http://www.wwf.mg/en/our_work/priority_species/)

# Creature Feature

**COMMON NAME:**

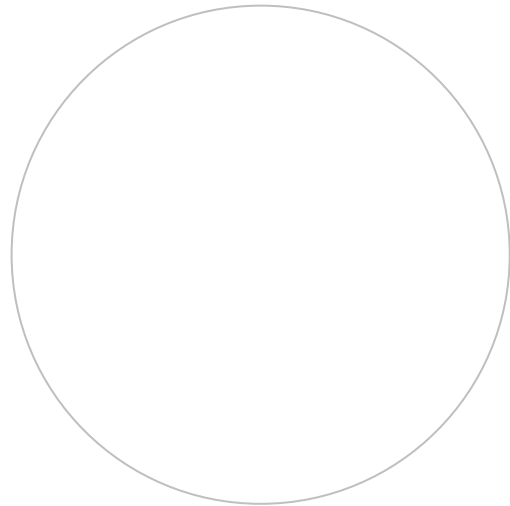
**SCIENTIFIC NAME:**

**TYPE:**

**SIZE:**

**WEIGHT:**

**CHARACTERISTICS:**



Illustration/photo

**THREATS TO SPECIES:**

**CONSERVATION STATUS** (highlight):

Least concern	Near threatened	Vulnerable	Endangered	Critically endangered	Extinct in the wild	Extinct
LC	NT	VU	EN	CR	EW	EX

**HABITAT:**

**BEHAVIOUR:**

**INTERESTING FEATURES:**



# BTN Transcript: Episode 21 – 6/8/19

Aboriginal and Torres Strait Islander viewers are advised that the following program contains images of people who have died.

Hey. Amelia Moseley here and you're watching BTN. Here's what's coming up. We find out what's going on at this year's Garma Festival, take a closer look at what you should and shouldn't flush down the loo and meet some very cute endangered tortoises.

## Garma Festival 2019

Reporter: Rookie Reporter

*INTRO: But first up today to Arnhem Land where there was a big event over the weekend called Garma. It's a massive celebration of Yolngu and other Indigenous cultures. Jack's been up there, and he's asked some kids to tell us more about it.*

KIDS: Welcome to Garma 2019.

SIENA: Hi my name is Siena Mayutu Wurmarrri Stubbs and I am from Yirrkala in North East Arnhem Land Australia.

SHAKIA: Hi I'm Shakia and I'm from St Colombans College Caboolture.

EMILY: Hey I'm Emily and I'm from Cairns.

GUYUNDU (IN LANGUAGE): Hi my name is Guyundu and I'm from Nhulunbuy.

JAYE: My name is Jaye and I'm from Warruwi Goulburn Island.

NICK: Hi I'm Nick and I come from Sydney.

LATOYA: Garma is a festival that brings people together as one.

SIENA: The Garma Festival started 21 years ago. Back then it was small.

SIENA: Today, thousands of people come to share their stories and hear some of our own.

SIENA: It's held at a site called Gulkula where Ganbulabula threw his yidaki into the waters at Wanuwuj.

MALI: Every day there's a Buungul and I dance with my family.

MEIALEE: There are other things too like an art gallery and music.

KATIE: Kids like me come to the Youth Forum. Let's see what they're up to.

ZACH: We go around to all the different groups and we do all different things, from making rockets to drumming.

JAYE: We were just singing songs in the local language. It was something that was really fun to try out.

RUBY: Well, we've been writing down our ideas on what we think is wrong and what should be changed in Australia. It comes back to the whole that we're all youth, and then you know we're the leaders of tomorrow but we're never being heard. Because you know they're like we're just children, and you know they're just silly ideas, but we have so much to say we've probably gone through a whole page of just ideas and questions that we want answered and stuff we want changed and just to be taken seriously you know.

ZACH: It gives everyone, a lot of people that are here, an insight into like a different life.

LILY: I think it's important because it kind of connects everyone together and there's not such a separation between Indigenous and non-Indigenous people and I think it's important to have that connection because like at the end of the day that's just what we have to do as a country.

SIENA: I hope you learnt something about Garma. See you next year. Nhama Yalala.

## Constitutional Recognition

Reporter: Jack Evans

*INTRO: Thanks guys. Now as you can see Garma's a lot of fun but it's also about discussing serious issues that affect Aboriginal and Torres Strait Islander people. And this year one of the big topics of conversation was constitutional recognition. Let's find out what that means and why some Aussies think it's really important.*

As the sun begins to set the voices of the Yolngu song men can be heard throughout Garma summoning everyone to the Buungul. It's a ceremonial dance that has been performed here at Gulkula for thousands of years celebrating the connection Yolngu people have to the land. Just like all of Australia's Indigenous cultures. It's a connection that many want to see recognised and protected in Australia's Constitution.

JACK EVANS, REPORTER: What's the Constitution you ask? Well it just so happens I have a copy right here. Okay, so it doesn't look like much but it's pretty important. It's kind of like our nation's rulebook. It sets out how the government is set up and how laws are allowed to be made and enforced.

It was written more than a century ago as leaders of the colonies were preparing to make Australia a nation. It was the first time in the world a country's constitution was decided by a vote although at the time not everyone had the right to vote. Back then not all Australians were treated the same. Despite the fact that Aboriginal and Torres Strait Islander people had lived here for more than 60,000 years that wasn't mentioned in the new constitution. It also contained several sections that discriminated against Indigenous people including a line that said they weren't to be counted with other Australian citizens. And ever since then many people have fought to change the Constitution.

But changing the Constitution isn't easy. You have to have a referendum, that's a big national vote. And in order for a change to get passed more than half of the population and more than half of the states and territories have to vote 'yes' to the changes, which is a lot harder than it sounds. Only 8 out of the 44 that we've had have been successful. The most successful referendum in Australia's history was in 1967. When 90% of Aussies voted to make sure Indigenous people were counted as Australian citizens.

JACK: The '67 Referendum was seen as a huge win for all Australians but for many people it was just the beginning. For a long time now, there's been a push for more changes to be made to the Constitution.

For starters many people want a section recognising Aboriginal and Torres Strait Islander people as Australia's First Peoples. There have also been calls to add a section to the Constitution that would create a special group in federal parliament to give Indigenous people a louder voice in the future. This group would advise the government on any laws and policies that affect Indigenous people.

Some people also want to remove a line that lets the government make laws that apply to different races. Not everyone agrees on which changes should happen or whether they should happen at all. Some say changing the Constitution would cost too much money and that it wouldn't change the past or the lives of Indigenous Aussies today. But others say it's a necessary step towards reconciliation.

JACK: Australia's Prime Minister Scott Morrison says it something he wants to see happen and he wants to bring it to a vote in the next 3 years. And many people here are hoping they'll finally get to see their connection to their land recognised in Australia's most important legal document.

## Quiz

When was the last constitutional referendum in Australia? Was it in...

1967

1988

1999

It was in 1999 when Australians voted not to become a republic.

## This Week in News

First to some sad news from the US where there were two mass shootings over the weekend in Texas and Ohio. In both cases police officers were really quick to respond and saved many lives. Locals have been doing what they can to help, including donating blood to help the injured. It's sparked debate about US gun laws again. Many say this sort of thing happens too often in the US and tighter gun controls might help to stop the violence. Remember if you're feeling sad or worried about that news you can always head to BTN's upsetting news page for some advice and support.

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To some happier news now. The finalists of this year's Sleek Geeks Science Eureka Prize have been announced. It's an annual competition asking kids to make entertaining videos on a scientific topic.

**SLEEK GEEK FINALIST:** Scientists hope to be able to use Einstein's  $E=MC^2$  to convert them into energy. There's all this energy lying around in the mass of these neutrinos although they're not very massive themselves.

This year's finalist got super creative coming up with topics like how climate change affects polar bears, micro plastics and this burning question: "Can we bring dinosaurs back to life like in Jurassic Park?". Spoiler alert, Finn's conclusion was probably not. Winners will be announced at the end of the month.

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And I know this looks like something out of Iron Man, but I promise you this is real life. Franky Zapata, a French inventor, has successfully crossed the English Channel on a hoverboard, after a failed attempt back in July. He invented this crazy jet powered device dubbed the Flyboard Air which is powered by five jet engines. So, it goes pretty fast. In fact, he made the 35-kay journey in just over 20 minutes reaching speeds of up to 170 kays an hour.

## Sports Supplements Warning

Reporter: Amelia Moseley

*INTRO: You might have heard that Aussie swimmer Shayna Jack is in a lot of trouble after a banned drug was found in her system. She says she's not a cheat and suggested it might have come from a contaminated batch of sports supplements. It's sparked a lot of debate and has some experts warning that supplements can be risky. Take a look.*

If you're like me, you might've dreamed of being a sporting great like Serena Williams, Lionel Messi or Le Bron James.

AMELIA MOSELEY, REPORTER: That was a weird dream.

But you might also have realised that being a star athlete or any athlete or just someone who gets off the couch, really, is hard work.

AMELIA: You can see why people might look for something to give them that extra edge.

I'm talking about supplements. They're everywhere and come in lots of different forms like protein powders, bars, tablets and even vitamins and many claim to do all sorts of things like helping people perform better, build muscle, recover after a big workout or just add extra nutrients to their diets.

AMELIA: Supplements are legal and most of the time they're safe for fully grown adults to take, but if you're a professional athlete, well, it can be a different story.

Recently, Aussie swimmer Shayna Jack admitted to testing positive to a banned substance. It's called Ligandrol. It was developed to help people with bone conditions like osteoporosis, but it can also help to grow muscle. Ligandrol's on a big list of drugs and other substances with very long names that've been banned by professional sports authorities around the world, because they can give athletes an unfair advantage. And if a sportsperson's caught using them they can get in big trouble. The thing is, Jack says she doesn't know how Ligandrol got into her system. She's suggested it might've been a contaminated batch of

supplements. Remember those? Yeah.

AMELIA: You see, most of the time, taking supplements isn't against the rules. But sometimes small amounts of banned substances can be found in them and experts say you can't always trust the label.

In fact, supplements are one of the biggest causes of failed doping tests in Australia. According to the Australian Sports Anti-Doping Authority they lead to one athlete testing positive every month. It's why sporting bodies like ASADA say it's best for athletes to just avoid supplements altogether.

AMELIA: But what about us not quite Olympic level, but still very promising, amateur athletes?

Well some people say they do feel the benefits of taking supplements, there are certain types of supplements that aren't safe to take, especially if you're a kid, and there are others that are just, well, a waste of money. Experts say, unless your doctor tells you otherwise, you're much better off getting the nutrients and energy you need through food. Like instead of gulping on a protein shake, you could just have an egg for breakfast. So unfortunately, it looks like there's no legit shortcut to sporting glory.

## Sport

Steve Smith has been dominating the headlines in the first test of the Ashes. It was the former Aussie captain's first test match after his year-long ban for ball tampering. And he entered the pitch to some boos from the crowd. But many were cheering as he made a century on the first day at Edgbaston. If that wasn't impressive enough, he did it again over the weekend with a knock of 142.

STEVE SMITH, AUSTRALIAN CRICKETER: It's kind of a dream comeback in a way to be able to score 2 100s in a match in the first Ashes test match it's something I've never done in any form of cricket before in my life so it's incredibly special.

Meanwhile, the Aussie women's team are back home and still celebrating their Ashes victory. They were nearly undefeated in the series which includes a test, as well as ODIS and T20s with Elyse Perry a stand-out. England ruined their clean sweep with a win in the final T20. But it wasn't enough to dampen the Aussies' spirits.

Nick Kyrgios has won his second ATP Tour title of the year beating Daniil Medvedev in straight sets. He says he's really pleased with the result.

NICK KYRGIOS, TENNIS PLAYER: This week means a lot I mean obviously it's great to get the win but I've proved to myself and a lot of people that back me that I still have it and can still produce at the highest level.

Normally golf isn't the fastest paced sport. That is unless you're talking about speed golf. These international pro golfers tried to beat the record for the fastest hole of golf by an individual. As you can see that involved some serious sprinting.

THOMAS DETRY, GOLF PLAYER: I can't feel my arms.

After a few failed attempts, and one disqualification, Belgian Thomas Detry finally did it.

OFFICIAL: The record to beat was 1 minute 33 seconds you achieved a time of 1 min 29 seconds, congratulations.

## Fatbergs

Reporter: Olivia Mason

*INTRO: Now to South Australia where there's been some talk about what goes down the toilet. The organisation in charge of the state's water has launched a campaign to try to discourage people from flushing stuff that shouldn't be flushed. Get ready to be a little grossed out as Olivia shows you what that stuff is.*

Let's play a game called 'things you shouldn't flush down the toilet'. Family pets, little brothers, mum's

glasses, your homework and anything else that isn't well, you know...

JINGLE: What goes in the loo, paper, pee and poo.

Yep, paper, pee and poo, obvious right? Well apparently, a lot of people are flushing things they shouldn't which has led to SA Water releasing that catchy little tune back there as well as a bunch of really gross photos showing really gross stuff that's been fished out of drains and sewers. Urgh. okay I'm gonna let you guys in on a little secret here. I'm not good with gross stuff and this is super gross but apparently, I have to go and investigate.

MATT HOLBROOK, REPORTER: You'll be fine Liv.

Okay so here I am at Bolivar Waste Water Treatment Works and that's where all the stuff you flush down the loo comes. I'm here with Anna from SA Water and the smell is kind of bad but it's not too bad.

ANNA JACKSON, SA WATER: It's okay isn't it Olivia? You can kind of get used to it after a couple minutes I think, and I think part of the reason for that is that actually less than only 1% of what's come through the waste water treatment plant is actually poo. So, the rest is water or some form of liquid.

Thanks to some very clever engineering, not much of this waste is actually wasted. The water is cleaned and sent out to farmers and the solids are turned into compost. But first, workers have to remove stuff that should never have been sent here in the first place. Things like toys, mobile phones, drivers' licenses.

ANNA JACKSON, SA WATER: There are some things that are like how did that get through there.

OLIVIA MASON, REPORTER: What's the weirdest thing you've heard of or seen?

ANNA JACKSON, SA WATER: There's a few actually, there's the 200 metre length of rope that was flushed all the way through but my personal favourite is the rubber chicken. I mean really. How do you get a rubber chicken down a sewer network.

Okay that's weird but there's other stuff that people are flushing or pouring down the drain which is causing big problems, not just here at the treatment plant but also in the pipes that send the waste here. Things like nappies, sanitary products, cooking oils and wet wipes including so-called flushable wipes. Anna says unlike toilet paper, flushable wipes don't break down and when they meet fats and oils they can form fatbergs.

ANNA JACKSON, SA WATER: It's like a conglomerate of fats and greases that have been caught in one area, so it just gets bigger and bigger like a nasty iceberg.

Ugh. This is a fatberg that was found in the UK, and while nothing this big has been found in Australia yet we are spending millions of dollars a year unclogging clogged pipes, a job that often has to be done by hand and a job that can be avoided if people think before they flush.

ANNA JACKSON, SA WATER: We need to really take care of our network. It actually keeps us all safe and healthy. Don't put your fats down there, don't put your wet wipes down there and don't put your pads and tampons down there.

Or your rubber chickens, or any of that other weird stuff, honestly people.

## Did You Know?

Did you know in some countries you can't flush toilet paper? There are many places in the world where the plumbing is too narrow to cope with paper, so you're expected to put it in a bin instead.

## Ask a Reporter

And if you have any more questions about the three p's or fatbergs you can ask me live on Friday. Can't wait.

## Radiated Tortoises

Reporter: Olivia Mason



*INTRO: After that last story we thought Liv deserved to look at something cute. So, she went to Adelaide Zoo to meet some completely adorable tortoises that were rescued from poachers overseas. Check it out.*

These little guys love movin' slow, having a snack and being splashed with a bit of water apparently. I'm not even kidding, they raise their shells like that when they're happy. How cute. These are radiated tortoises, a species from Madagascar.

DR PHIL AINSLEY, ZOOS SA: The reason they have the name radiated tortoise is the yellow stripes that radiate from the centre of what is called their scots or the shells on top of their shell.

While they're looking happy and healthy here at the Adelaide Zoo, getting here hasn't been an easy journey. Last year they were rescued from wildlife traffickers in Hong Kong. Unfortunately for these little guys, radiated tortoises are targeted by poachers for a whole bunch of reasons. One of them is that amazing shell which makes them sought after as pets or as ornaments and some people even catch them for their meat. It's part of the reason the species is now critically endangered.

DR PHIL AINSLEY, ZOOS SA: This rapid decline of a population is probably the greatest threat and it's the most rapid decline facing any living species on the planet today.

Here at the Adelaide Zoo, keepers are looking after 24 of the little critters. They hope that having them on display here will help raise awareness of the trouble the species is facing.

DR PHIL AINSLEY, ZOOS SA: Based on their current decline rate, it's thought that within 20 years this is a species may become extinct in its natural habitat, with that in mind, the populations that are in zoos are becoming even more important to make sure this species is present going forward into the future.

Experts say unfortunately these tortoises aren't alone. There are many species that are being put at risk because of the illegal wildlife trade, whether they're hunted for their skins, or their bones or tusks, or traded as pets. It's a problem that governments, zoos and other organisations are trying to tackle and they say we can help too by making sure we don't buy animals or animal products that could've been traded illegally.

DR PHIL AINSLEY, ZOOS SA: In terms of what you guys can do to try to prevent and slow the rate of trafficking, if for example you're looking for a new pet at home you want to make sure that where you get your pet from is a reputable source, and within Australia as well we want to make sure that our native animals aren't illegally harvested from their habitat so if you get a pet make sure you know where it's come from.

Because while these guys are awfully cute to look at we need to make sure that they don't disappear from the wild.

## Closer

Too adorable. Well that's it for today's show, but we'll be back next week. If you miss us in the meantime, you can head to our website for more news stories and videos. You can also check out BTN Newsbreak every weeknight on ABC Me. And if you're 13 or over you can subscribe to our YouTube channel, so you never have to miss a thing. Have a really lovely week and I'll see you soon. Bye.