



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.

Social Media Ban Q&A

1. Summarise the BTN Social Media Ban Q&A story in three sentences.
2. Under the new laws, how old will you need to be to use social media?
3. Which social media platforms will the ban apply to?
4. How do you feel about the new age limits on social media?
5. What questions do you have about the story?

COP 29

1. In pairs, discuss the BTN COP 29 story. Share the main points of the discussion with the class.
2. What is the aim of the COP 29 meeting?
3. Why are leaders from some countries not going to COP this year?
4. How could the election of Donald Trump impact on the US's commitment to fighting climate change?
5. What message would you like to send to world leaders about fighting climate change?

World Children's Day

1. Give an example of a right included in the Convention on the Rights of the Child.
2. Why is it important for children to have special rights?
3. What rights are important to you?
4. What is the theme for World Children's Day this year?
5. What did you learn watching the BTN story?

Check out the [teacher](#) resource on the Archives page.

Voyager Signal

1. When was the Voyager spacecraft launched?

EPISODE 33

19th November 2024

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.

- a. 1967
 - b. 1977
 - c. 1987
- 2. Voyager did flybys of which planets?
 - 3. What discoveries did Voyager make?
 - 4. What is the Golden Record and what information does it contain?
 - 5. Do you think space exploration is important? Why or why not?

Check out the [teacher](#) resource on the Archives page.



Teacher Resource

World Children's Day

Focus Questions

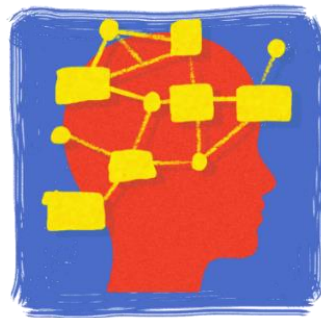
Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Give an example of a right included in the Convention on the Rights of the Child.
2. Why is it important for children to have special rights?
3. What rights are important to you?
4. What is the theme for World Children's Day this year?
5. What did you learn watching the BTN story?

Activity: Class Discussion

After watching the BTN World Children's Day story, hold a class discussion using the following discussion starters.

- What are some rights in the Convention of the Rights of the Child? Make a list.
- What issues are important to you?
- Complete the following sentence.
It is important that young people's voices are heard because...
- How could you celebrate World Children's Day in your class?
- Think of three questions you have about the BTN story.
- What did you like about the BTN story?



What did the
BTN story make
you wonder?

What issues
are important
to you?

EPISODE 33

19th November 2024

KEY LEARNING

Students will learn about children's rights through the Convention on the Rights of the Child.

CURRICULUM

HASS – Years 5 and 6

Work in groups to generate responses to issues and challenges.

Present ideas, findings, viewpoints, and conclusions in a range of texts and modes that incorporate source materials, digital and non-digital representations and discipline-specific terms and conventions.

HASS – Year 7

Collaborate to generate alternatives in response to an issue or challenge and compare the potential costs and benefits of each.

Present ideas, findings, viewpoints, explanations, and conclusions in a range of texts and modes that incorporate source materials, citations, graphic representations and discipline-specific terms, conventions, and concepts.

Activity: Vocabulary

Students will brainstorm a list of key words that relate to the BTN World Children's Day story. Below are some words to get them started. As a class discuss the meaning of each word/terminology.

Children's Rights

Human Rights

Advocate

Voice

Take Action

Priorities

Freedom

Opinion

Class Discussion

- Explore the difference between human rights and children's rights.
- Introduce students to the [UN Convention on the Rights of the Child](#). Explain any terms or words in the document that children might find difficult to understand.

Activity: The Right to be Heard

Before starting this activity hold a class discussion to help students understand their rights. Focus on Article 12 in the Convention on the Rights of the Child, as below. Refer to the [UNICEF's simplified version](#), to read article 12 with your class.

UNCRC Article 12

Children have the right to have a say on things that are important to them.

Start a class discussion using these questions:

- Can you think of a time when you've seen or heard a child expressing their views on matters affecting them?
- What sort of issues affect children? Make a list.
- Who can children talk to if they want to express their views about an issue?
- What are some different ways that children can express their views and have their voices heard? (for example, start a petition, create a podcast, write a letter).
- Why is it important for young people to have a voice in the community?

Students may want to watch one of the following BTN stories which feature children who are making change and bringing new ideas and perspectives that can help shape a better future for all of us.



BTN [Inaccessible Playground](#)



BTN [Junior Parliament](#)



BTN [Young Mayors Program](#)

What's Important to You?

Encourage your students to think about issues that are important to them. Hold a brainstorming session with your students to find out what matters most to them. Use the following questions to help guide a discussion (either as a class or in small groups).

- What issues are important to you? Make a list and then choose your top 1. For example:
 - Social media and online safety
 - Education
 - Environment
 - Mental health
 - Family
 - Community
- Complete the following sentence. It is important that young people's voices are heard because...
- How can young people have their voice heard about issues they care about? Who can kids talk to, to have their voices heard?

Activity

Students will think about what is most important to them in their community and express this through writing a letter, starting a petition or running a poll.

Before starting this activity, students will think about what they appreciate about their community, the issues they observe and what they would like to see improved. Students will write their ideas and thoughts using dot points or on sticky notes.

- What are some of your ideas, priorities and dreams for the future? Make a list.
- List some of the big issues facing young people today.

Write a Letter

- Write a letter to your principal, your local MP or a CEO of an organisation in your community.
- Your letter will need to address the issues or improvements you would like to see in your community.
- Include language that is persuasive, respectful, and specific.

Start a Petition

- Would you like to raise awareness about an issue in your school, local community or in parliament?
- Get involved and have your say by starting a petition.

Run a Poll

- What's important to your school community?
- Conduct a poll in your class or whole school to learn more about your community's needs and opinions.
- How will you conduct the poll? (Face to face interviews or written responses).

Reflection

- How did this activity make you feel?
- What surprised you when completing the activity? Consider the impact that you can have on social change and the empowerment of young people in the community.
- Write a short paragraph reflecting on why you believe it is important for all individuals to have a voice in society. Having the right to voice allows people to participate in decision-making, share their experiences, and advocate for change.

Activity: UNICEF Resources 2024

A Minute of Loudness

This World Children's Day, UNICEF invites every child in Australia to speak up through A Minute of Loudness, where they're encouraged to share their ideas how to make Australia an even better place for all children – a country where every child is healthy, safe, educated and involved.

[Register here](#) to take part in A Minute of Loudness



Dear Adults

This World Children's Day, UNICEF is asking children to write letters calling for a better world. To reflect on their rights, and to share their priorities and dreams for the future. Across countries, across languages, children are calling out for peace, for safe and healthy environments, for love and care.

[Link to letters here](#)



Know Your Rights Workbook

Download the UNICEF Know Your Rights workbook for your students to work through. The workbook helps children learn about the Convention on the Rights of the Child, designed for ages 10-12.

[Download the Workbook](#)



Kahoot Quiz

Use one of these Kahoot quizzes to test your students' knowledge on Children's Rights.

[Link to Quizzes here](#)



Useful Websites

- [World Children's Day 2024](#) – UNICEF
- [Convention on the Rights of the Child \(Simplified Version\)](#) – UNICEF
- [Know Your Rights \(Workbook\)](#) – UNICEF
- [Kids' Rights](#) – BTN



Teacher Resource

Voyager Spacecraft

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. When was the Voyager spacecraft launched?
 - a. 1967
 - b. 1977
 - c. 1987
2. Voyager did flybys of which planets?
3. What discoveries did Voyager make?
4. What is the Golden Record and what information does it contain?
5. Do you think space exploration is important? Why or why not?

Activity: Class Discussion

Discuss the BTN Voyager Spacecraft story as a class. Ask students to record what they know about the spacecraft and mission. What questions do they have? Use the following questions to help guide discussion:

- When was Voyager launched?
- What was the purpose of the mission?
- What is significant about the Voyager mission?
- What discoveries has Voyager made?
- Think of three unanswered questions you have about the Voyager mission.



Activity: Q&A

Are you curious about space? Students will make a list of questions they have about the BTN story and space exploration. Students will find answers to their questions and share their findings with the class.

What do you know about the Voyager mission?

Why do we explore space?

EPISODE 33

19th November 2024

KEY LEARNING

Students will learn more about the mission of the Voyager spacecraft and the discoveries it has made.

CURRICULUM

Science – Year 5

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

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

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

Activity: Glossary

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

SPACECRAFT	MISSION	SOLAR SYSTEM
DISCOVERY	EXPLORATION	OUTER PLANETS

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

Students will add to their glossary by downloading the transcript for the BTN Voyager Spacecraft story and highlighting all the words that relate to the topic, for example, space probe, interstellar, gas giant, Golden Record.

Activity: The Discoveries of Voyager

Students will learn more about the discoveries of the Voyager spacecraft. Below are some questions to guide students' research on the topic.

- How did Voyager change our understanding of Jupiter and its moons?
- What did Voyager reveal about the rings of Saturn that scientists didn't know before? Learn more about why Saturn has rings here [Curious Kids: Why does Saturn have rings? - ABC Education](#)
- Why was the [image of Earth](#), known as the *Pale Blue Dot*, significant?
- What has the Voyager mission taught us about the importance of space exploration?



Students can explore the image galleries on the NASA website to find out more about the discoveries of the Voyager spacecraft.

[Voyager at Jupiter](#)

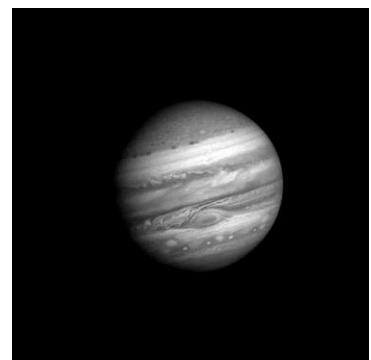
[Voyager at Saturn](#)

[Voyager at Uranus](#)

[Voyager at Neptune](#)

Students choose an image taken by the Voyager spacecraft and respond to the following questions:

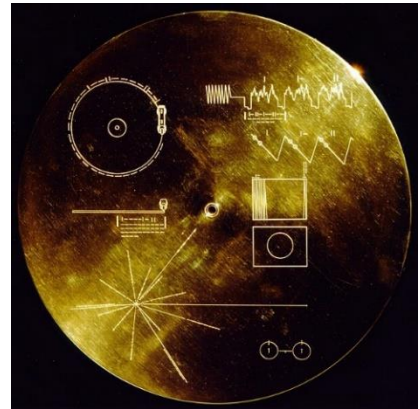
- Describe the image. What can you see?
- What does the image reveal about the planet?
- What questions do you have about the image?



Activity: Voyager's Golden Record

Both Voyager 1 and 2 carry a *Golden Record* that contains sounds and images that portray life on Earth and are intended for any intelligent extraterrestrial life form who may find them. Ask students to respond to the following questions:

- What is the *Golden Record* onboard Voyager? Write a brief explanation.
- Why did scientists decide to send it into space?
- What information does it contain? Give some examples. Here is [more information](#) about what's on the *Golden Record*.
- What would you include on a *Golden Record*? Give reasons for your answer.
- What message would you send to aliens? What would you want them to know about Earth?
- What does the *Golden Record* tell us about human's curiosity and hope about finding alien life?



Sounds of Earth record cover

Sounds of Interstellar space

Watch [this video](#) that explains how NASA's Voyager 1 spacecraft captured sounds of Interstellar space. Why was this an important moment in space exploration?

Activity: Voyager Quiz

Hold a class discussion asking students to share one interesting fact they learned about the Voyager spacecraft, mission and discoveries. Record students' responses to create a list of facts.

Students will use the facts they have discovered to create a quiz and then test their classmates. Students will include a range of quiz styles, for example:

- Multiple choice
- True or false
- Fill in the blank
- Use photos or pictures
- When an answer is revealed, provide extra information to explain the answer.



Students can make their quizzes in [Kahoot](#) or [Quizizz](#).

Useful Websites

- [Voyager](#) – NASA
- [The Golden Record](#) – NASA
- [Voyager](#) - BTN
- [NASA's Voyager 1 reconnects with scientists 15 billion miles away from Earth](#) – Newsround



Teacher Resource

BTN Transcript: Episode 33- 19/11/2024

Hey, I'm Amelia Moseley and you're watching BTN. Thanks for hanging out with us. Let's see what's coming up on today's show. We find out why world leaders are gathered in Azerbaijan, make some noise about kids' rights and get in touch with a historic spacecraft.

Social Media Ban Q and A

Reporter: Joe Baronio

INTRO: But first today we're going to talk about social media. Our government's been talking about it for a while now and now it's new laws which include a ban for kids under 16, being debated by Parliament. We know a lot of you have questions, so Joe did his best to answer some of them.

KAYEISHA: Why do we have to be 16 and over to use social media?

STANLEY: Why's the ban for people under the age of 16?

JOE BARONIO, REPORTER: While many experts reckon social media can be harmful to everyone, they're particularly worried about the effect it might be having on kids whose brains are still developing. They reckon that by the time you're 16 you're a bit more mature and your brain has developed enough to give you skills to deal with more complex situations. That's also why at 16 we can legally start doing things like driving, opening your own bank account, even full-time work.

TE AHU: What social media platforms will the ban apply to?

HARRIET: Is YouTube included in the new social media ban?

LINCOLN AND RJ: Will Roblox be banned?

ASHLEIGH: Are online games included in the ban?

Well, according to the law a social media service is anything that's designed for you to interact with two or more other people, links you up with other users, and lets you post stuff. That includes the obvious platforms like Facebook, Instagram, TikTok, and X, but...

MICHELLE ROWLAND, COMMUNICATIONS MINISTER: YouTube would likely fall within that definition as well.

The communications minister YouTube Kids might be okay, but games like Roblox as well as chat platforms like Reddit and Discord could be included in the ban. Where it could get tricky is with things like Snapchat which according to the communications minister could claim to be a messaging service and not a social media platform, but that's one of the many things that still has to be worked out.

MICHELLE ROWLAND: We need to make sure that young people still have access to educational to health needs, noting that a number of mental health services, for example, actually operate like platforms.

REHAT: If you already have a social media account, will you get to keep it?

Well, since research shows about 92% of Aussies aged 15 to 16, 59% aged 11 to 12, and 29% aged 9 to 10 use social media, that's a really good question and the answer is no. Everybody under the age of 16 will have to give up their accounts.

ANTHONY ALBANESE, PRIME MINISTER: We will not allow exemptions if users have parental consent.

LOUKAS: Instead of banning social media from kids, why don't we just ban users that put up inappropriate videos?

Well, that's something many social media platforms have already been trying to do. For example, in 2023 and the first half of this year, Facebook, X, and TikTok banned more than 3 billion accounts created for posting malicious or spam content. But with so many accounts across so many platforms it's really hard to keep up, and a lot of stuff that's not appropriate for kids is allowed because it's considered artistic, educational, or newsworthy.

TANAZ, ANNABELLE AND REIGN: How will you prove that we're over 16?

ANGELA: How are you going to prevent people from faking their age online?

The government's going to test out technology designed to verify your age which could work in a few ways. It might use your ID like a proof of age card or facial scanning technology, but, again, there are a few issues to sort out yet.

MICHELLE ROWLAND, COMMUNICATIONS MINISTER: Privacy is one of the key issues that does need to be addressed. And that's the very reason why there is a one-year implementation period.

APRIL, SKYLAH AND SAM: What happens if people lie about their age?

BETHEL AND ELROI: If children disobey the ban, will a fine be applied or charged to their parents?

It's very likely that there will be some kids who lie about their age to try to dodge the ban, but...

ANTHONY ALBANESE: The onus won't be on parents or young people. There will be no penalties for users.

That's right, you or your parents won't get in trouble. Instead, the social media companies will be responsible, and if they do the wrong thing, they'll cop a fine. This could change the way social media companies operate in Australia although it could be a while until we see the effects. The law has only just been introduced to parliament and if it passes the ban won't start for at least another year, and by then hopefully more of your questions will be answered.

News Quiz

Donald Trump has appointed Elon Musk to lead a new US department. What will it be called? The Department of Making America Great Again, The Department of Government Efficiency or the Department of Free Speech? It's the Department of Government Efficiency or D.O.G.E which a lot of people think is a nod to this meme and the cryptocurrency Dogecoin.

Australia's Prime Minister has gone to a couple of big meetings in the past week, the G20 and APEC which were both held on which continent? Africa, Asia or South America? They were both in South America. G20, which is a meeting of the world's 20 biggest economies, started on Sunday in Rio De Janeiro, and APEC, or the Asia Pacific Economic Cooperation Forum, was in Peru last week.

Why were flights to Bali cancelled last week? Was it because of a virus outbreak, a cyclone or a volcanic eruption? It was a volcanic eruption. Mount Lewotobi Laki-laki on the Indonesian island of Flores has let off a series of deadly eruptions this month and last week the ash made it too dangerous for planes to fly to Bali for a couple of days.

Do you know the names of the two Pandas that have called Australia home for the past 15 years? They're Wang Wang and Funi. This adorable pair came to Adelaide Zoo back in 2009 but, like all Pandas, belong to the Chinese government which has now decided to send them home. They'll soon be replaced by another panda pair, Xing Qiu and Yi Lan.

This 747 was the most tracked flight in the world when it arrived in Adelaide last week. Who or what, was on it? The Stray Kids, the King or an Elephant? It was an elephant. Burma the Asian elephant travelled from her old home at Auckland Zoo to Monarto Safari Park in South Australia. The 42-year-old is the first of five elephants that will come to live at Monarto by the end of next year.

COP29

Reporter: Amelia Moseley

INTRO: Next up let's jump on a plane to Azerbaijan. It's a country you might not know a lot about but right now its hosting more than 100 world leaders and government officials plus tens of thousands of other guests. Why? For the world's most significant annual climate conference. Let's find out more.

Welcome, my friends, to the Conference of the Parties or COP. Every year, for the past nearly 30 years, its brought together more than a 100 world leaders, plus thousands of activists, experts, and businesspeople so they can pose, catch up, and pose some more.

Oh, and I should probably mention it's also about discussing the ongoing threat of climate change and its impact on the world and everyone in it and, you know, working out how to solve all those problems.

Yeah these things are actually pretty serious business, now I think about it.

H.E. MUKHTAR BABAYEV, COP29 PRESIDENT: Colleagues, we are on the road to ruin. Climate change is already here.

Okay, very serious. This year is COP29, which as you've probably guessed means it's the 29th one and its being hosted by the city of Baku, the capital of Azerbaijan. It's a controversial choice because it's a country that gets a lot of its income from fossil fuels.

GRETA THUNBERG, ACTIVIST: Whatever the people in power are doing it, they are doing it wrong. I am not going because of this extreme hypocrisy.

Activist Greta Thunberg isn't the only one who isn't here. The leaders of a whole bunch of countries including the US, Canada, China, Russia, India, Brazil, France, Germany, the European Union and, yep, Australia have also given this year a miss.

Some say it's a sign that some countries aren't taking the issue of climate change seriously enough. In fact, Papua New Guinea, one of the most vulnerable countries in the world when it comes to climate change, has boycotted this year's event for that reason.

This year's conference has a strong focus on finance, and many are calling for those bigger, richer, highest polluting countries to pledge more money towards fighting climate change, and dealing with its impact, especially on small island nations.

ANTONIO GUTERRES, UN SECRETARY-GENERAL: We must get serious about loss and damage. The amount initially pledged is equivalent to the combined annual salaries of the ten most wealthy paid footballers in the world.

There's also been a lot of buzz about how Donald Trump's recent election win might affect America's commitment to fighting climate change. Last time he had the job, he pulled the US out of the Paris Agreement, which aims to keep global warming to around 1.5 degrees.

JOHN PODESTA, US CLIMATE ENVOY: It is clear, that the next administration will try to take a U-turn and reverse much of this progress.

But some say no matter what the US does the world needs to act now.

ANTONIO GUTERRES, UN SECRETARY GENERAL: The sound you hear is the ticking clock and time is not on our side.

The good news is some countries are making progress, for example, the UK used COP29 to announce it's going to reduce its emissions by 81% by 2035.

And hopefully by the time this year's conference is over we'll have a better idea of how the world plans to well, save the world.

Quiz

Where was the first COP held, back in 1995? Was it Kyoto, Japan, Berlin, Germany or Copenhagen, in Denmark? COP1 was in Berlin.

World Children's Day

Reporter: Wren Gillett

INTRO: November 20th is World Children's Day, which is all about celebrating your rights and this year is a special one because it marks 35 years since the UN adopted the Convention on the Rights of the Child. Here's Wren.

Of the 8.2 billion people living here on Earth right now, almost one third are kids, like you. And while yes, you're all obviously different in many beautiful ways, I mean just look around you, look at your friends. There are a few things you all have in common. Like...

STUDENT: The right to play.

STUDENT: Be safe.

STUDENT: Be heard.

STUDENT: The right to be loved.

STUDENT: The right to drink clean water and eat healthy food.

STUDENT: To not be discriminated against.

WREN GILLETT, REPORTER: Yep, your rights. In fact, you actually have 42 of them.

For several decades, children and adults shared the same rights, according to the United Nations. But eventually, the UN decided that young people deserved special rights of their own. That's because when we're kids, we depend a lot on other people, which can make us more susceptible to harm. But experts say childhood is really, really important in shaping the adults we become. So, on November 20th, 1989, world leaders came together along with children from around the world to make a promise.

AUDREY HEPBURN, UNICEF AMBASSADOR: Every child shall enjoy the following rights, without any exception whatsoever.

The Convention on the Rights of the Child became the most ratified agreement in the UN's history. Every country except the US has agreed to uphold these rights and ensure their laws don't go against them. But not every kid is experiencing the rights they've been promised. Right now, millions of kids don't have enough to eat, or clean water to drink. Lots of kids don't have a place they can call home and can't go to sleep feeling safe. At the moment, 468 million kids, so more than one in six, are living in a conflict zone. And while many want to learn, over 250 million children won't get to experience the excitement of a new school year, seeing who their new teacher is or who their new classmates will be.

ZOE GRAYAN, UNICEF AUSTRALIA: There's a lot of kids around the world that are going through conflict, climate disasters, emergencies which means that they're not able to access education the way we are here in Australia.

Every year, World Children's day is a reminder to everyone that children's rights are important and something we all need to fight for. And it's also a chance for you to speak up about the change you want to see in the world, and what's important to you.

STUDENT: What's most important to me is world peace cause there's a lot of wars going on and that stops kids from doing what they love and being with their family, and I love my family.

STUDENT: I feel like medication is probably really important to me.

STUDENT: My family, like my friends.

STUDENT: And like, education.

STUDENT: Everyone's like treated equally.

STUDENT: What's important to me is that I have a family member that really loves me, and I love them back.

World Children's Day is all about being heard, and that's exactly what's going to happen on November 20th when kids right around the country make as much noise as possible.

ZOE GRAYAN: UNICEF this year is inviting everyone, all children across Australia to join a minute of loudness and this is a chance for children to speak up about their child rights. So, we're inviting children to sing, dance, chant, do a poem, do a speech to share about what impacts them and to get really loud.

WREN GILLETT: So, should we give it go?

PARAFIELD GARDENS PRIMARY SCHOOL: Yes.

WREN GILLET: I'll take that as a yes. Alright, on the count of three. One, two, three.

Sport

The Wallabies are back. They absolutely demolished Wales in Cardiff this morning, 52 to 20 and it's the most points they've ever scored against the team in 28 years, plunging Wales to its worst losing run in its history. Yikes.

Now to Melbourne United's game with the Adelaide 36ers where a minute into the final quarter this happened. The scuffle between the sixer's Montrezl Harrell and United's Shea Ili quickly escalated to a melee between the teams which got worse when a few courtside fans got involved. Harrell, Ili and the fans were all kicked out and the NBL says it's investigating what happened. As for the game, Melbourne took the win, 113 to 93.

And finally, Port Adelaide have achieved the biggest three-quarter-time comeback in AFLW history. They went into the final 16 minutes of the semi-final 22 points down but managed four goals to clinch a nail-biting victory against Hawthorn. They'll head to prelims on Saturday against the North Melbourne Tasmanian Kangaroos, while the Lions and the Crows will battle it out in Queensland.

Voyager Signal

Reporter: Joe Baronio

INTRO: Recently NASA had a long-distance call from a very old friend. Engineers managed to re-establish contact with the Voyager 1 space craft which is about 20 billion kays away from Earth. Joe found out what happened and why Voyager holds a special place in the history of space exploration.

JOE BARONIO, REPORTER: Hello. Welcome to 1977. When clothes were funky, computers were chunky, and television presenter were hunky. Ahem, it was also the year that the human race set off on its biggest journey into outer space.

On August 20th and September 5th, 1977, in Cape Canaveral, Florida, NASA launched the Voyager space craft. Voyager 1 and 2 were nuclear powered robotic probes about the size of small cars, designed to take photos and measurements of the solar system's outer planets: Jupiter, Saturn, Uranus, and Neptune. The timing was important because the 4 gas giants were about to align; something which only happens every 175 years.

In 1979 both spacecraft zipped past Jupiter, sending back images we'd never seen before like detailed close ups of the planet's red spot, and even an exploding volcano on one of Jupiter's moons. For people watching back on earth this was amazing. The Voyagers went on to explore Saturn's rings and collect data about the planet's largest moon Titan, before the two probes went their separate ways.

Voyager 2 made the long journey to Uranus, where it discovered eleven new moons and two new rings. and then in 1989 it made it to Neptune. To this day Voyager 2 is the only spacecraft to visit the two gas giants.

Voyager 1 on the other hand turned away from the planets and kept going. In 1990, its cameras were turned on for one last photo of earth as a tiny pale blue dot from 6 billion kilometres away. By 2012 Voyager 1 had become the first human-made object to leave our solar system and enter interstellar space, and it kept going, speeding through the galaxy at nearly 62,000 kays an hour. Which gives you an idea of just how far away everything is out there.

Right now, Voyager 1 and 2 are more than 20 billion kilometres away and while many of their instruments were turned off in 1998 to save power, they've still been sending valuable information like interstellar sounds and data about cosmic rays. In fact, just last week scientists used data from Voyagers' trip to Uranus to work out that some of moons could be capable of supporting life. But recently Voyager 1 suffered a malfunction and lost contact with Earth. The probe was only designed to last about 5 years, so NASA flight engineers thought maybe at last the probe was dead. But then after a few days of silence, it phoned home with a backup radio that hasn't been used since 1981.

So, what's next for this intrepid little probe? Well, NASA says it will probably lose contact by around 2036, but while it's days talking to humans might be numbered, there is a chance that one day, somewhere out there, Voyager might be found by another intelligent species, and if they do, they'll receive an important message. On board each of the probes are golden records containing a guide to life on Earth: What we're made of, our science, maths, art, music, and photos from around the world. Nobody knows if the record will ever be played or if these little space craft will ever be seen again, but no matter what the future holds, there will always be a little piece of us somewhere out there.

Did you know?

Did you know, along with Voyager 1 and 2, there are three more probes on their way to interstellar space? Pioneer 10 is expected to pass beyond the reach of the sun in 2057 and in 2 million years or so it'll pass by another star named Aldebaran. Just in case, it's also carrying a message from the people of planet Earth.

Rory's Drum Lessons

When I was thirteen, I was in a deep depression. There was nothing that really made me happy, nothing to look forward to. When I'd get home, I would just sit on the couch and watch TV until it was time for bed. I was all alone in my emotions.

To get my mind off things, my parents signed me up for school drum lessons. And Dad let me use his old kit. It didn't click right away, but I kept at it. I could feel my skills improving with every practice. It was all I could think about. Like I'd be doing my homework, and suddenly find myself tapping the keys as high hats and snares, with an invisible kick drum below. Sometimes Dad brings out the guitar and we jam. Music brought us closer. Luckily our neighbours aren't close by so we can let it rip.

I played with the school band for NAIDOC Week. Keeping the rhythm of a whole band is a bit of pressure, but I love it. When I play with the band, I can hear everything coming together while I keep up the rhythm. The pressure used to freak me out, but now, I play better in front of a crowd. I want to do this for a living. It could be playing in a band, touring the world, or teaching others how to make music their passion. I'm so glad I took it up, as it helped me through my lowest point.

Music can change your perception, how you see the world. When I play, all my worries go away. It's just me, my kit and the music.

Closer

That's all we have for this week; I hope you've enjoyed the show. We'll be back next week with more and I'll see you then. Bye.