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Coming up today on Behind the News.

- 30 years on from the historic handback of Uluru we find out why this rock is so significant to its traditional owners.
- Discover what's stopping us from driving solar cars like this to school each day.
- And these kids show us how tennis can be adapted for people with a visual impairment.

Hi I'm Nathan and welcome to BtN! You can see all those stories later but first.

Storms Explained

Reporter: Carl Smith

INTRO: Over the past week two massive storms have caused a huge amount of destruction in two different parts of the world. The first was a typhoon that hit the Philippines. The second a hurricane that hit Mexico and the US. Both storms seemed pretty similar but they had different names. So what is the difference between a hurricane and a typhoon? Here's Carl with the answer.

It was the biggest hurricane ever recorded in the Western hemisphere. Hurricane Patricia battered Mexico and the US, turning homes and towns inside out.

Meanwhile on the other side of the planet, this wild weather lashed the Philippines for nearly a week, forcing thousands of kids to flee their homes.

Official reports so far say no one has died because of Hurricane Patricia. But in the Philippines 58 people were killed and more than 100,000 are still stuck in evacuation centres like this.

LOTTA SYLWANDER, UNICEF PHILIPPINES: Things are destroyed and so it will take several weeks, maybe months until children can go back.

Both of these storms were very strong, and both hit within a week of each other. But they both had different names: one was a hurricane, the other a typhoon. And here in Australia we call big storms 'cyclones'.

NEWS REPORTER: When the cyclone crossed which is making it harder for the workers cleaning up.

So what's the difference? Well, as it turns out there is no difference! These mega storms all have to form over warm water near the equator. But the equator wraps right around the world, and over time different cultures using different languages, have come up with different names for them.

The word cyclone is believed to have come from a Greek word, Kukloma, which means 'wheel, or coil of a snake'. It was adopted by the English language, so it's used in lots of places once colonised by the British like Australia and India.

Hurricane has its roots in a Caribbean language, where Juracán was the name of a storm god. It was then adopted by the Spanish that colonised the area, so it's still the term used around the Americas.

And typhoon is believed to have come from a few languages, including Chinese, where tai fung means big wind. So it's still used in most of Asia.

So other than the name, these three types of big storms are all exactly the same. They even form in the same way too.

They always start building over warm ocean water, where the surface of the sea is above 26.5 degrees Celsius. When it's that hot, water starts to evaporate, and that warm humid air begins to rise into the sky. As it moves up through the atmosphere, it releases heat and water making thunderclouds. This process can kick-start a chain reaction, evaporating more water and making bigger clouds.

The last ingredient needed to make one of these storms is the rotation of the Earth which causes the clouds to spin around faster and faster. Some countries like the Philippines and Mexico get hit more often because they're closer to the warm water of the equator. So aid organisations like UNICEF are asking for some help, especially for the people of the Philippines, who are facing a long road to recovery.

LOTTA SYLWANDER, UNICEF PHILIPPINES: What we need help with now, right now, is to make sure we have enough things that we can give to families like big water jugs, tablets that you can put in the water that cleans the water; that we can also provide with blankets, with things to sleep on.

After such a devastating storm a little can go a long way.

The Wire

To other news now.

Australia's free trade agreement with China now has the support of both the government and opposition.

A free trade agreement is a promise between two countries to try to make it cheaper and easier to sell things to each other. Australia and China signed one last year.

But the opposition was worried it could have a bad impact on Australian workers. Now the two parties have come to an agreement which they say will be fair for everyone.

Former Treasurer Joe Hockey has quit politics after 19 years! He was Treasurer under former Prime Minister Tony Abbott.

But when Malcolm Turnbull took over as PM last month he decided it was time to step down. He gave a final speech in parliament saying he's ready to spend more time with his family.

JOE HOCKEY: You know last Monday was Iggy's sixth birthday and I've missed every single one of his birthdays. I won't miss another one.

And even old rivals helped say farewell!

"It may surprise you, but many of my colleagues want to say a few words about you - good words."

Australia isn't the only one switching leaders lately - Canada has also got a new PM!

The country's liberal party won there for the first time in ten years making Justin Trudeau Canada's new, young PM. But he has a pretty good idea what the job's like. He's actually the son of a former PM.

And last week the world celebrated 'Back to the Future' Day! It's the date made famous in the 80s sci-fi series where Marty McFly and the Doc go forward in time to the future which was set in this year.

Turns out they were weirdly close to predicting some modern technology like video calls, card-free payments and smartglasses. And pretty close with hoverboards, flying cars and power laces which are all already in the works.

But experts say time travel itself will take some more uh, time, to perfect.

Uluru Handback

Reporter: Eloise Fuss

INTRO: Thirty years ago the most famous rock in Australia, Uluru, was officially handed back to its traditional Aboriginal owners. Next up we have Eloise with the story behind the historic handback. But first a warning to Aboriginal and Torres Strait Islander viewers, this story contains images of people who've died.

It's the national icon, in the heart of the country. And each year, thousands of people from around the world flock to see Uluru!

But not everyone has to travel a long way to check it out. For some Aboriginal kids, this place is home!

Lots of these kids are Anangu, the traditional owners of this land. And for them, Uluru is a really special place. The Anangu believe their ancestors created Uluru at the beginning of time. They say these holes in the rock were left by the spears of poisonous snake men. And the cracks, by an angry python woman striking out at her enemies.

Because of this, they see it as their job to protect this sacred place, and pass on Uluru's stories.

But this special relationship hasn't always been respected. When European explorers first came across it, about 150 years ago, they took ownership of it and even renamed it, Ayers Rock, after the Premier of South Australia at the time.

Over time roads and airstrips were built and it became a popular destination for tourists. But some of that was devastating for the Anangu, who'd been connected to it for thousands of years.

But thirty years ago, on October 26 1985, all that changed. Uluru and the area surrounding it was handed back to its traditional owners by the Governor General and their connection to it was officially recognised by the Government.

It was a moment of celebration for the Anangu people, but it came with one big condition. The traditional owners still wouldn't get full control. Right away, they had to lease the land back to the Federal Government for 99 years. And they had to share responsibility for it, mainly so that tourists could keep visiting.

Since then, things have sometimes been a bit tense. And one of the main reasons is this - tourists are still allowed to climb Uluru - which its Aboriginal owners say is disrespectful since it's a sacred site. They've put a sign at the bottom asking people not to. Some people even want the climb banned altogether.

So thirty years on from the historic Uluru handback there are still a few issues. But there is also plenty worth celebrating too and the Anangu people say they'll keep protecting Uluru and passing on its stories.

Poll

Okay now that climbing debate is still raging today. So let's find out what you think in this week's BtN poll.

Should tourists be allowed to climb Uluru? Head to our website to place your vote.

Solar Cars

Reporter: Carl Smith

INTRO: Okay next up we're travelling to Adelaide where recently more than 40 solar vehicles crossed the finish line of the World Solar Challenge. It's a pretty impressive feat to make a car that can travel 3000kays using just the power of the sun. But why don't we see them on our roads every day? Here's Carl with the answer.

The World Solar Challenge. It's the biggest event on the solar car-racing calendar.

SOLAR CAR TEAM MEMBER: There are six teams that are competing that are really close together. It will be an exciting race, the differences are small. But in the end of the day, we're gonna cross first.

The cars have to get from Darwin to Adelaide - more than 3000 kilometres! And they have to do it using only the power of the sun.

AMY GUNNELL, SOLAR CAR DRIVER, TEAM ARROW AUSTRALIA: We're super excited, happy to have clear roads ahead of us, which means we'll get out of town really quickly and be on our way to Adelaide.

The goal of the race is to help improve solar car technology. So a lot of teams come from universities or massive tech companies but not all of them.

CAMERON MUTIS, LIBERTY SOLAR TEAM USA: So we're a high school team, which definitely puts us at a bit of a disadvantage, not having all the funding that these college teams have. So for us to have a car that's able to compete with these immaculate teams is such a cool experience for us!

The event's been running since the 1980s and over that time the cars have become faster and more sophisticated. But after almost 30 years are we any closer to actually seeing these things driving around town? Well, to help answer that question we need to understand how they actually work.

Solar cars use solar panels to convert the sun's energy into electricity. Running on electricity also means solar cars need electric engines instead of petrol ones and they need battery packs to store all of that electricity too. The technology for each of those parts has improved a lot in recent years. Batteries are now smaller, cheaper and can hold more power. Solar panels now convert more of the sun's energy than they used to and they're also cheaper.

Electric engines have improved too and lots of companies have even released electric cars that can just be plugged in to recharge at home!

But combining all of that new technology together in a solar car is still a big challenge. Even though the parts are cheaper than they used to be, they're still pretty expensive. Some of these cars cost millions of dollars to create!

It's also hard to collect enough energy to move a car using just a few small solar panels on the roof.

That's why these solar cars are often odd shapes, to catch as much light as possible. And despite the big roofs these cars still have to be very light to travel at a decent speed.

SOLAR CAR TEAM MEMBER: We can hit speeds of about 120 kilometres per hour, the highest speed we've ever hit is 132 but we tend to cruise at about 70 or 80, that's kind of the efficient point of the car.

Another problem is night time, or cloudy days, when there isn't enough sun around to power them!

And then there's the issue of space. There's barely enough room for one person in some of these cars, let alone a whole family or a load of shopping!

But over time these scientists and engineers hope to keep improving their solar cars. And one day you might even be able to drive one to school!

In the meantime though, seeing a solar car in your neighbourhood will probably only happen during special events like this.

CAMERON MUTIS, LIBERTY SOLAR TEAM USA: Just being here halfway across the world getting to race against all these countries it's just incredible for us, we're so excited to be here!

QUIZ 1

And solar cars sound like a good subject for our first quiz. Good luck!

Which chemical element is used to make solar panels? Is it:

- Carbon
- Plutonium
- Or Silicon

The answer is Silicon

High Rise Schools

Reporter: Jemma Rowe

INTRO: Now most Australian schools look fairly similar - a few classroom buildings, one or two storeys high with an assembly hall and usually an oval to one side. But a new school in Perth has thrown that stereotype out of the window by moving into a high rise office block in the centre of the city. Jemma had a look at the upsides and downsides of vertical learning.

Welcome to the grand opening of, drum roll please, St George's Anglican Grammar! In fact, it looks more like an office block!

Well, that's because it is. But while it's a big change from their last campus, the kids here are already giving their new vertical school an A+.

PETRA: It's been really cool, the first time I came in it was really surprising because I thought it would be different but it's way better than I thought.

MORGAN: It's a great place to go, I love it, yeah.

For these kids the rooftop is their gymnasium, the local church is their chapel, the city is their photography studio, and the Art Gallery of Western Australia is their art room.

PETRA: For art we could go to the art gallery to get some inspiration for paintings and for sport we can use the facilities around, so that's really good, it's been really good so far.

But why build high rise schools, when regular ones seem to work just fine? Well as the world's population grows the space we have for schools will shrink. And experts say using existing office blocks uses less land, and is much cheaper than building big new schools further out of town.

ALYSSA: There's all these facilities that are so close to us, I don't see why other schools wouldn't want to utilise these opportunities.

But some people aren't as excited about vertical schools. Health experts worry that being stuck in the same building all day means kids will spend too much time in classrooms, and not enough time in the fresh air getting exercise. But the school's principal says that's not a problem.

SCHOOL PRINCIPAL: We do some really exciting physical education activities. For example we have archery happening on a Monday at Langley Park, we have a stand up paddle boarding unit planned for later this term so there's plenty of opportunity for them and they get their full quota of physical education.

Plus all of these stairs should help.

ALYSSA: There's a lot of stairs.

This school is the first in Western Australia to go up, rather than out. But the state is already planning more, and New South Wales is also *rising* to the occasion, with 4 new high rise schools in the works.

So it seems *sky-high* schools could be the way of the future. But what do you think about it?

CHLOE: It'd be pretty cool for the view but if you had to get out quickly it'd be pretty hard.

INANA: Well I wouldn't necessarily like it because you don't have as much fresh air and opportunity to go outside.

ROWAN: I think I'd actually feel quite annoyed because I'd be in a bit of an enclosed space.

McKENZIE: Maybe like slides to each class like this slide, this slide goes to like the art classroom, and this slide goes to the computing room.

Quiz 2

Okay it's nearly time for sport. But first let's go to another quiz.

How tall is the tallest university building in the world? Is it:

- 40m
- 240m
- Or 840m

The answer is 240m. It's the state University of Moscow and it's spread over 36 floors.

The Score

Right it's sport time now. Here's all the highlights.

The Wallabies are through to the final of the Rugby World Cup after defeating a determined Argentina 29 to 15.

The Aussies started well with Rob Simmons stealing the fastest try of the world cup. Then Adam Ashley-Cooper crossed the line three more times! But the Pumas weren't giving up taking advantage of the penalties Australia continued to give away in the scrum. But with four unanswered tries it wasn't enough to match the Wallabies.

STEPHEN MOORE, WALLABIES CAPTAIN: I'm really proud of the way we defended, we give ourselves an opportunity now to play in a final.

Australia will now play New Zealand on Sunday morning in the Wallabies fourth world cup final appearance.

And Argentina has lost out to an Aussie team in the soccer too!

Australia's under 17 team, the Joeys, beat Argentina two-one in the junior soccer world cup in Chile. Nicholas Pennetta was a stand-out with this goal in the 25th minute.

They'll take on Nigeria later in the week but will have to wait for other results to see if they make it through to the knockout rounds.

And golfer Jason Day has taken out the Don Award.

It's named after cricket legend Sir Donald Bradman and it's given to the Aussie athlete judged to have inspired the nation the most. Surfer Mick Fanning, cyclist Anna Meares and NFL star Jarryd Hayne were just some of the talented Aussies up for this year's award. Jason Day says winning the Don has topped off his best year so far. And because he was in the US, his mum had to accept the award on his behalf!

Blind Tennis

Reporter: Eloise Fuss

INTRO: Staying with sport now. And for kids with a vision-impairment choosing a sport can be pretty difficult. But in SA some kids are trying out a new adapted version of tennis for the first time and they're loving it. Here's Eloise to find out how it works.

Tennis is a great game but for kids with a vision impairment, like these guys, it can be pretty hard to play.

KID 1: The challenging thing is my colour blindness I can't see colour, and a yellow ball on a green surface is really hard.

So they've been learning to play a modified version called blind tennis.

INSTRUCTOR: Okay what we're going to do today is some forward and backhands

This special program is testing out blind tennis in South Australia for the first time. So how does it work? Well the ball's bigger and softer and it has a rattle inside so players can hear where it lands on the court.

KID 1: Because if they can't hear the ball they might go left if the ball's going right. You actually need to hear where it's going.

And the ball's allowed to bounce a couple more times.

KID 1: If you're legally blind, like I'm a bit, you can only bounce twice but if you're full blind you can bounce it three times.

There's a few changes to the court too.

REPORTER: So what's been done here?

KID 2: Well underneath the tape there's a bit of wire, and the reason's there's some wire is so we can navigate, we can position ourselves so we just know where we are and if the balls gone out.

Off the court these kids have even written their own 'blind tennis' instruction books to encourage other kids to play. And some of them are in braille!

KID 3: Chapter 9, what we liked about playing blind tennis.

It's way of writing, using different patterns of dots.

KID 4: There's two little dots, which means a cursor, so what you have to do is write on these braille keys here, and write what you want to write.

So people who are blind or don't have much vision can read it using their fingertips!

KID 4: Over the last few weeks they experimented the game of blind tennis.

They even drew pictures for the book using a special technique.

KID 3: You start to draw like on a normal piece of paper except it comes out raised. It has a tennis racquet and it's about to hit the ball.

But what their book doesn't say is that playing tennis with no vision is really hard! I found out when I had a go wearing these practice goggles.

REPORTER: That is really, really hard.

But these kids have embraced the sport and the challenges that come with it.

KID 2: If you have good hearing it is really useful because it's easier to track the ball, than if you don't especially when there's multiple balls going at once.

And they hope more kids will take up the challenge and join them for a hit!

Closer

And that wraps us up for another week!

But the fun will continue on Friday for #AskaReporter.

If you've never tried it all it takes is one click to see a live broadcast of one of the reporters and I answering your questions via twitter. This week's topic will be on our *Uluru Handback* story.

So go to our website for more info on how your class can get involved!

Right that's it from me. Bye for now!