Junior Field Naturalists SA

Newsletter - June 2020

Hi Junior Field Naturalists,

Exciting news! We may be resuming our regular monthly meetings as from **Thursday 30 July**.

We will confirm this with you as soon as we have definite arrangements in place and there are no further restrictions imposed on gatherings.

Once we have our monthly meetings up and running again, we'll try to re-schedule some of our field trips that had to be cancelled.

In 2020, **National Science Week** will be different, with events delivered online via virtual tours, video seminars, competitions, citizen science projects and home-based DIY activities.

National Science Week will be officially celebrated from 15 - 23 August, but there will be online events throughout July, August and beyond. These include a huge range of presentations such as a seminar on the Giant Australian Cuttlefish, Scientific Bubble Shows, SCINEMA International Science Film festival, and lots of cool science for kids to do at home.

Check out the national web site for more information about upcoming online events:

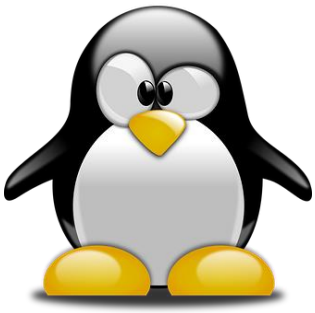
www.scienceweek.net.au

Science Alive!

This huge science fair - held over 3 days in August - has been deferred. However, as social distancing rules continue to be relaxed in South Australia, the Adelaide Showground has begun to consider the possibility of hosting larger events in late 2020. **Science Alive!** is one such event that is under consideration and the dates of **6-8 November 2020** have been reserved just in case this event receives government approval to be held at that time.

Our club always has a stall at this event which is the largest single interactive science exhibition in Australia, so we are looking forward to Science Alive! going ahead in November, albeit in a reduced form.

We'll keep you updated as further information is available.



Waddle Watch

Ever wondered what a Sub-Antarctic penguin colony gets up to, especially when they think no one is looking? Now you can watch them live streamed 24/7 at the **SEA LIFE Sydney Aquarium**!

The aquarium houses a colony of 34 **Gentoo** and **King Penguins**. Lighting in the exhibit mimics the natural light on Macquarie Island all year round. This means the penguins have a sunrise and sunset every day, and also experience summer and winter. This is really important so they know when to breed and when to go through their malting processes.

Catch the penguin colony at any hour of the day!

8am to 10am: Time to clean! On average penguins poop every 17 minutes - that's a lot of mess for the keepers to clean! Afterwards, fresh fluffy snow is pumped in for the penguins to enjoy.

2.30pm to 3pm: Watch the King Penguins gulp down a fishy feed while the Gentoo penguins are fed in the pool.

4pm: Bedtime! It's winter at Macquarie Island and gets dark quickly. The penguins like to snuggle into bed early this time of year.

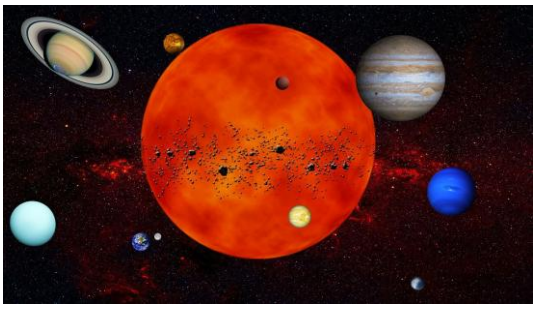
Throughout the day: During these enrichment sessions, the penguins love to play with bubbles, soccer balls, slides and toys - and you might even spot things hidden in the ice.

https://www.sydneyaquarium.com.au/explore/virtualaquarium/tanktv/

Aboriginal Astronomy with Astro Kirsten

When: **Saturday 11 July, 7pm to 8pm** (online event)

Eventbrite Registration:
https://www.eventbrite.com.au/e/winter-warmers-aboriginal-astronomy-with-astro-kirsten-tickets-110227946756



Learn from **Kirsten Banks**, proud Wiradjuri woman, astrophysicist and science communicator.

Understand how the perspective of the night sky to Aboriginal Australians is unique compared to the Western view of the sky. Kirsten will share some stories and their underlying science.

Aboriginal people in Australia have a rich astronomical tradition with "Indigenous astronomy" existing long before the Babylonians, Greeks, the Renaissance, and the Enlightenment.

Not only did they know the sky intimately, but they were familiar with planetary motions, tides and eclipses. Their songs and stories show that Aboriginal Australians sought to understand their Universe in a similar way to modern science. They used this knowledge of the sky to construct calendars, song lines, and other navigational tools, enabling them to navigate across the country, trading artefacts and sacred stories.

This event is not to be missed and is suitable for all aged 8+.

About Kirsten:

Kirsten Banks is an Astrophysicist and avid Science Communicator who loves to share her passion for space and astronomy.

She has been featured on:

- ABC TV's Q&A
- The Drum
- NITV's "The Point" special for International Women's Day
- TEDxYouth talk: https://www.youtube.com/watch?v=mYr7ZCn04eA

Port Adelaide Enfield libraries will be hosting this online event.

Did you know ...?

- The **human hand**, including the wrist, has 54 bones.
- Eating **cheese** at the end of a meal can help neutralise the acids in your mouth and reduce the chance of tooth decay.
- The chance of your **finger print** being the same as someone else's fingerprint is 1 in 64 billion.
- The average **human body** is made of 50 to 65 percent water.

- As the **Moon** does not have an atmosphere, there is no water or wind to erase the footprints made by the astronauts who landed on it. So the footprints are likely to stay there for 100 million years.
- **Saturn** isn't the only ringed planet. Other gas giants such as **Jupiter**, **Uranus** and **Neptune** also have rings - they are just less obvious.
- When you crack a **whip**, it makes a sharp sound because the tip of the whip is travelling faster than the speed of sound. It is a sort of mini sonic boom.
- The billionth digit of **Pi** is 9.
- The only two planets in our solar system that do not have moons are **Mercury** and **Venus**.
- **Sound** travels about 4 times faster in water than in air.

Have fun with science ...

Make a Balloon Rocket!

For this experiment you will need:

- 1 balloon (round ones will work, but the longer "airship" balloons work best)
- 1 long piece of string (approx 4 metres)
- 1 plastic straw
- Tape

What to do:

1. Tie one end of the string to a chair, door knob or other support.
2. Put the other end of the string through the straw.
3. Pull the string tight and tie it to another support in the room.
4. Blow up the balloon but don't tie it. Pinch the end of the balloon and tape the balloon to the straw. *You're ready for launch!*
5. Let go and watch the rocket fly!

What happened in this experiment?

It's all about the air - and thrust. As the air rushes out of the balloon, it creates a forward motion called **THRUST**. Thrust is a pushing force created by energy. In this balloon experiment, our thrust comes from the energy of the balloon forcing the air out. Different sizes and shapes of balloons will create more or less thrust. In a real rocket, thrust is created by the force of burning rocket fuel as it blasts from the rocket's engine - as the engines blast down, the rocket goes up!

Try to answer these questions:

- Does the **shape of the balloon** affect how far (or fast) the rocket travels?
- Does the **length of the straw** affect how far (or fast) the rocket travels?
- Does the **type of string** affect how far (or fast) the rocket travels? (Try fishing line, nylon string, cotton string, etc)
- Does the **angle of the string** affect how far (or fast) the rocket travels?

This experiment is from Sciencebob.com

Egg Drop Challenge

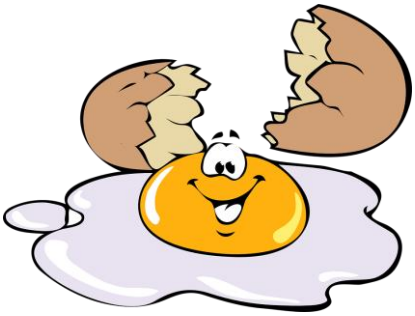
For this experiment you will need:

- 1 plastic cup with a mouth wide enough to fit the egg
- 25cm piece of cardboard or a small tray with a SMOOTH bottom.
- A cardboard tube (paper towel or toilet paper tubes work well)
- 1 egg (uncooked for more drama!)

What to do:

1. Place the tray centred over the cup.
2. Place the tube on its end in the centre of the tray.
3. Place the egg horizontally on the tube.
4. When ready, strike the tray hard enough with your palm to send the tray flying, but not so hard you hit the glass of water. *If all goes well, the tray and paper tube will go flying, but the egg will safely drop into the water.*

What happened in this experiment?

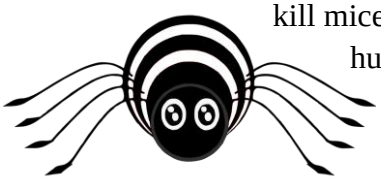


Inertia describes an object in terms of how much energy is needed to move it or stop it from moving. Since the tray and tube are very low mass (lightweight) they have very little inertia, and will easily move out of the way. The egg, however, is heavier (has more inertia) and so it is not easily moved, leaving it in place for **gravity** to bring it down into the cup.

This experiment is from Sciencebob.com

Interesting Facts about Spiders

- Spiders are **arachnids**, not insects.
- Other members of the **arachnid family** include scorpions, mites, ticks and harvestmen.
- Spiders have **8 legs**, while insects have 6.
- Spiders don't have antennae while insects do.
- Spiders are found on **every continent of the world** except Antarctica.
- There are around 40,000 **different species** of spider.
- Most spiders make **silk** which they use to create spider webs and capture prey.
- Abandoned spider webs are called **cobwebs**.
- Most spiders are harmless to humans but a few spider species, such as the **Black Widow**, can bite humans and inject venom. However, deaths from spider bites are rare.
- An abnormal fear of spiders is called **"arachnophobia".**
- **Tarantulas** are large and often hairy spiders. The biggest species have been known to kill mice, lizards and birds. However, most tarantula species pose no threat to humans.



- The largest species of tarantula is the **Goliath Birdeater**.
- **Giant Huntsman** spiders have leg-spans of around 30cm.

Information from Science Kids

See you soon!

We are very much looking forward to seeing all our enthusiastic club families again on Thursday 30 July.

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From bing.com/images