Junior Field Naturalists SA

Newsletter - May 2020

Hi Junior Field Naturalists,

While we don't yet know when we will be able to resume our regular monthly meetings, field trips and other activities, there is some good news!

Some of our State's most popular attractions will reopen shortly, including the **South Australian Museum** and the **Art Gallery of South Australia**.

Meanwhile, you can now head off to **Cleland Wildlife Park**.

Discover Cleland Wildlife Park

After a temporary closure, **Cleland Wildlife Park** is again open from 9.30am to 5pm every day (except Christmas Day or days of catastrophic fire danger).

Don't forget that every child member of Junior Field Naturalists SA has free membership to **Cleland Wildlife Park** until March next year, allowing unlimited entries for the children throughout that time.

So don't hesitate to visit the wildlife park and enjoy the interactions with the wonderful native wildlife.

Online Nature and Science Activities

There is an enormous range of exciting and educational activities for children online, with more being continually added. A small sample of nature and science sites includes:

The Curiosity Show

Drs Rob Morrison and Deane Hutton, who produced **The Curiosity Show** for 18 years, have uploaded over 1200 videos onto their YouTube channel. It's completely free and full of wholesome and entertaining maths and science experiments.
https://www.youtube.com/user/CuriosityShow

Bugs and Slugs

Bugs and Slugs is an Adelaide-based business specialising in insect, invertebrate and nature education. Kristen has been busy creating lots of amazing online content. Check out her videos and keep up with new content on the Bugs and Slugs Facebook Page.

Bush Blitz: Discover Backyard Species

Bush Blitz is Australia's largest species discovery program. Anyone can join the Bush Blitz team on a virtual expedition, from anywhere in Australia, to continue adding to our knowledge of Australian biodiversity. While we can't promise you'll find a new species, you will discover some amazing plants and animals living in your own backyard, learn to identify them with the help of Bush Blitz scientists and contribute valuable data to the Atlas of Living Australia. *More info:* bushblitz.org.au

Marine Discovery Centre

The **Marine Discovery Centre** in Henley Beach is creating lots of great videos, sharing the content that visitors would normally only get by going in to the centre. Follow their Facebook Page for updates and to find out about the life under our waters. The online learning experience includes information sheets and activity sheets.

Outdoor Families Online

This web site has over 130 ideas to help encourage free play with your kids, as well as structured outdoor learning projects and experiments.
https://outdoorfamiliesonline.com/free-outdoor-learning-kid-activities/

Scitech

Explore science from home with lots of fun experiments, podcasts, and an audio guide to the galaxy. https://www.scitech.org.au/explore/at-home/experiments/

Learning about Space

Love space, or know someone who does?

* Follow the **Adelaide Planetarium** Facebook Page for great content about the sky above us.

* Check out **NASA at home** for all sorts of activities that will help bring the universe into your house. Includes videos, podcasts, virtual tours and hands-on activities. https://www.nasa.gov/specials/nasaathome/index.html

* The **AIAA** (American Institute of Aeronautics and Astronautics) web site features aerospace micro-lessons which are a great way to learn about space technology, hovercrafts, exoplanets, space exploration and so much more.
https://www.aiaa.org/get-involved/k-12-students/things-to-do-for-students-at-home-during-the-coronavirus-pandemic

Questacon at Home

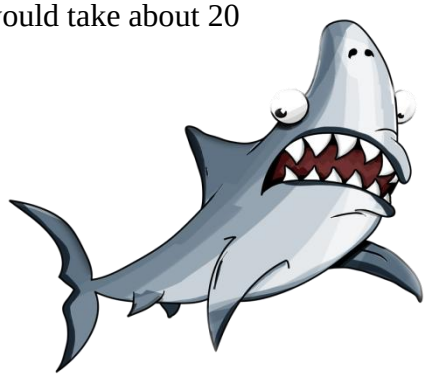
Be inspired with fun experiments and activities that you can do at home. Includes activity sheets and video resources.
https://www.questacon.edu.au/discover/questaconathome

The Surfing Scientist

Ruben Meerman, the Surfing Scientist, has lots of cool science demonstrations, videos and amazing science tricks on his web site: https://www.abc.net.au/science/surfingscientist/

Did you know ...?

- **Earthworms** have 5 hearts.
- One teaspoon of good **soil** can contain several hundred million bacteria.
- There is more **water** in our atmosphere than all of our rivers combined.
- If you flew to the **Sun** from the **Moon** in a normal plane, it would take about 20 years.
- One million **Earths** could fit inside the **Sun**.
- If a **shark** was put into a large swimming pool, it would be able to smell a single drop of blood in the water.
- **Frogs** use their eyes to help them swallow food. When the frog blinks, its eyeballs are pushed downwards, creating a bulge in the roof of its mouth. This bulge squeezes the food inside the frog's mouth down the back of its throat.



Have fun with science ...

Grow Your Own Crystals

Introduction

Growing crystals can take several days, but this super-easy recipe gives you a cup full of needle-like crystals in just a few hours! *Recommended age group:* 6-12 years. Make sure you have an adult with you as you will need hot water.

For this experiment you will need:

- 1/2 cup Epsom Salts
- Food colouring (optional)
- A beaker, cup or small bowl
- 1/2 cup very hot tap water

What to do:

- Fill your container with the hot tap water.
- Add the Epsom salts and stir for at least one minute. This creates a saturated solution (some undissolved crystals may be visible at the bottom of the container).
- Add a couple of drops of food colouring at this step if you want your crystals to be coloured.
- Place your container in the refrigerator and leave it for 3-4 hours.
- When the time is up, remove your container from the refrigerator, and pour off the remaining solution to examine your crystals.

What happened in this experiment?

Epsom salts are also called **magnesium sulphate**. The temperature of the water determines how much magnesium sulphate it can hold, so you'll find that it will dissolve more when it is hotter.

When you can no longer dissolve any more of the base material into the water, your solution is now a saturated solution. Cooling the solution quickly encourages rapid crystal growth, since there is less room for the dissolved salt in the cooler, denser solution.

As your solution cools, the magnesium sulphate atoms run into each other and join together to form a crystal structure. Crystals grown this way will be small, thin, and numerous. This will be the case for any material/chemical that you use.

This experiment is from the University of Adelaide. For more ***Science Outside the Classroom*** *activities to do at home, check out:*
https://sciences.adelaide.edu.au/engagement-and-industry/science-activities-at-home

Making Craters

Introduction

*What is a **Crater**?* A crater is a bowl-shaped depression formed by the impact of a meteorite, volcanic activity or an explosion.

This is a fun (and very easy) activity for learning about **how craters form**. *Did you know the surface of the Moon has millions of craters, varying from just a few metres across to hundreds of kilometers?*

For this experiment you will need:

- A shallow metal pan
- Plain white flour
- Drinking chocolate
- Marbles and different sized balls

What to do:

- Fill the pan about 2 cm deep with flour.
- Lightly sprinkle the drinking chocolate to cover the entire surface.
- To make a model of the surface of the Moon, drop the marbles into the pan. The marbles act as the crashing asteroids and comets.
- Notice how the marbles make craters in the pan. The soil below the surface (white flour) is brought to the surface.
- Try with different sizes and weights of balls and see if the craters are deeper or different shapes.
- You should find that if you drop the same size marbles from different heights, the one that has the furthest to fall will make the largest crater. As it is moving faster, it has more energy.

Why do craters form?

The surface of the moon is marked by millions of craters. Some are just a few metres long and some are hundreds of kilometres. Most formed a long time ago when comets, asteroids and meteorites crashed into the moon's surface.

Craters on Earth

Barringer Crater (also known as Meteor Crater) in Arizona was created instantly when a 50-meter, 150,000 ton meteorite slammed into the desert around 50,000 years ago.

The **Chicxulub Crater**, off the Gulf of Mexico is thought to be the impact site of the meteor which wiped out or contributed greatly to the extinction of the dinosaurs at the end of the Cretaceous period 65 million years ago.

Mount Erebus in Antarctica, has a lava lake in its summit crater.

What is the oldest crater on Earth?

The oldest (and largest) impact crater on Earth is the **Vredefort crater** in **South Africa.** It is estimated to have originally been 300 kilometers across. A huge meteorite or asteroid created this giant crater 2.02 billion years ago.

This experiment is from Science Sparks: www.science-sparks.com

Photos for Facebook

Taken a photo of a bird or native animal or insect or plant - or anything else connected with nature? Email it to Rona and we will put it up on our Facebook page.

Rona Sakko, President - Junior Field Naturalists SA
0419 827 723 jfnsa.com.au
ronadel@dodo.com.au or rona.sakko@gmail.com
Patron: Prof Chris Daniels