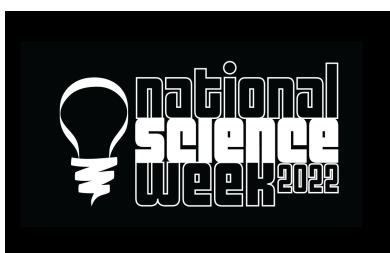




DIY SCIENCE



AS you know, it is National Science Week from August 13-21.

That means it started on Saturday, and runs through until this Sunday.

That is nine days by my count, but I guess science is so cool that you can't pack everything into one week.

Anyway, there are lots of activities happening around Tasmania which we talked about in last week's edition of *The Wonder Weekly*.

We have provided some more information about the Festival of Bright Ideas on page 2 today.

But one of the great things about National Science Week is you can get involved without leaving home.

The National Science Week website has loads of options for you: <https://www.scienceweek.net.au/>

Not all science experiments happen in a laboratory, performed by people in white coats using all sorts of fancy equipment.

There are many experiments you can do at home, that require nothing more than materials you might find around the house.

Here's a couple of 'Do It Yourself' experiments based on those from the website.

The Stroop Effect

All you need for this experiment is white paper or cardboard, a pair of scissors, and marker pens or pencils in a range of colours.

Steps:

1. Cut up the paper or cardboard to make two sets of 10 rectangular flashcards.
2. On one set of cards use the marker pens to write the name of each marker colour in the corresponding colour (e.g. if you have a red marker, write 'red' on the card.)



3. On the second set of flashcards write the wrong colour (e.g. you might write 'green' with the red marker).

4. Challenge someone to flip through the first set of flashcards and name the colour of the ink used to write each word.

5. Repeat using the second set of flashcards with the mismatched ink.

What's happening?

For the first set of flashcards the task is easy.

But with the mismatched set it takes a lot of concentration to avoid making mistakes.

Someone who is a good reader can read the name of the colour faster than they can name the colour of the ink, so they have to think really hard to name the colour instead of automatically reading the word.

This is known as the 'Stroop effect'.

It is named after J. Ridley Stroop, who discovered the

phenomenon in the 1930s. A number of 'Stroop tests' have been developed to test cognitive functions (such as thinking, reasoning and remembering).

Bouncy Eggs

This activity takes three days to complete, is messy (best done by a sink), and requires food items.

In other words, ask the permission of an adult family member before attempting it.

What you need:

- Three raw eggs and a container large enough to hold the eggs (with a lid or plastic film to cover the container).
- One litre of white vinegar.
- Two glasses.
- Plastic gloves.

Steps:

1. Place the eggs in the container and cover with vinegar. Bubbles may appear on the eggs as the shells start to dissolve.

2. Leave the eggs to soak for one day and then **carefully** pour off the vinegar and rinse the eggs in water.

3. Repeat steps 1 and 2. When rinsing in water, gently rub each egg to remove any remaining shell.

4. Half fill the two glasses with water and add an egg to each. Add more water if necessary to completely cover the eggs.

5. Leave the eggs in each glass for one more day before checking to see if there are any changes.

6. Meanwhile, test the bounciness of the third egg. Start by carefully dropping the egg into a bowl from a height of about 2cm, before testing greater heights.

7. Remove the two eggs that have been soaking in the glasses of water and test their bounciness.

What's happening?

The calcium carbonate in the

eggshells reacts with the vinegar (acetic acid) and causes bubbles of carbon dioxide gas to form on the eggshells.

Over time, this chemical reaction dissolves the hard egg shells, and leaves a thin membrane around the eggs.

This membrane is surprisingly strong, so an egg soaked in vinegar can be dropped from a small height without damaging it.

This membrane is 'semi-permeable', which means water can pass through the membrane, causing the eggs to swell.

How did the third egg perform in the bounce test compared to the two soaked in water for 24 hours?

Children's University Tasmania members can earn an hour in their passport for attempting the Stroop Effect experiment, and three hours for the Bouncy Egg experiment.

You might like to attempt some other experiments on the National Science Week website.

The festival of ideas



WHAT do volcanoes and dinosaurs, the circus, robots, electric race cars, bugs and trash all have in common?

The answer is the Festival of Bright Ideas at Princes Wharf No.1 in Hobart this Saturday, August 20.

FOBI is a STEM festival for everyone, where you can experience a range of activities and performances that whiz, bang, fly, crawl, swim and maybe even explode.

Numbers are limited, so to attend you will need to book by following this link:

<https://www.trybooking.com/events/landing?eid=914089&>

However, FOBI is free for under 18s, and low cost for families.

Adult tickets are \$10 (\$7.50 when two adults from one family attend).

There are three sessions available: 9:00am-11:30am; 11:30am-2:00pm; and 2:00pm-4:30pm. Children's University Tasmania members can count three hours in their passports for attending a FOBI session.

Here's just some examples of what you can expect on the FOBI program:

STAGE SHOWS

Future Energy (Dr Graham Walker)

Through exciting, interactive and explosive experiments you will learn where most of our energy comes from now, and why we need to change.

Jurassic Poop

We all poop.

Dinosaurs pooped.

Have you ever stopped to wonder why though? Join world renowned

poohleontologist Professor Flint on a hilarious, seriously stinky and highly informative adventure.

Piratechniques 101 with Pirate Captain ScungeBucket (Lish Fejer)

Learn how to pirate scientifically using the latest pirate-patented iPatch and Bluetooth technology.

WORKSHOPS

Spaghetti Tower Challenge (TasNetworks)

Design your own transmission tower out of spaghetti and marshmallows and put it to the test.

The Science of Circus (Adie Delaney and Sonia Singh)

Do you know you can generate 10 times your body weight in force?

Watch Adie and Sonia demonstrate the amazing science involved in a stunning circus performance.

their impacts.

SCIENCE EXPERIENCES

Volcanoes and dinosaurs

University of Tasmania, Earth Sciences

Young Tassie Scientists

University of Tasmania, Young Tassie Scientists

The Fabric of Spacetime

University of Tasmania, Physics

Glassy-eyed

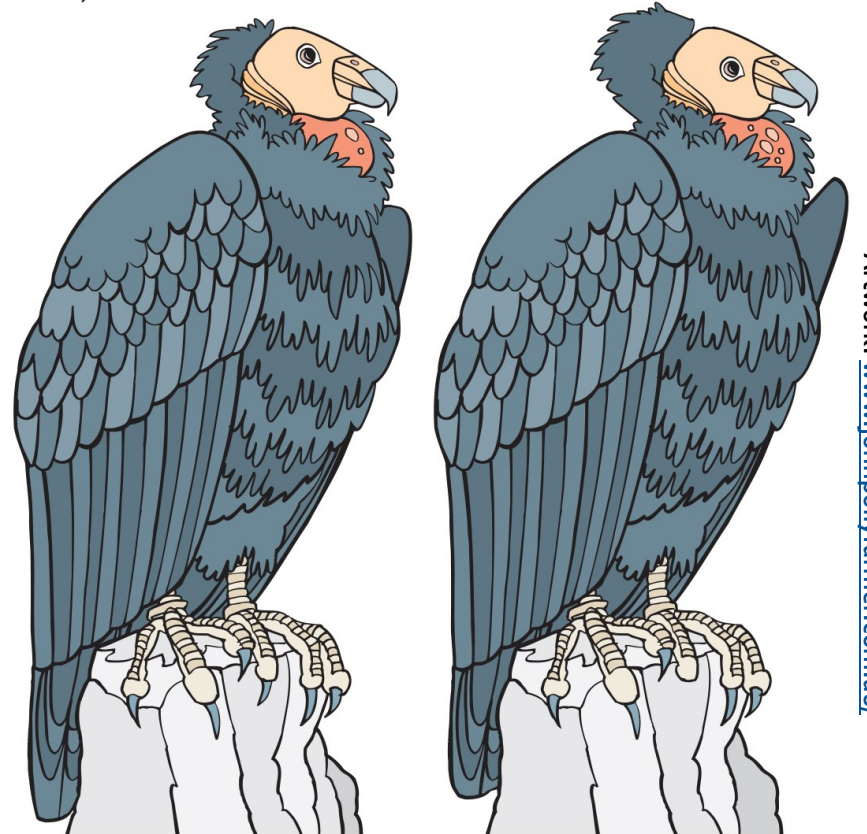
Tasmanian Museum and Art Gallery

Indigenous Knowledge

nita Education

SPOT THE DIFFERENCE

There are seven small differences between the first California condor and the second one. See if you can spot them, then check the solution below.



SOLUTION: 1. Eye moved, 2. Feathers behind head changed, 3. More spots on throat, 4. Claw missing, 5. Rock changed, 6. Tail shorter, 7. Right wing larger.

DID YOU KNOW?

California condors are carrion (dead animal) eaters. They eat mainly large animals such as deer and sheep, but will also occasionally eat small mammals or fish.

Artwork: www.johnpollfarmer.com.au/