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Word CHANGER L E M U R

Change one letter and arrange them on the next line to make a new word. Use the clues to help you change a ring-tailed lemur into an okapi. The answer is below.

Picture painted onto a wall _____

Kingdom _____

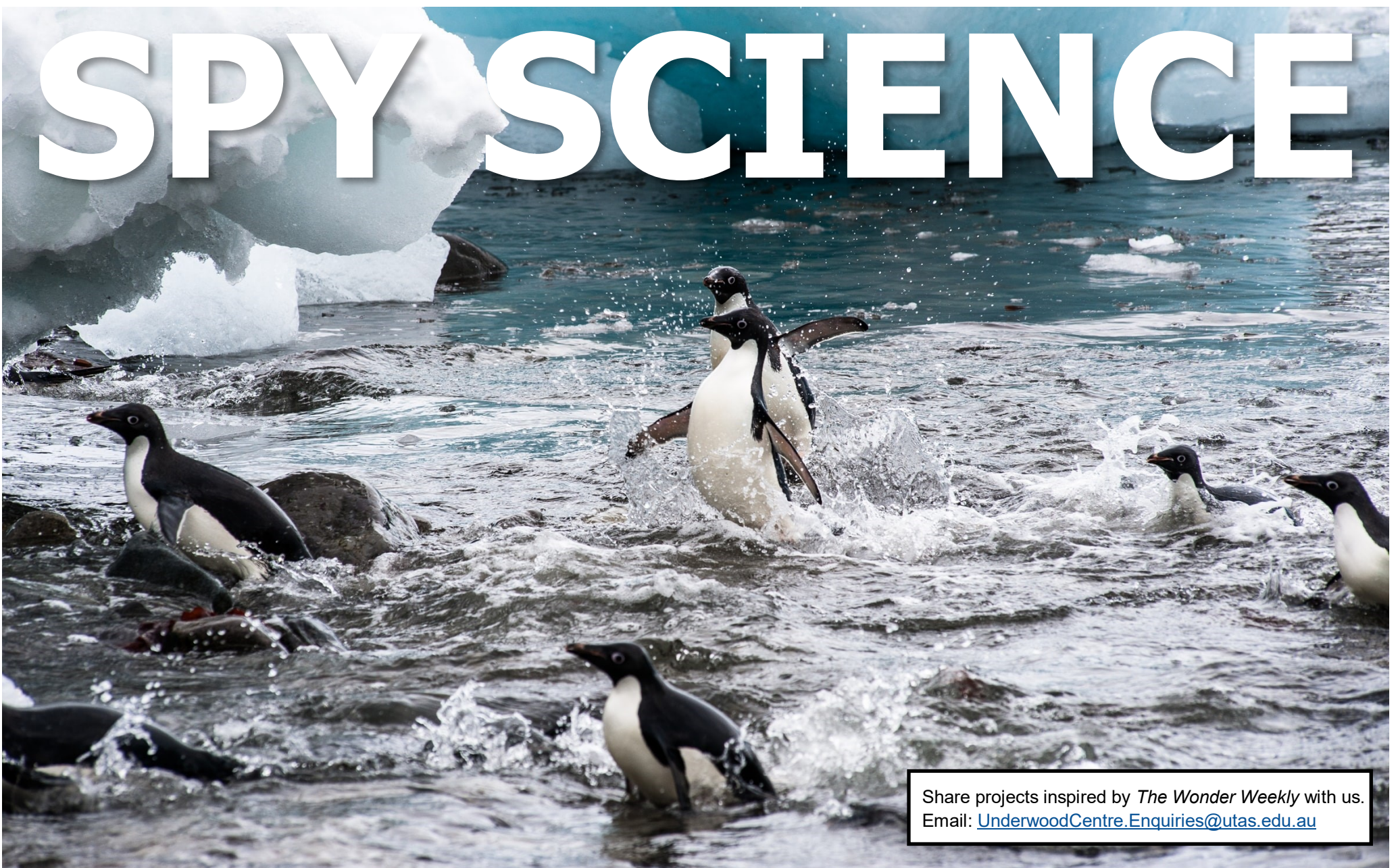
Transparent _____

What you do your shoes up with _____

Loose, not tight _____

Cape-like piece of clothing _____

A European folk dance _____



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SCIENTISTS are keeping a close eye on wildlife around the world - closer than you might realise.

Wildlife tracking equipment has been used to monitor and locate animals since the 1800s, when bands or rings were placed on the legs of birds to study their movements.

As technology advanced so did methods of wildlife tracking, which is often called biotelemetry.

During the mid-1900s, radar, acoustic telemetry and VHF (very high frequency) telemetry, also known as radio tracking, all emerged as ways of studying animals.

Scientists have used VHF radio tracking since 1963.

This involves placing a radio transmitter on an animal.

The radio transmitter sends signals from the location of the released animal.

Using an antenna, scientists can then monitor the animals movements from a distance.

Radio tracking has become more advanced through the use of satellites and more recently the Global Positioning System.

In GPS tracking, a transmitter, not a receiver, is placed on the animal.

The transmitter picks up signals from satellites, and collects all sorts of information, not just the location and movements of the animal.

That information is then sent to a different group of satellites, which relays it to the scientists studying the animal.

An international team of scientists recently released a



KEEPING TRACK: A female Adelle penguin fitted with a satellite tracker on the Macey Islands, Antarctica. Picture: Lisa Meyer/ Australian Antarctic Division

report identifying areas around Antarctica which are really important for the ecosystem.

They used 25 years of tracking data from more than 4000 marine predators - 12 seabird species and five types of marine mammals.

and penguins go to places where they can feed on krill, whereas elephant seals and albatrosses go where they can find fish, squid or other prey," Professor Hindell said.

"If all these predators and their diverse prey are found in the same place then that area has both high diversity and abundance of species, indicating it is of high ecological significance."

The findings will guide decisions about conservation measures such as where Marine Protected Areas (MPAs) should be placed, and fisheries management.

Signals from transmitters fitted to Adelle penguins are relayed by a satellite to scientists at the Australian Antarctic Division in Kingston, Tasmania.

One of the leaders of the study, Professor Mark Hindell, from the Institute for Marine and Antarctic Studies, at the University of Tasmania, said the data from electronic tagging showed where the predators go to find food.

"For example, humpback whales

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The science of spying on wildlife

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Each time a signal is received the exact location of the penguins can be calculated.

These locations are plotted on a map to show the foraging trips of penguins while at sea.

These trips vary greatly during the breeding season.

For example, the penguins do not forage too far from the colony when their chicks are young.

Find out more:

www.antarctica.gov.au

GPS and sensor technology is also being used to track invasive species.

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) have partnered with James Cook University and indigenous land management organisations in the Top End (Northern Australia).

Feral pigs, buffalo and cattle are being fitted with GPS tags, while a network of weather stations and environmental sensors have been established to measure temperature, humidity and light in different habitat areas.

Knowing where feral animals will be at different times of the year, and in what habitats, will help in the design of better control strategies.

The New South Wales Department of Primary Industries are fitting satellite and acoustic tags to sharks to follow their movements and work out what factors are affecting their distribution.

Sharks with acoustic tags can be detected from 500-metres away by listening stations along the NSW Coast.

Their presence triggers an instant alert to the SharkSmart app, which can be downloaded by beachgoers.

The sharks with satellite tags are picked up by GPS when they break the surface of the water.

You can view the maps of where the sharks have been here: www.sharksmart.nsw.gov.au/shark-activity

A number of the great white sharks have visited Tasmanian waters.

Elephants have been fitted with tracking collars in Kenya to protect them from poachers.

If an elephant begins to show signs of trying to escape from a pursuer, a conservation team moves in to protect the animal and hopefully apprehend the poachers.



Photo: Dave James



An eagle eye on 'wedgies'

TAKING FLIGHT: Dr James Pay, from the University of Tasmania, releases Malu with a tracking device fitted to his back. Photo: James Wiersma

RESEARCHERS at the University of Tasmania are using tracking devices to study all sorts of animals, everything from wedge-tailed eagles to mountain lions.

Dr James Pay, from the School of Natural Sciences, receives more text messages from eagles than humans.

The 'wedgies' sending regular updates of their whereabouts have been fitted with solar-powered GPS trackers, which they wear like miniature backpacks.

The devices are placed on young birds before they leave their nests.

This is no easy task, with some nests in trees up to 80m high.

The study is revealing important information about the eagles, including which habitats are important to the birds.

Data from one bird, named Malu, showed

him soaring 600m above ground level, while Wyatt flew almost 250 kilometres around Tasmania in eight hours.

Dr Pay said the researchers were also finding out important facts about the bird's behaviours and biology.

"After they leave their nest, young wedge-tailed eagles stay in their parents' territory where they are looked after and learn how to be an eagle," he said.

"... we discovered young eagles are staying with their parents for far longer than expected."

You can watch a great video about the study here: www.utas.edu.au/news/2020/5/26/1011-eagle-eye-on-endangered-bird/

Another study recently published by the School of Natural Sciences involved

Tasmanian devils fitted with video camera collars.

About 144 hours of footage revealed some insights into the devils' social and foraging behaviour.

Some of this fantastic footage can be watched here: www.utas.edu.au/news/2020/5/11/1005-secret-lives-of-devils-revealed/

Dr Scott Carver, a lecturer in wildlife ecology in the School of Biological Sciences, has been involved in researching mountain lions and how they transmit infectious diseases.

This work includes finding the mountain lions, anaesthetising them (putting them to sleep), and fitting radio tracking collars around their necks (best to do that before they wake up).

Eagle plotting challenge

NON-BREEDING eagles are known to travel vast distances.

Your challenge is to plot the imaginary flight of a young eagle after they leave their parents' territory.

You could trace a map of Tasmania onto a sheet of paper, or download one from d-maps.com/

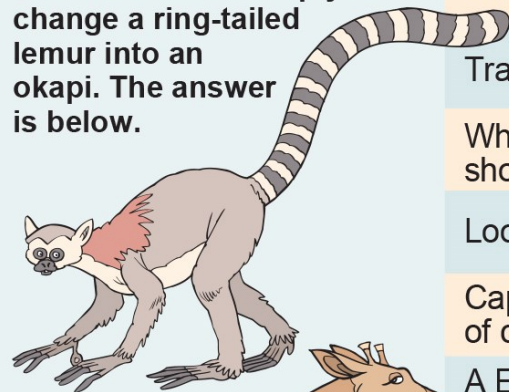
Draw dots to show where your eagle flew each day, and then draw a line between the dots to show the distance they travelled.

You could draw a picture of your bird, or research and include some interesting facts about wedge-tailed eagles.

Children's University Tasmania members can earn stamps in their passports for this challenge, at the discretion of school coordinators.

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O K A P I

DID YOU KNOW? Ring-tailed lemurs are found in southern Madagascar, off the east coast of Africa. They are very agile and climb trees extremely well.

SOLUTION: LEMUR, mural, realm, clear, laces, slack, cloak, polka, OKAPI