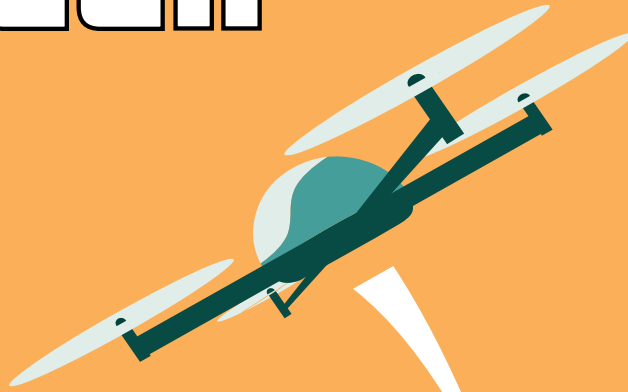


national SCIENCE WEEK 2026



An Australian Government Initiative



BRAIN BREAKS 2026

**UPPER
PRIMARY
(YEAR 4-6)**

QUESTION 1

What is the main benefit of the ozone layer?

- A** To produce oxygen
 - B** To trap heat in the atmosphere
 - C** To protect the Earth from harmful ultraviolet (UV) radiation
 - D** To control weather patterns
-

QUESTION 2

Do babies have more or fewer bones than adults?

More Fewer

QUESTION 3

How much would a fluffy cumulus cloud weigh? (Imagine that it is 1 km long, 1 km wide and 1 km high).

- A** 150 kg
 - B** 2,000 kg
 - C** 10,000 kg
 - D** 500,000 kg
-

QUESTION 4

What is the fastest recorded speed for a car?

- A** 312 km/h
 - B** 587 km/h
 - C** 898 km/h
 - D** 1,228 km/h
-

QUESTION 5

True or false: Identical twins have identical fingerprints.

True
False

QUESTION 6

What Latin word does the word 'muscle' come from?

- A** Motion
 - B** Mouse
 - C** Mountain
 - D** Machine
-

QUESTION 7

The dinosaur with the longest name is called *Micropachycephalosaurus* (micro-pack-ee-sef-lo-sore-us). What does that long name mean?

- A** Very fast lizard
 - B** Small flying lizard
 - C** Enormous spikey-tailed lizard
 - D** Tiny thick-headed lizard
-

QUESTION 8

First Nations people in Australia have been practicing cultural burning for over 60,000 years to reduce the intensity of bushfires. How do cultural burns differ from European hazard reduction burns?

- A** Cultural burns are hotter and move faster
- B** Cultural burns are cooler and move more slowly



QUESTION 9

Great desert skinks are lizards that live almost entirely on Aboriginal Land in Central Australia. True or False: One way Indigenous Ranger groups find these skinks is by looking for special toilet spots used by whole family groups of skinks.

True False

QUESTION 10

When a volcano erupts, a deadly cloud of hot ash and gas can blast down its slopes. How fast can it travel?

- A** About as fast as a fast bicycle rider – 30 km/h
 - B** About as fast as a car on a highway – 100 km/h
 - C** About as fast as a cheetah – 120 km/h
 - D** Faster than a racing car – 700 km/h
-

QUESTION 11

The Adnyamathanha peoples tell stories about the Yamuti, a big and scary animal that steals young children. In these stories, children are taught that if they see a Yamuti, they should quickly climb a tree to stay safe, because the Yamuti cannot look upwards. The Yamuti may be linked to a real animal that is now extinct. What type of animal?

- A** A giant wombat
 - B** A giant dinosaur
 - C** A giant fish
 - D** A giant bird
-

QUESTION 12

True or false: In 2025, an Indigenous Australian researcher was named Young Australian of the Year.

True False

QUESTION 13

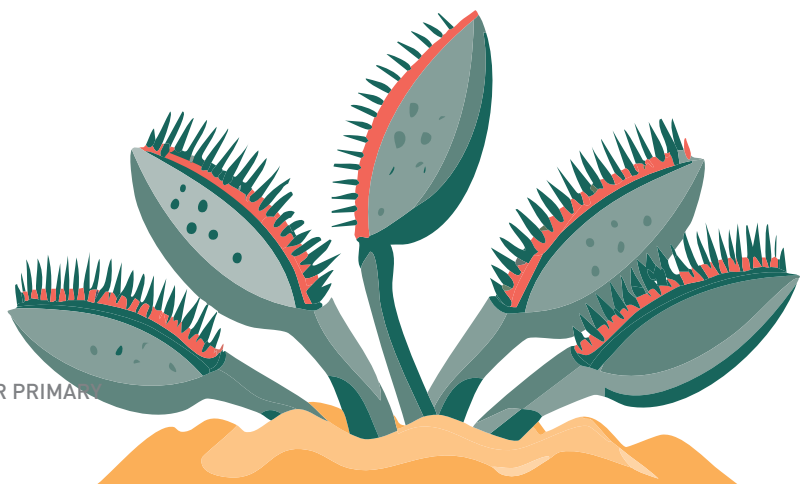
Venus flytraps make most of their energy through photosynthesis, like other plants, so why do they still 'eat' insects?

- A** To get extra nutrients that aren't available in soil
 - B** To make extra energy at night when photosynthesis is not possible
 - C** To protect themselves by trapping and killing insects that might damage their leaves
 - D** To help them reproduce by attracting pollinators into their traps
-

QUESTION 14

First Nations peoples from Kaytetye Country (Alice Springs) make Bush Soap from the elkerte tree (wattle tree). Which part of the tree is used to make the soapy lather?

- A** Flowers
 - B** Leaves
 - C** Bark
 - D** Seedpods
-





QUESTION 15

Scuba divers often use flippers (swimming fins) to improve the speed and efficiency of swimming. How old was the inventor, Benjamin Franklin, when he invented flippers?

- A** 11 years old
- B** 21 years old
- C** 51 years old
- D** 81 years old

QUESTION 16

You might have heard people say, 'It's so hot you could fry an egg on the footpath!' But what does science say is the main reason an egg doesn't fry properly on a footpath?

- A** The egg dries out too quickly in the sun
- B** The footpath does not get hot enough to cook the egg properly
- C** The egg slides off the surface before it cooks
- D** The sunlight is not strong enough to reach the ground

QUESTION 17

True or false: The human body gives off a tiny amount of light that we cannot see.

- True False

QUESTION 18

What causes you to sometimes get a 'brain freeze' when you eat cold food or drinks quickly?

- A** Ice touches your brain directly
- B** Blood vessels in your head rapidly change size
- C** Cold air enters your lungs too fast
- D** Your nerves temporarily shut down

QUESTION 19

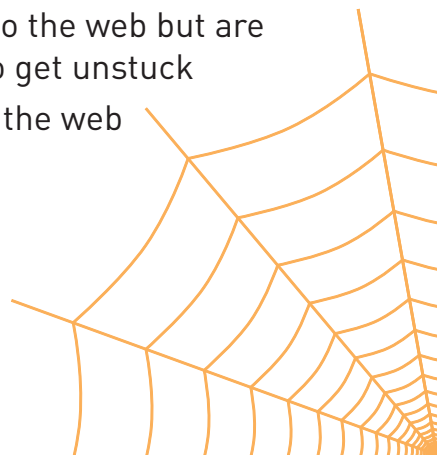
Why is it almost impossible to tickle yourself?

- A** Your skin is not sensitive to your own touch
- B** Your nerves stop working when you touch yourself
- C** Your fingers are not ticklish enough
- D** Your brain can predict the feeling and ignore it

QUESTION 20

Why don't spiders get stuck to their own webs?

- A** Their webs are only sticky to insects
- B** They carefully walk on the non-sticky parts and have a special non-stick coating on part of their feet
- C** Their legs stick to the web but are strong enough to get unstuck
- D** They float above the web



Answers

QUESTION 1

Answer: C To protect Earth from harmful ultraviolet radiation.

The ozone layer acts like a protective shield, absorbing most of the Sun's harmful ultraviolet radiation before it reaches the Earth's surface. Without the ozone layer, life on Earth, as we know it, could not exist.

MORE INFORMATION

- <https://curious.science.org.au/earth-environment/earths-sunscreen-ozone-layer>

QUESTION 2

Answer: More. Babies have more bones than adults!

Babies are born with about 300 bones, but some of them fuse/join together as we grow older. Most people end up with 206 bones when they are fully grown.

MORE INFORMATION

- <https://www.scp.co.za/news/the-human-body-10-fascinating-facts-for-kids/>

QUESTION 3

Answer: D 500,000 kg (or 500 tonnes).

A cumulus cloud carries about 0.5 g of water per cubic metre. When spread across a large volume, this adds up to hundreds of thousands of kilograms!

MORE INFORMATION

- <https://www.natgeokids.com/nz/discover/science/nature/science-dr-karl-cloud-weight/#:~:text=A%20typical%20cumulus%20carries%20about%200.5g%20of,up%20a%20500%2Dtonne%20one!%20Created%20with%20sketchtool>

QUESTION 4

Answer: D 1,228 km/h.

The official land-speed record is 1,227.985 km/h, set in 1997 using a car powered by 2 jet engines. The driver, Andy Green, is a retired British Royal Air Force fighter pilot who is the only person to ever break the sound barrier on land.

MORE INFORMATION

- <https://www.guinnessworldrecords.com/world-records/land-speed-fastest-car>

QUESTION 5

Answer: False. Identical twins have different fingerprints.

Although identical twins share nearly 100% of their DNA, they do not share the same fingerprints. This is because fingerprints form while in the womb, and each foetus is exposed to unique and random factors that shape the friction ridges on each finger differently. As a result, no 2 fingerprints are the same.

MORE INFORMATION

- <https://www.iflscience.com/why-identical-twins-dont-have-the-same-fingerprints-71176#:~:text=Things%20such%20as%20umbilical%20cord,19%20weeks%20of%20fetal%20development>

Answers

QUESTION 6

Answer: B Mouse.

Many scientific words come from Latin, a language spoken in Europe over 1,000 years ago. The word muscle comes from the Latin term little mouse – which is what ancient Romans thought flexed bicep muscles looked like.

MORE INFORMATION

- <https://www.natgeokids.com/au/discover/science/general-science/15-facts-about-the-human-body/>

QUESTION 7

Answer: D Tiny thick-headed lizard.

Micropachycephalosaurus means tiny thick-headed lizard using Ancient Greek root words (unlike Question 6, which originates from a different language: Latin)! The dinosaur was named in 1978. Despite having the longest dinosaur name, with a whopping 23 letters, this tiny dinosaur grew to only 0.5 to 1.0 m long!

MORE INFORMATION

- <https://www.guinnessworldrecords.com/world-records/93295-longest-dinosaur-genre-name>

QUESTION 8

Answer: B Cultural burns are cooler and move more slowly.

Cultural burns involve lighting small spot fires in a mosaic style, which are relatively cool and move slowly, letting animals and insects move away safely.

MORE INFORMATION

- <https://australian.museum/learn/first-nations/cultural-fire-practices/>
- <https://australian.museum/learn/teachers/first-nations-learning-resources/cultural-burning/#:~:text=Cultural%20burning%20is%20a%20cultural,manage%20land%2C%20plants%20and%20animals>

QUESTION 9

Answer: True

Families of lizards live in large, complex burrows which include a dedicated toilet area! They can also be found by following their tracks.

Uncontrolled fires, too much grazing by introduced animals and feral cats are a major threat to these lizards, but they continue to thrive in areas where Indigenous Rangers conduct traditional burning and/or cat management.

MORE INFORMATION

- <https://www.indigenoussdesertalliance.com/stories/desert-rangers-are-saving-the-great-desert-skink-from-extinction>
- <https://cdn.environment.sa.gov.au/landscape/docs/hf/great-desert-skink-bio-region-fact.pdf>

Answers

QUESTION 10

Answer: D Faster than a racing car – 700 km/h.

The cloud of hot ash can travel up to 700 km/h, which is faster than any racing car. This deadly cloud of hot ash and gas is called a pyroclastic flow. While it may look like a soft cloud at first, pyroclastic flow is one of the deadliest things a volcano can produce! This is because it can reach temperatures of up to 700°C and is made up of fine ash and toxic gas that can stop people from being able to breathe.

MORE INFORMATION

- <https://education.nationalgeographic.org/resource/pyroclastic-flow/>

QUESTION 11

Answer: A A giant wombat.

The Yamuti story may be connected to the Diprotodon, a giant wombat-like marsupial that lived in Australia more than 40,000 years ago. Even as animals became extinct and the environment changed, these stories have continued to be shared across generations, preserving important information about the land and its history.

MORE INFORMATION

- <https://australian.museum/learn/first-nations/yamuti/>

QUESTION 12

Answer: True

In 2025, Dr Katrina Wruck, a proud Mabuigilaig and Goemulgal woman, was named Young Australian of the Year. She is a researcher at the Queensland University of Technology who is developing new materials to address contaminants in water.

Aboriginal and Torres Strait Islander people work in a wide range of scientific disciplines today. For example, Dr Kirsten Banks is an astronomer who researches how galaxies evolve, Dr Shannon Kilmarten-Lynch is an engineer who is making super-strong concrete and Dr Misty Jenkins is an immunologist who studies brain cancer.

MORE INFORMATION

- <https://www.qut.edu.au/news?id=198650#:~:text=Dr%20Katrina%20Wruck%2C%20QUT%20research,Young%20Australian%20of%20the%20Year.>
- <https://www.ngarrngga.org/stories-news/national-science-week-2025>
- <https://astrokirsten.com.au/about>
- <https://www.qut.edu.au/about/our-people/academic-profiles/kj.wruck>

Answers

QUESTION 13

Answer: A To get extra nutrients that aren't available in soil.

Venus flytraps often live in wet, acidic soil that lacks important nutrients such as nitrogen. By trapping and breaking down insects using digestive enzymes, they can obtain extra nitrogen, phosphorus and other essential nutrients.

MORE INFORMATION

- <https://animals.sandiegozoo.org/plants/venus-flytrap#:~:text=OVERVIEW,other%20small%20wildlife%20they%20capture.>
- <https://www.utas.edu.au/about/news-and-stories/articles/2017/474-how-does-the-venus-flytrap-work#:~:text=From%20exoskeletons%20to%20salt%20overload,%20Drich%20blood%2C%20called%20haemolymph.>

QUESTION 14

Answer: D Seedpods.

The green seedpods of the elkertree contain a chemical called saponin, which forms suds when rubbed together with water.

MORE INFORMATION

- <https://www.questacon.edu.au/learn-and-play/activities/making-bush-soap>

QUESTION 15

Answer: A 11 years old.

Benjamin Franklin was just 11 years old when he invented swimming flippers! Do you have a great idea for an invention?

MORE INFORMATION

- <https://fi.edu/en/science-and-education/benjamin-franklin/inventions#:~:text=An%20avid%20swimmer%2C%20Franklin%20was,On%20the%20Art%20of%20Swimming%E2%80%9D:>

QUESTION 16

Answer: B The footpath does not get hot enough to cook the egg properly.

Eggs need to reach about 70°C to cook, but footpaths don't usually get quite that hot. Also, the concrete would cool slightly when the egg is cracked onto it. In addition, concrete does not conduct heat very well, so it would transfer heat to the egg much more slowly than a frying pan would.

MORE INFORMATION

- <https://theconversation.com/sunny-side-up-can-you-really-fry-an-egg-on-the-footpath-on-a-hot-day-172616>

QUESTION 17

Answer: True

All living things, including humans, emit a very faint light. This happens because chemical reactions in our cells release small amounts of energy as light, but it is far too weak for our eyes to detect.

MORE INFORMATION

- <https://www.sciencefocus.com/news/all-living-things-faintly-glow-ultraweak-photon-emission-upe>

QUESTION 18

Answer: B Blood vessels in your head rapidly change size.

When you eat or drink something cold, blood vessels in the roof of your mouth quickly narrow, which triggers blood vessels in your brain to dilate. Dilation of blood vessels in your brain can trigger a pain signal through a nerve in your head.

MORE INFORMATION

- <https://www.health.harvard.edu/diseases-and-conditions/what-causes-brain-freeze>

QUESTION 19

Answer: D Your brain can predict the feeling and ignore it.

When you try to tickle yourself, your brain already knows where and when you are about to touch. A part of your brain predicts the feeling and turns down the signal, so it does not feel ticklish. But when someone else tickles you, the touch is a surprise, so your brain reacts more strongly.

MORE INFORMATION

- <https://www.the-scientist.com/why-can-t-we-tickle-ourselves-73123>

QUESTION 20

Answer: B They carefully walk on the non-sticky parts and have a special non-stick coating on part of their feet.

Spider webs are not sticky everywhere. Spiders build some threads without glue and carefully walk on those parts. They also move using just the tips of their feet, which have a special non-stick coating.

MORE INFORMATION

- <https://www.sciencefocus.com/nature/why-dont-spiders-get-caught-in-their-own-web>



Thanks for joining tens of thousands of people across Australia in completing a Brain Break! Brain Breaks are just one way to celebrate National Science Week. Held annually in August, National Science Week is Australia's largest science festival. Over 3 million people participate in 2,500+ events around the country to celebrate all things science.

Find more events near you by visiting:
scienceweek.net.au

We'd love to hear your feedback on these questions! Share your thoughts with us:

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Thank you to everyone who used their fabulous brains to bring Brain Break to life in 2026! Special thanks to Scientell (research and writing), Soggy Brolly (design), and Pat, Orla, Penny T, Mim Hilton, and Sarah Clarke-Reeves (quiz testers).