



# brain break

## morning tea



## 2025 Brain Break Quiz for Schools

### Year 7-10 Questions

- Q1.** Which of the following ancient devices used for telling the time does not work after the sun sets each night?
- a) Sundial
  - b) Water Clock
  - c) Astrolabe
  - d) Incense Clock
- Q2.** Which continent or continents have native marsupials?
- Q3.** Aboriginal and Torres Strait Islander Peoples, Australia's first scientists, have cultural knowledge of changes in seasonal weather over a yearly cycle which can be based on:
- a) The positions of stars and other objects in the sky
  - b) Changes in animal behaviour
  - c) The life cycles of certain plants
  - d) All of the above
- Q4.** When did scientists discover that more carbon dioxide in the atmosphere leads to a warmer planet?
- a) 1850s
  - b) 1910s
  - c) 1950s
  - d) 2010s



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### Year 7–10 Questions (cont.)

- Q5.** In April 2024, Katherine Bennell-Pegg became what?
- a) The first Australian to win a Nobel prize
  - b) The first Australian to build a solar-powered car that could travel over 200km per hour
  - c) The first person to build a computer entirely from recycled materials
  - d) The first person qualified as an astronaut under the Australian flag
- Q6.** True or false: Antibiotics are the best medicine for the common cold.
- Q7.** Which of the following unusual tests might a palaeontologist use to test if a rock is a fossil?
- a) Lick it
  - b) Sniff it
  - c) Test if it floats in water
  - d) Test if it will catch fire
- Q8.** What do humans, koalas and gorillas have in common that could be of interest to forensic scientists?
- Q9.** What force prevents Earth's atmosphere from drifting away into space?
- Q10.** What three letter word is used for both the cutting part of a drill and for the smallest piece of information stored on a digital computer?



## Answers

**1. Sundial**

Sundials were invented over 3,500 years ago.

**2. Australia, North America and South America**

While Australia has the greatest diversity of marsupials, they are also found in North and South America. Opossums are native to the Americas, with the majority living in South America. There are marsupials in New Guinea and neighbouring islands, including the cuscus, tree kangaroos and quolls. There are no native marsupials on continental Asia.

**3. d) All of the above**

Indigenous knowledge holders and language groups in various parts of Australia can have between two and six, or even more, different seasons, depending on the local environment and climate. Western European culture has four seasons: Summer, Autumn, Winter and Spring.

**4. a) 1850s**

In 1856, Eunice Newton Foote, a female scientist and women's rights campaigner, discovered that carbon dioxide absorbed heat more effectively than other gases. She hypothesised that Earth would have been much warmer in the past if its carbon dioxide levels were higher. Three years later the Irish male physicist John Tyndall arrived at the same conclusion with more complex experiments. Tyndall received credit for the discovery. It was not until 2011, 155 years after her experiment, that Foote's discovery was recognised.

**5. d) The first person qualified as an astronaut under the Australian flag**

In high school, when asked to write down three different career options, Katherine only wrote down one – astronaut – and refused to add any others. In 2023, as an employee of the Australian Space Agency, Katherine was invited by the European Space Agency (ESA) to undertake Basic Astronaut Training in Germany, becoming the first international astronaut candidate to do so.

**6. False**

The common cold is the term used for several different viruses and viral infections that cannot be treated with antibiotics. Antibiotics work to treat bacterial infections. Examples of bacterial infections include whooping cough and strep throat. Sometimes, a secondary bacterial infection can happen during or after a viral infection, and this may be treated with antibiotics.





## Answers (cont.)

**7. a) Lick it**

Licking rocks can be risky, so do not try it yourself, but an experienced palaeontologist might give a rock a quick lick test. Fossils are often porous (filled with tiny holes so they can absorb fluids) and are more likely to stick to the tongue.

**8. They all have unique fingerprints**

Fingerprints make it easier to hold onto and grip surfaces. They help us pick things up and climb trees.

**9. Gravity**

Earth's gravity acts on the gas molecules in the atmosphere, pulling the atmosphere towards the surface of the Earth, and preventing it from drifting away. However, the atmosphere is slowly leaking into space, especially the very small gas molecules of hydrogen and helium. Earth's magnetic field also plays a role in protecting the atmosphere as it shields Earth from the Solar wind which could otherwise strip away the gases in the atmosphere.

**10. Bit**

In a digital computer, information is stored as either a 1 or a 0, and each little piece of information is one bit. A group of eight bits is called a 'byte'. Scientists and engineers are working on developing quantum computers which store information as qubits (pronounced Q-bits) with the aim of creating computers that will solve complicated problems much faster than digital computers.

[www.scienceweek.net.au/2025-brain-break-digital](http://www.scienceweek.net.au/2025-brain-break-digital)