



brain break

morning tea



2025 Brain Break Quiz for Schools

Year 11-12 Questions

- Q1.** Each year, approximately how many native mammals are killed by feral and pet cats in Australia?
- a) 100,000
 - b) 1 million
 - c) 100 million
 - d) 1 billion
- Q2.** What is the term used when an artificial intelligence algorithm makes mistakes by finding non-existent patterns in information, giving incorrect results?
- Q3.** Wi-Fi allows computers in a home, school or business to connect to the internet without using wires. What does Wi-Fi stand for?
- a) Without Fibres
 - b) Without Fixtures
 - c) Wireless Fidelity
 - d) It doesn't stand for anything - a marketing agency made it up
- Q4.** Which of these celebrities studied STEM at university?
- a) Eva Longoria (*Desperate Housewives* actress)
 - b) Rowan Atkinson (comedian, famous for playing *Mr Bean*)
 - c) Michael Hussey (Australian cricketer)
 - d) Brian May (guitarist in *Queen*)
 - e) All of the above



brain break

morning tea



Enjoy your **BRAIN BREAK** celebrating science

Tell us about your morning tea on Twitter: [#scienceweek](#) [#brainbreak](#)

Year 11-12 Questions (cont.)

- Q5.** Hydrogen and helium are the first two elements on the periodic table. Roughly what percentage of ordinary matter in the universe (excluding dark matter) is made up of either hydrogen or helium?
- a) 28%
 - b) 48%
 - c) 88%
 - d) 98%
- Q6.** Billiard balls were originally made of ivory, from elephant tusks. To replace the use of ivory, people started making billiard balls from an early plastic called 'celluloid'. What was one of the problems with playing billiards using celluloid balls?
- a) Celluloid balls were too expensive
 - b) The balls sometimes exploded when they hit each other
 - c) The balls were not perfectly round so they did not roll straight
 - d) The balls made the wrong sound when they hit each other
- Q7.** What famous Steve Irwin phrase forms part of the scientific name of the snail named after him?
- Q8.** The Budj Bim Cultural Landscape in western Victoria is one of the world's oldest and largest aquaculture facilities. It was built by Gunditjmara people in Victoria to trap, store and harvest short-finned eel over 6,000 years ago and is still in use today. Roughly how large is it?
- a) The size of the MCG (around 35 hectares/86 acres)
 - b) The size of 8 MCGs (around 280 hectares/700 acres)
 - c) The size of 180 MCGs (around 6,300 hectares/15,500 acres)
 - d) The size of 280 MCGs (around 9,800 hectares, 24,000 acres)



Questions (cont.)

- Q9.** Which type of mature human body cell does not have DNA?
- a) White blood cell
 - b) Red blood cell
 - c) Nerve cell
 - d) Muscle cell
- Q10.** Bombe Alaska and deep-fried ice-cream are examples of desserts that feature ice-cream and intense heat. What thermodynamic property prevents the ice-cream from melting?
- a) Conduction
 - b) Insulation
 - c) Convection
 - d) Radiation



Answers

1. **d) 1 billion**

Feral cats threaten many native species, including bandicoots, bilbies and potoroos, and are thought to have contributed to the extinction of over 20 Australian mammal species.

2. **Hallucination**

Examples of AI hallucinations have included: misleading results based on biased data being used to train an algorithm; mistakes in image recognition (for example, mistaking a cat for a dog) due to limitations in training data; and a lawyer using made up legal precedents generated by Chat GPT.

3. **d) It doesn't stand for anything... a marketing agency made it up.**

Wi-Fi was originally called the 'IEEE 802.11b Direct Sequence', which isn't very catchy! Wi-Fi is essentially a very advanced digital radio using frequencies between 2 gigahertz and 5 gigahertz in the electromagnetic spectrum, around the same frequency as microwave ovens. This allows information to be shared between machines without using wires.

4. **e) They all did**

Eva Longoria wrote her master's thesis about the under-representation of Latinas in STEM, Rowan Atkinson studied engineering, Michael Hussey trained as a science teacher and Brian May has a PhD in astronomy, which he started in 1970 (the same year *Queen* formed), before returning to complete it in 2007.

5. **98%**

Nearly all atoms in the universe are either hydrogen or helium which formed within the first few minutes after the Big Bang. The other elements are mostly made by nuclear fusion in stars, especially fusion during supernova explosions. Other elements are born in the collisions of neutron stars or extreme environments around black holes. While other elements like oxygen, carbon and iron are common on earth, they are rare in the grand scheme of the universe.

6. **b) The balls sometimes exploded when they hit each other**

Celluloid is made from nitrocellulose which is highly flammable.



Answers (cont.)

7. Crikey

Crikey steveirwini was named by Queensland Museum scientist Dr John Stanisic in 2009.

8. d) The size of 280 MCGs (around 9,800 hectares, 24,000 acres)

In fact, it's a little larger, covering around 9,900 hectares/24,500 acres or 99 square kilometres!

9. b) Red blood cell

When it is forming, a red blood cell has DNA inside a nucleus to make haemoglobin. The cell then loses the nucleus, leaving plenty of room in the cell for lots of haemoglobin to carry oxygen around the body.

10. b) Insulation

The layer of meringue in a bombe Alaska and the layer of crispy breadcrumb batter around deep-fried ice-cream provides thermal insulation which protects the ice-cream from heating up too much. An insulator is a barrier that slows down heat transfer from one area to another.

www.scienceweek.net.au/2025-brain-break-digital