national science week 2026

An Australian Government Initiative

Inspiring AUSTRALIA

SOUNDS OF SCIENCE

HARD

This is an audio-based Brain Break activity where participants listen to a sound and identify its source. While it may not be immediately obvious, all the sounds relate to science in some way!

The sounds are sorted into 3 categories (easy, medium and hard), and each includes an optional hint, and an explanation about the science behind the sound.

This activity suits read-aloud delivery in person, over a PA system, or video call, and adds variety to the text-only Brain Break quizzes.

→ **TO ACCESS SOUNDS FOR THE HARD LEVEL, VISIT:**
https://soundcloud.com/soundsofscience2026/sets/hard

SOUND 1: 3D PRINTER

HINT: Pay close attention to hear this dimension

EXPLANATION: A 3D printer builds an object one thin layer at a time from a digital design. Most 3D printers melt plastic and carefully place it layer by layer, with each new layer sticking to the one below until the final shape is complete. Instead of carving something out of a solid block, a 3D printer slowly grows an object from the bottom up.

MORE INFORMATION: https://www.energy.gov/articles/how-3d-printers-work

Credit/attribution: Applied Chemistry and Translational Biomaterials Research Group, Adelaide University

SOUND 2: POBBLEBONK FROG

HINT: A pluck and a bonk in the cool evening air, I make a strange sound, though I'm hard to spot there.

EXPLANATION: *Limnodynastes dumerili*, also known as a banjo frog or pobblebonk frog, is famous for its loud, unusual 'bonk' and 'tok' mating calls, which sound a bit like a banjo string being plucked, giving the frog its memorable name.

MORE INFORMATION: https://australian.museum/blog/amri-news/banjo-frogs-diversity/ • https://www.australiangeographic.com.au/fact-file/pobblebonk/

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scienceweek.net.au

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

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SOUND 3: SLINKY ON A CUP (STAR WARS 'LASER' SOUND)

HINT: A sound that's magnified is tricky to identify

EXPLANATION: While this might sound like the 'pew-pew' of a laser blaster from a science-fiction movie, it's actually a real-life sound made with a metal slinky and a cup! When you tap or shake a slinky, vibrations travel through the metal coils. On its own, the vibration from the slinky is quiet, but when attached to a cup, the cup amplifies the sound by vibrating the hollow air space within. The wobbly 'laser' sound happens because different frequencies (pitches) travel through the metal at different speeds, making the sound slide and chirp in a way that resembles a sci-fi blaster. Fun fact: The famous Star Wars blaster sound was created by sound designer Ben Burtt after striking stretched metal wires on a radio tower with a wrench!

MORE INFORMATION: https://www.youtube.com/watch?v=TMaNZMFPRfU&t=4s • https://www.fizzicseducation.com.au/150-science-experiments/light-sound-experiments/star-wars-slinky-sounds/?srsltid=AfmBOooS60087BkwuieS1AWW-vcBWVxdMQRYbYUgcpLK0zc4FphiRmLc

Credit/attribution: Questacon

SOUND 4: THEREMIN

HINT: I make music without strings, keys, or drums.
The closer you move, the more my strange voice thrums.
What am I?

EXPLANATION: While this one might sound like it's come straight from a horror movie, it's actually from a musical instrument – one you can play without ever touching it. A theremin is an instrument famous for its eerie, sci-fi sound. It uses two antennas surrounded by invisible electromagnetic fields: moving your hand near the vertical antenna changes the pitch (how high or low the note is), while moving your hand near the horizontal antenna controls the volume. Your body changes the instrument's electromagnetic field, altering electrical signals inside the theremin, which are amplified and turned into sound through a speaker.

MORE INFORMATION: https://imusician.pro/en/resources/blog/what-is-a-theremin-how-does-a-theremin-work

Credit/attribution: Theremin alone.aif by DJ Burnham -- https://freesound.org/s/76811/ -- License: Attribution 4.0

SOUND 5: GEIGER COUNTER

HINT: You'll have something to fear, if the sound is fast and clear

EXPLANATION: A Geiger counter measures ionising radiation, such as alpha, beta and gamma radiation, using a tube filled with gas. When radiation enters the tube, it knocks electrons off gas atoms, creating a tiny electrical pulse that the device turns into a click or beep. The more radiation detected, the faster the clicks, which is why a Geiger counter can go from an occasional tick to a rapid crackle.

MORE INFORMATION: https://www.bbc.co.uk/bitesize/guides/zt9s2nb/revision/5 • https://www.nrc.gov/reading-rm/basic-ref/students/science-101/what-is-a-geiger-counter