

How good is your hearing?

HEARING RANGE



| (Type) | Ages | Topic | Time |
|--------------------|---|-------|----------|
| Science background | 7-14 | Sound | <10 mins |
| | Skills used Observations - Curiosity | | |

Overview for adults

Hearing Range lets you test your hearing. As you listen through headphones, sounds of different frequencies are played, starting quietly and getting louder. You press a button when you hear the sound and at the end get an estimate of your “hearing age”.

What’s the science?

Frequency is the number of sound waves per second. It’s measured in hertz (Hz). Humans can hear sounds at frequencies between 20 hertz (a cat purring) and 20,000 hertz (a bat squeaking). The sounds you can hear are linked to your age. An 8-year-old hears the widest range of sounds. Then, as you get older, it becomes harder to hear high-frequency sounds.

Science in your world

Different animals have different hearing ranges. Dogs and cats can hear much higher sounds than we can – up to 50,000hz. That’s why dog whistles work. They produce really high frequency sounds that we can’t hear but dogs can hear them loud and clear.

Things to think and talk about ...

- Why do you think hearing gets worse as you get older?
- What could make your hearing better or worse?

Things to investigate ...

- How good is your hearing?
- Who the best hearing in your group? Are they the youngest?

Museum links

When microphones were invented, they could only pick up small ranges of frequencies. To record people speaking, you needed lots of different microphones of different sizes – from tiny ones to pick up high frequency sounds to big ones to pick up the low frequency sounds.

Did you know...?

The best ears on Earth belong to porpoises. They can hear sounds up to 150,000hz!