Why Songs Get Stuck in Your Head: The Science of Earworms

Name Date Class

Reading

1 You are standing in the supermarket when a few seconds of a **jingle** drift out of the speakers. By the time you reach the checkout, the tune has **lodged** itself in your head, and it is still there on the bus home, at dinner, and in the shower. It plays on without any help from you. Scientists call this **involuntary** musical imagery. Everyone else calls it an earworm, a word borrowed from the German Ohrwurm. It is remarkably common: a large survey of Finnish internet users found that more than nine in ten people reported having one at least once a week.

2 What starts an earworm? The most common cause is simply hearing the music, and songs you enjoy tend to be the likeliest candidates. But there are other routes. British researchers who collected reports from the public found that a **cue** such as a word, a few notes, or a feeling you link with a song can bring it back. A mind that is **idle** is another way in. Waiting at a bus stop, walking to work, or washing dishes can leave your attention free, and a tune slips into the gap. People who play music or listen to it all day report more earworms, which may simply reflect how much music they hear.

3 Some songs are also stickier than others. In one study, researchers compared tunes that many people named as earworms with similar songs that nobody named. The **catchy** tunes tended to have a fairly fast tempo, a familiar overall melodic **contour**, and a few surprises, such as an unexpected leap or an extra repeated note. The riff that opens Smoke on the Water and the chorus of Bad Romance were two of the researchers' examples. The team could **predict**, to some extent, which songs would stick. Popularity mattered too, probably because more people hear a hit. Even so, earworms are very personal: a song that can **haunt** one person may leave another untouched.

4 Why does the brain do this? Nobody fully understands it yet. One idea is that an earworm is an unwanted memory that returns on its own, much like a sudden flashback to a childhood holiday, except that what comes back is sound. Another is that the system behind silent inner speech, which quietly plans the movements of the mouth and throat, helps keep a tune going round and round. Neither idea is **settled**.

5 If you want to get rid of a tune, the evidence offers a few ideas, though most of it comes from short laboratory tests. Trying hard not to think about the tune often backfires, so it helps to give your mind something else to do. Chewing gum is the most surprising idea. In experiments at a British university, volunteers who chewed gum reported hearing a tune in their heads less often than people who did nothing or tapped their fingers. The researchers think chewing may **interfere with** the system that handles silent speech. Solving a puzzle of medium difficulty, such as an anagram, seemed to help in an American study, while puzzles that were too hard seemed to make earworms more likely. The lead researcher recommends an **absorbing** task that is neither too easy nor too hard, such as a good book or an engaging conversation. Listening to the whole song is another popular remedy. Many people report that it works, although that advice rests on their reports rather than on experiments.

6 For most people, an earworm is a harmless **nuisance**. Most fade within half an hour, although some **linger** for hours or even days. An earworm is not the same as a musical **hallucination**, in which a person seems to hear real music with no source. Hallucinations are rare, they are most often reported by older people with hearing difficulties, and they are worth discussing with a doctor. One neurologist also advises contacting a doctor if an earworm lasts more than 24 hours or comes with other worrying symptoms, such as confusion or changes in vision.

7 None of these remedies is guaranteed, and researchers do not yet know whether they work equally well for every kind of earworm. The next time a tune arrives uninvited, you could run a small test of your own. Try one remedy, note how long the song stays, and compare the result with your last earworm.

Vocabulary Matching

Match each word from the reading with its meaning. Write the letter on the line.

1	**jingle**	_____	**A**	became fixed in place and hard to remove
2	**lodged**	_____	**B**	something that is annoying but not serious
3	**involuntary**	_____	**C**	to stay for longer than expected
4	**cue**	_____	**D**	to keep coming back to your thoughts
5	**idle**	_____	**E**	to say what will happen before it does
6	**catchy**	_____	**F**	hearing or seeing something not really there
7	**contour**	_____	**G**	not busy or occupied with anything
8	**predict**	_____	**H**	happening without your choice or control
9	**haunt**	_____	**I**	the overall shape of a line or an outline
10	**settled**	_____	**J**	to get in the way of something
11	**interfere with**	_____	**K**	so interesting that it holds your attention
12	**absorbing**	_____	**L**	a signal that brings back a memory
13	**nuisance**	_____	**M**	easy to remember and hard to forget
14	**linger**	_____	**N**	a short tune used to advertise a product
15	**hallucination**	_____	**O**	agreed on, with no more argument

Fill in the Blank

Choose a word from the box to complete each sentence. Use each word once. The words are already in the correct form.

absorbing	**catchy**	**cue**	**hallucination**	**haunt**	**idle**	**interfere with**	**involuntary**	**jingle**	**linger**
lodged	**nuisance**	**predict**	**settled**						

1 The shop played the same _____ every hour to advertise its sale.

2 A small bone had _____ in his throat, and he could not swallow.

3 Hiccups are an _____ reaction: you cannot stop them by choosing to.

4 A sudden smell can be a _____ that brings back an old memory.

5 His mind was _____ during the long train ride, so he began to daydream.

6 She wrote a _____ chorus that everyone remembered after one listen.

7 Nobody can _____ who will win the election.

8 A sad memory can _____ a person for years.

9 The cause of the disease is still not _____ .

10 Noise from the street can _____ your sleep.

11 She found the video game so _____ that she forgot about dinner.

12 A barking dog next door can be a real _____ .

13 The smell of fresh paint can _____ in a room for days.

14 Doctors say a _____ is not the same as an ordinary earworm.

Comprehension Questions

Answer in your notebook or discuss with a partner. Questions 10 to 12 are IELTS-style.

1 What is an earworm, and what do scientists call it?

2 According to the first two paragraphs, how common are earworms, and what can start one?

3 Why might musicians and heavy listeners report more earworms?

4 How did researchers study what makes a tune catchy, and what did they find?

5 What does the writer mean by saying that earworms are very personal?

6 What two ideas does the writer give about why the brain produces earworms, and how certain are they?

7 What did the gum experiments find, and how do the researchers explain the result?

8 What does the reading say about puzzles and other mental tasks as a way to stop an earworm?

9 How is an earworm different from a musical hallucination, and when does the reading say to contact a doctor?

IELTS-Style Questions

10 **True, False, or Not Given:** *"The researchers found that women have more earworms than men."* Explain your answer using evidence from the reading.

11 **Yes, No, or Not Given:** *"The writer believes that chewing gum is a reliable cure for earworms."* Explain your answer using evidence from the reading.

12 **Author's purpose:** Why does the writer end by suggesting that readers run a small test of their own? Is the aim to prove that the remedies work, to encourage readers to try the ideas because the evidence is limited, or something else?

True or False

Circle T (true) or F (false) according to the reading. Write a correction for each false statement on the dotted line.

1 **T / F** The word earworm comes from German.

2 **T / F** The Finnish survey found that most people never get an earworm.

3 **T / F** Waiting at a bus stop can leave your attention free for a tune to slip in.

4 **T / F** Researchers have proved that musicians have more earworms because their brains are different.

5 **T / F** Popular songs mattered in the study, probably because more people hear a hit.

6 **T / F** The researchers could predict exactly which songs would stick for every person.

7 **T / F** Scientists agree on why the brain produces earworms.

8 **T / F** In the British experiments, people who tapped their fingers heard the tune more often than people who chewed gum.

9 **T / F** Very hard puzzles worked best in the American study.

10 **T / F** Musical hallucinations are rare.

Discussion Questions

Talk with a partner or in a small group. The questions move from personal to more abstract.

1. Do you often get songs stuck in your head? Which song is stuck in your head right now, or was the last one you remember?
2. Where do you usually hear music during a normal day? Does this affect which songs you remember?
3. Think of a song you could not get out of your head. Can you trace it back to something you heard, saw, or felt just before?
4. Do you think earworms are more common for songs you like or for songs you dislike? Why?
5. Do you listen to songs in English? Could they help you learn the language, or do they repeat only the same few words?
6. Can you remember an advertising jingle from your childhood? Why do you think it stayed in your memory?
7. Which songs in your country are so familiar that almost everyone could hum them? What helped them to spread so widely?
8. Have you ever tried chewing gum, doing a puzzle, or another trick to get rid of an earworm? Which method would you try first, and why?
9. The reading says earworms are very personal. Why might two people hear the same song but only one of them get it stuck?
10. Do you think music should be played in shops, cafes, and on public transport? Who benefits, and who might be bothered?
11. Researchers tested these ideas in laboratories with volunteers. What are the strengths and limits of testing an everyday experience that way?
12. When you read about a surprising result, such as gum helping against earworms, what makes you trust it or doubt it?
13. If researchers learn exactly what makes a melody sticky, who should be allowed to use that knowledge? Is it harmless, or a form of manipulation?
14. Do you think people in different cultures experience music in the same way? How could researchers compare earworms across countries fairly?

Language Focus: Gerunds as the Subject of a Sentence

A gerund is the -ing form of a verb used like a noun. It can be the subject of a sentence and usually names an activity in general, without saying who does it.

In the reading:

- "**Waiting** at a bus stop, **walking** to work, or **washing** dishes can leave your attention free…"
- "**Chewing** gum is the most surprising idea."
- "**Solving** a puzzle of medium difficulty, such as an anagram, seemed to help in an American study…"

Practice: Rewrite this sentence so that a gerund is the subject: *"It can help to take a short walk when a tune will not go away."*

Activities and speed challenge
englishbridges.com/lessons/earworms

Notes