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Level 5 – 27th November 2023

Bacteria pass 'memories' to future generations

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<https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

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Please try Levels 4 and 6. They are (a little) harder.

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THE READING

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

Scientists perhaps thought they knew all there was to know about bacteria. However, they have just found that bacteria have a mechanism that can store and pass on memories to future generations. The research was on the E. coli bacterium. This is one of the most well-studied organisms. Researchers wrote about how bacteria could form memories even though they lack a brain. They said bacteria can gather information from their environment, "and if they have encountered that environment frequently, they can store it and quickly access it later for their benefit".

Bacterial memory is different from human memory. It is more like our muscle memory. Our muscles have a sense of what to do next from having done it many times before. The researchers say bacterial memory is because of their levels of iron. A researcher said: "Early life was utilizing iron for a lot of cellular processes. Iron is...critical...in the evolution of life. It makes sense that cells would utilize it." He added that his research could help to fight bacterial diseases. He said: "The more we know about bacterial behaviour, the easier it is to combat them."

Sources: <https://www.earth.com/news/bacteria-form-memories-and-pass-them-on-to-future-generations/>
<https://www.unilad.com/technology/space/whats-inside-earth-core-696460-20231123>
<https://www.sciencealert.com/in-a-first-bacteria-seen-storing-memories-and-passing-them-on-for-generations>

PHRASE MATCHING

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

PARAGRAPH ONE:

- | | |
|------------------------------------|-----------------------|
| 1. Scientists perhaps thought they | a. on memories |
| 2. bacteria have a | b. their environment |
| 3. store and pass | c. for their benefit |
| 4. The research was on the | d. a brain |
| 5. one of the most well- | e. knew all there was |
| 6. even though they lack | f. E. coli bacterium |
| 7. gather information from | g. mechanism |
| 8. quickly access it later | h. studied organisms |

PARAGRAPH TWO:

- | | |
|----------------------------------|-----------------------|
| 1. Bacterial memory is different | a. many times before |
| 2. It is more like | b. bacterial diseases |
| 3. Our muscles have a sense of | c. our muscle memory |
| 4. having done it | d. cellular processes |
| 5. because of their levels | e. from human memory |
| 6. utilizing iron for a lot of | f. to combat them |
| 7. help to fight | g. what to do next |
| 8. the easier it is | h. of iron |

LISTEN AND FILL IN THE GAPS

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

Scientists perhaps thought they (1) _____ was to know about bacteria. However, they have just found that bacteria (2) _____ that can store and pass on memories to future generations. The research was on the E. coli bacterium. This is one (3) _____ well-studied organisms. Researchers wrote about how bacteria could form memories even though they (4) _____. They said bacteria can gather information from their environment, "and if (5) _____ that environment frequently, they can store it and quickly access it later (6) _____".

Bacterial memory is different (7) _____. It is more like our muscle memory. Our muscles have (8) _____ what to do next from having done it many times before. The researchers say bacterial memory is because of their (9) _____. A researcher said: "Early life was utilizing iron for a lot of cellular processes. Iron is...critical...in the (10) _____. It makes sense that cells would utilize it." He added that his research could help to (11) _____. He said: "The more we know about bacterial behaviour, the easier it is (12) _____."

PUT A SLASH (/) WHERE THE SPACES ARE

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

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MEMORIES SURVEY

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-4.html>

Write five GOOD questions about memories in the table. Do this in pairs. Each student must write the questions on his / her own paper. When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

WRITE QUESTIONS & ASK YOUR PARTNER(S)

Student A: Do not show these to your speaking partner(s).

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

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WRITE QUESTIONS & ASK YOUR PARTNER(S)

Student B: Do not show these to your speaking partner(s).

a) _____

b) _____

c) _____

d) _____

e) _____

f) _____

WRITING

From <https://breakingnewsenglish.com/2311/231127-bacteria-memories-5.html>

Write about **memories** for 10 minutes. Read and talk about your partner's paper.
