

Citizen Science: When the Public Joins Research Projects

COMPREHENSION • VOCABULARY • DISCUSSION

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Reading Passage

Read the passage carefully. Each paragraph is labelled with a letter for easy reference.

- A** In recent years, the concept of citizen science has gained significant traction, allowing everyday individuals to contribute meaningfully to scientific research. This innovative approach not only democratizes science but also harnesses the collective power of diverse communities. For instance, projects like the Cornell Lab of Ornithology's eBird initiative invite enthusiastic birdwatchers to meticulously record their observations, creating a vast and invaluable database that aids ornithologists in tracking migration patterns and understanding population dynamics. Such contributions are invaluable, as they provide data that would be difficult and expensive to gather through traditional methods, which often rely solely on professional researchers.
- B** Another notable example is the Galaxy Zoo project, where volunteers play a crucial role in classifying galaxies by analyzing images taken by powerful telescopes. By participating in this project, citizens help professional astronomers make significant discoveries that could take years to achieve alone. This collaboration between amateurs and experts exemplifies how citizen science can accelerate research while fostering a sense of ownership and engagement in scientific endeavors. Furthermore, these projects often empower participants with valuable knowledge and skills, enhancing public understanding of science and the scientific process. As more people engage in these initiatives, the boundary between scientists and the public continues to blur, creating a more inclusive and collaborative scientific community.
- C** With the ongoing growth of citizen science, it is clear that the future holds even more opportunities for collaboration, discovery, and the democratization of scientific knowledge. As technology advances, more tools and platforms will become available, making it easier for individuals to participate in scientific research. This trend not only enriches the data available to scientists but also inspires a new generation of thinkers and innovators who are eager to explore the world around them. The potential for citizen science to impact various fields, from environmental conservation to health research, is immense, and as more citizens become involved, the collective contributions will undoubtedly lead to groundbreaking discoveries and a deeper appreciation for science in society.

Vocabulary Glossary

Key words and phrases from the passage. Study them before attempting the exercise below.

WORD / PHRASE	DEFINITION	EXAMPLE SENTENCE
traction	when something becomes popular or widely accepted	<i>The new online game is gaining traction among teenagers.</i>
democratizes	makes something accessible to everyone, not just a few	<i>The internet democratizes access to information.</i>
harnesses	uses something effectively	<i>The team harnesses the sun's power to generate electricity.</i>
ornithologists	scientists who study birds	<i>Ornithologists often travel to observe rare bird species.</i>
classifying	putting things into groups based on their characteristics	<i>In science class, we are classifying different types of rocks.</i>
accelerate	to make something happen faster	<i>New technology can accelerate the learning process.</i>
endeavors	tries or attempts to do something new or difficult	<i>The scientist's endeavors led to a new discovery.</i>
inclusive	including all types of people or ideas	<i>The event was inclusive, welcoming everyone from the community.</i>
innovators	people who create new ideas or things	<i>Innovators often change how we think about common problems.</i>

Vocabulary Exercise — Fill in the Blank

Use one word or phrase from the glossary above to complete each sentence. Each item is used only once. Answers are on the final page.

1. The new policy aims to _____ education so that all students have equal opportunities.
2. Volunteers play an important role in _____ galaxies to help astronomers.
3. The company plans to _____ the development of new products to stay competitive.
4. He is known as one of the leading _____ in the field of renewable energy.
5. The project _____ the power of community involvement to achieve its goals.
6. The festival was very _____, with events for people of all ages and backgrounds.

Comprehension Questions

These questions are different from the online practice test. Choose the best answer (A, B, C, or D). Answers and explanations are on the final page.

Question 1

What is the main idea of the passage?

- A. Citizen science projects are too complex for amateurs.
- B. Citizen science is replacing traditional scientific methods.
- C. Citizen science empowers the public to contribute to research.
- D. Citizen science lacks proper tools for data collection.

Question 2

What is the author's purpose in mentioning the eBird initiative?

- A. To show how birdwatching is a popular hobby.
- B. To illustrate a successful citizen science project.
- C. To explain how ornithologists work alone.
- D. To highlight the challenges in tracking bird migrations.

Question 3

What does the passage suggest about the future of citizen science?

- A. It will face many technological barriers.
- B. It will become less important over time.
- C. It will provide more opportunities for public involvement.
- D. It will remain limited to environmental projects.

Question 4

Why are the contributions of citizen scientists considered invaluable?

- A. They replace the need for professional researchers.
- B. They provide data that is difficult and costly to collect otherwise.
- C. They always lead to groundbreaking discoveries.
- D. They are more accurate than data from traditional methods.

Question 5

How does the Galaxy Zoo project benefit professional astronomers?

- A. It allows them to avoid tedious tasks.
- B. It provides them with more funding for research.
- C. It helps them make discoveries faster.
- D. It eliminates the need for telescopes.

Discussion & Writing Prompts

Each prompt references a specific detail from the passage above. Use for classroom discussion or a short written response (150–200 words).

1. The passage mentions the eBird initiative as a way for birdwatchers to contribute to a scientific database. How do you think such projects can change the relationship between amateur naturalists and professional scientists?

2. According to the passage, Galaxy Zoo relies on volunteers to classify galaxies. What skills do you think participants might develop from this experience, and how could these skills benefit other areas of their lives?

3. The passage states that citizen science can impact fields from environmental conservation to health research. In what ways do you think citizen science could contribute to health research, and what challenges might arise?

Answer Key

COMPREHENSION QUESTIONS

Q1 C

Q2 B

Q3 C

Q4 B

Q5 C

VOCABULARY EXERCISE

FIB1 democratizes

FIB2 classifying

FIB3 accelerate

FIB4 innovators

FIB5 harnesses

FIB6 inclusive

Comprehension Question Explanations

Why the correct answer is right — and why each wrong option is incorrect.

1. What is the main idea of the passage?

✓ C — Citizen science empowers the public to contribute to research.

The passage emphasizes how citizen science allows the public to participate in meaningful research.

✗ A — Citizen science projects are too complex for amateurs.

The passage explains that amateurs can and do participate successfully.

✗ B — Citizen science is replacing traditional scientific methods.

The passage highlights collaboration, not replacement, of traditional methods.

✗ D — Citizen science lacks proper tools for data collection.

The passage suggests that technology is improving tools for citizen science.

2. What is the author's purpose in mentioning the eBird initiative?

✓ B — To illustrate a successful citizen science project.

The eBird initiative is used as an example of successful citizen science.

✗ A — To show how birdwatching is a popular hobby.

The focus is on scientific contribution, not the hobby itself.

✗ C — To explain how ornithologists work alone.

The passage shows collaboration, not solitary work.

✗ D — To highlight the challenges in tracking bird migrations.

The passage focuses on solutions, not challenges.

3. What does the passage suggest about the future of citizen science?

✓ C — It will provide more opportunities for public involvement.

The passage states that future technology will create more participation opportunities.

✗ A — It will face many technological barriers.

The passage suggests technology will facilitate, not hinder, participation.

✗ B — It will become less important over time.

The passage predicts growth, not decline, in citizen science.

✗ D — It will remain limited to environmental projects.

The passage mentions a wide range of fields beyond environmental projects.

4. Why are the contributions of citizen scientists considered invaluable?

✓ B — They provide data that is difficult and costly to collect otherwise.

The passage highlights the difficulty and cost of collecting such data through traditional means.

✗ A — They replace the need for professional researchers.

The passage emphasizes collaboration, not replacement.

✗ C — They always lead to groundbreaking discoveries.

Not all contributions lead to groundbreaking discoveries.

✗ D — They are more accurate than data from traditional methods.

The passage doesn't claim citizen data is more accurate.

5. How does the Galaxy Zoo project benefit professional astronomers?

✓ C — It helps them make discoveries faster.

The passage explains that citizen involvement speeds up the discovery process.

✗ A — It allows them to avoid tedious tasks.

The passage focuses on speeding discoveries, not avoiding tasks.

✗ B — It provides them with more funding for research.

Funding is not mentioned as a benefit of the project.

✗ D — It eliminates the need for telescopes.

Telescopes are still essential for capturing images.

MORE C1 LEVEL READING PRACTICE

Sociology Trust Modern Societies — <https://www.esl-tests.com/reading/c1/sociology-trust-modern-societies>

Economics Global Art Market — <https://www.esl-tests.com/reading/c1/economics-global-art-market>

Digital Memory Technology Changing Human Recall — <https://www.esl-tests.com/reading/c1/digital-memory-technology-changing-human-recall>