

The Ethics of Human Gene Editing

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 field of gene editing has made remarkable strides, particularly with the advent of technologies like CRISPR-Cas9. This revolutionary method allows scientists to edit genes with unprecedented precision, opening the door to potential treatments for genetic disorders such as cystic fibrosis and sickle cell anemia. The implications of these advancements are vast and could transform medicine as we know it. However, the rapid advancement of these technologies has sparked intense ethical debates that society must address. Proponents argue that gene editing could eliminate hereditary diseases and improve the overall quality of life for countless individuals. They envision a future where genetic conditions are a thing of the past, and individuals can choose traits for their offspring, potentially leading to a new era of human enhancement and personalized medicine. This vision includes not only the eradication of debilitating diseases but also the possibility of enhancing physical and cognitive traits, which could fundamentally change human capabilities.
- B** On the other hand, critics raise significant concerns regarding the implications of such power. The ability to modify human genes raises profound questions about consent, particularly when it comes to editing the DNA of embryos. Who gets to decide what traits are desirable, and how do we ensure that these decisions are made ethically? Furthermore, the potential for unintended consequences is a significant worry. Changes made to the germline could have unforeseen effects on future generations, which is a risk many find unacceptable. Additionally, there are fears that gene editing could exacerbate social inequalities, as only those with wealth might afford enhancements, leading to a society divided not just by class but by genetic superiority. This could create a new form of discrimination based on genetic traits, further complicating social dynamics. As we stand on the brink of this new frontier, it is essential to engage in thoughtful discussions about the ethical boundaries of gene editing. We must establish regulations that ensure responsible use of this powerful technology while considering the potential benefits and risks involved. The future of gene editing holds great promise, but it also demands careful consideration and oversight to navigate the complex moral landscape it presents.

Vocabulary Glossary

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

WORD / PHRASE	DEFINITION	EXAMPLE SENTENCE
remarkable	very special or surprising in a good way	<i>The teacher gave a remarkable speech at the school event.</i>
advent	the start or arrival of something new	<i>The advent of the internet changed how people communicate.</i>
precision	the quality of being very accurate and exact	<i>The artist painted the portrait with great precision.</i>
proponents	people who support a particular idea or plan	<i>Proponents of the new law believe it will help reduce crime.</i>
eradication	the act of completely removing or ending something	<i>The eradication of polio is a major health success.</i>
consent	permission or agreement to do something	<i>You need parental consent to go on the school trip.</i>
unintended	not planned or meant to happen	<i>The joke had unintended effects on her feelings.</i>
inequalities	unfair differences between people in society	<i>The government is working to reduce economic inequalities.</i>
oversight	the act of watching and checking something carefully	<i>The project will need oversight to ensure it stays on schedule.</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 _____ of mobile phones changed the way we communicate.
2. The _____ of the painting made it look very real.
3. Doctors are working towards the _____ of certain diseases.
4. Before any changes are made to the park, the city needs to get _____ from the residents.
5. Economic _____ can lead to social unrest.
6. The new policy was implemented without proper regulatory _____.

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 one potential benefit of gene editing mentioned in the passage?

- A. Increased lifespan for all humans
- B. Elimination of hereditary diseases
- C. Guaranteed healthy offspring
- D. Instant recovery from illnesses

Question 2

What is a significant concern regarding the editing of embryos' DNA?

- A. It is too expensive to implement widely.
- B. It may lead to unintended consequences for future generations.
- C. It is already regulated by law.
- D. It is not technologically possible yet.

Question 3

Why do some people worry about social inequalities in the context of gene editing?

- A. Only wealthy individuals might afford enhancements.
- B. Gene editing will be illegal in most countries.
- C. It will replace traditional medical treatments.
- D. It will only benefit certain genetic traits.

Question 4

What role does the author suggest society should play regarding gene editing?

- A. Ensure the technology is profitable
- B. Engage in thoughtful discussions about ethics
- C. Encourage rapid development without restrictions
- D. Prevent all forms of genetic research

Question 5

How does the author describe the potential future impact of gene editing on human capabilities?

- A. A return to natural selection
- B. A fundamental change in human capabilities
- C. An end to all genetic diseases
- D. A decrease in medical advancements

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. Paragraph 1 mentions CRISPR-Cas9 as a revolutionary method for gene editing. How do you see this technology changing the future of medicine in your country?

2. The passage states that gene editing could lead to genetic enhancement and personalized medicine. Do you think this could lead to ethical issues similar to those seen in other forms of enhancement like doping in sports?

3. The passage discusses the fear of creating social inequalities through genetic enhancement. How could governments ensure fair access to gene editing technologies for all?

Answer Key

COMPREHENSION QUESTIONS

Q1 B

Q2 B

Q3 A

Q4 B

Q5 B

VOCABULARY EXERCISE

FIB1 advent

FIB2 precision

FIB3 eradication

FIB4 consent

FIB5 inequalities

FIB6 oversight

Comprehension Question Explanations

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

1. What is one potential benefit of gene editing mentioned in the passage?

- ✓ B — Elimination of hereditary diseases The passage states that gene editing could eliminate hereditary diseases.
- ✗ A — Increased lifespan for all humans *The passage does not mention increased lifespan as a benefit.*
- ✗ C — Guaranteed healthy offspring *The passage does not guarantee healthy offspring but discusses potential trait selection.*
- ✗ D — Instant recovery from illnesses *Instant recovery from illnesses is not mentioned as a benefit.*

2. What is a significant concern regarding the editing of embryos' DNA?

- ✓ B — It may lead to unintended consequences for future generations. The passage mentions concerns about unintended consequences for future generations.
- ✗ A — It is too expensive to implement widely. *The concern is not primarily about cost in the passage.*
- ✗ C — It is already regulated by law. *The passage does not state that it is already regulated by law.*
- ✗ D — It is not technologically possible yet. *The passage discusses current technological capabilities.*

3. Why do some people worry about social inequalities in the context of gene editing?

- ✓ A — Only wealthy individuals might afford enhancements. The passage states that gene editing could exacerbate social inequalities if only the wealthy can afford it.
- ✗ B — Gene editing will be illegal in most countries. *The passage does not state that gene editing will be illegal.*
- ✗ C — It will replace traditional medical treatments. *The passage does not suggest gene editing will replace traditional treatments.*
- ✗ D — It will only benefit certain genetic traits. *The passage discusses trait selection but not exclusivity to certain traits.*

4. What role does the author suggest society should play regarding gene editing?

✓ B — Engage in thoughtful discussions about ethics

The passage emphasizes the need for thoughtful ethical discussions.

✗ A — Ensure the technology is profitable

The passage does not focus on profitability.

✗ C — Encourage rapid development without restrictions

The passage advocates careful consideration, not unrestricted development.

✗ D — Prevent all forms of genetic research

The passage does not call for preventing all genetic research.

5. How does the author describe the potential future impact of gene editing on human capabilities?

✓ B — A fundamental change in human capabilities

The passage suggests gene editing could fundamentally change human capabilities.

✗ A — A return to natural selection

The passage does not mention a return to natural selection.

✗ C — An end to all genetic diseases

While diseases may be reduced, the passage does not claim an end to all.

✗ D — A decrease in medical advancements

The passage discusses advancements, not a decrease.

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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>