



Writing an Essay

Exercise 28

TASK 1

Answer the following questions:

1. What do you know about 3D printing?
2. Do you think 3D printing can be used in other spheres of our life?
3. Is growing human organs like liver, kidneys, lungs, etc. ethical or immoral?

TASK 2

a) Read the task below. What kind of an essay is required?

- for and against essay
- opinion essay
- essay suggesting solutions to a problem

b) Write your answer to the task.

Part 4 (30 minutes)

Writing

Comment on the following statement:

Bioprinters are unethical and should be forbidden.

In your comment use the information from the article below.

Write **200–250 words**.

Remember to

- make an introduction,
- express your personal opinion on the statement and give reasons for your opinion,
- express your attitude towards the information from the article,
- make a conclusion.

Write in your own words.

What if you could press a button and a machine would make you a new nose or kidney? Scientists are exploring that futuristic vision by using special 3-D printers to make living body parts.

Called bioprinters, these machines use human cells as “ink.” A standard 3-D printer layers plastic to create car parts, for example, or trinkets, but a bioprinter layers cells to form three-dimensional tissues and organs.

To create an ear, the printer lays down a pliable, porous scaffold made of hydrogel, a kind of polymer. The scaffold is covered with skin cells and cartilage cells, which grow and fill in the ear-shaped form. The hydrogel eventually biodegrades; after about six months the ear is composed entirely of human cells. “We use the patient’s own cells,” says Anthony Atala, director of Wake Forest University’s Institute for Regenerative Medicine. That way the organs won’t be rejected.

Before programming a machine to build a body part, Atala says, scientists need to figure out how to create it themselves. In their labs they have grown bladders, blood vessels, and many other anatomical parts that have been implanted into patients.

Now they’re translating them for 3-D bioprinters and hope to soon be able to implant printed organs too. Already miniature kidneys and livers are used to test drugs, including chemotherapy agents.

Is there any area of anatomy that can’t be made in this way? Printing at least parts of the human heart should be possible, Atala says. What about the brain? “Definitely not in my lifetime!”

Source of the article: National Geographic, March 2018