

READING AND WRITING

PART 5

#1

Read the text and answer the questions

Scientists create glowing plants

There are a number of animals that glow in some way – including several kinds of insects and fish. Some kinds of mushrooms glow, too. But plants don't glow. Now, scientists are working to change that.

When a living thing gives off a glow, it's called bioluminescence. Fireflies are a well-known example of bioluminescence.

Fireflies and other bioluminescent creatures light up thanks to chemicals inside their bodies. These chemicals are known as luciferins. Luciferins cause a chemical reaction that gives off light.

Plants don't naturally have luciferins, so there are no naturally bioluminescent plants. But that hasn't stopped scientists from trying to create them.

In the past, scientists have created dimly glowing plants by adding DNA from glowing bacteria. Though this worked, the process was challenging. And the glowing effect was weak, perhaps because of the huge differences between simple bacteria and plants, which are much more complicated.

Scientists have also created glowing plants by adding luciferins to plants. But it's a tricky operation and only works as long as the

chemicals last. In 2017, a team at MIT was able to cause watercress plants to glow for about four hours.

Now, researchers at a Russian company called Planta, working with scientists from the United Kingdom and Austria have come up with a new method of creating glowing plants which lasts as long as the plant is alive.

Though mushrooms and plants grow very differently, the scientists focused on an acid that is found in both plants and mushrooms. By adding certain parts of the DNA from glowing mushrooms to ordinary tobacco plants, the scientists were able to create plants that could make their own luciferins using this acid.

The glowing came from all parts of the plant – leaves, stems, roots, and flowers. The scientists report that the greenish light was about 10 times brighter than in earlier glowing plants. The glow was strong enough to be easily recorded with an ordinary camera, but it didn't affect the health of the plants.

Questions:

- 1-. Do plants naturally glow in the dark ? (YES or NO)
- 2-. What do we call the phenomenon by which a plant gives off a glow ?
- 3-. What is the name of the chemicals inside the bodies of bioluminescent creatures ?
- 4-. Where does the DNA that scientists used in the past to create glowing plant come from ?
- 5-. What is the name of the Russian company that works with Austrian and British scientists ?
- 6-. What are the four parts of a plant ?
- 7-. Does the glow affect the health of the plant ? (YES or NO)