

## New plants can produce light in the dark

18th December, 2017



Scientists have created plants that glow in the dark. They are hoping to produce plants that can light up our lives. The scientists are from the Massachusetts Institute of Technology in the USA. They hope their discovery

could lead to plant lights replacing electric lights. One day, even light that trees produce could replace street lights. Professor Michael Strano, lead author of the research, explained that his team wants to create sustainable light sources and help the environment. He said: "The vision is to make a plant that will function as a desk lamp - a lamp that you don't have to plug in. The light is ultimately powered by the energy metabolism of the plant itself."

The researchers got the idea for their lighting plants from fireflies. They looked at the substance in fireflies that makes them glow. They created nanoparticles that contain the substance. They then put the nanoparticles into plant leaves to make them glow. The scientists were able to make plants that glowed for nearly four hours. The research team has tested the substance on salad leaves, including spinach and watercress. Professor Strano said: "Our target is to perform one treatment, when the plant is a seedling or a mature plant, and have it last for the lifetime of the plant." He thinks plant lights will be a part of our life in the future. He said: "We think this is an idea whose time has come."

Sources: [independent.co.uk](http://independent.co.uk) / [mit.edu](http://mit.edu) / [phys.org](http://phys.org)

## Writing

What are the advantages of disadvantages of plants that light up?

## Chat

Talk about these words from the article.

scientists / plants / our lives / electric lights / trees / research / environment / energy / fireflies / leaves / spinach / substance / glowed / target / mature / future / idea

## True / False

- Scientists want to make plants that light up our lives. T / F
- The scientists hope trees that light up could replace street lights. T / F
- The scientists want to replace desk lamps with plants with lights. T / F
- The plants do not use their metabolism to generate their energy. T / F
- Fireflies provided the inspiration for the plant lights. T / F
- The scientists did not use any substances from fireflies. T / F
- The longest the plants glowed for was forty minutes. T / F
- A scientist suggested we are not ready for the idea of plant lights. T / F

## Synonym Match

(The words in **bold** are from the news article.)

- |                      |                      |
|----------------------|----------------------|
| 1. <b>created</b>    | a. shine             |
| 2. <b>discovery</b>  | b. basically         |
| 3. <b>replace</b>    | c. made              |
| 4. <b>vision</b>     | d. moment            |
| 5. <b>ultimately</b> | e. take the place of |
| 6. <b>substance</b>  | f. trialed           |
| 7. <b>glow</b>       | g. fully grown       |
| 8. <b>tested</b>     | h. finding           |
| 9. <b>mature</b>     | i. material          |
| 10. <b>time</b>      | j. hope              |

## Discussion – Student A

- What are your favourite plants?
- How useful would plants that light up be?
- What other things could scientists get plants to do?
- How dangerous is it to change nature?
- What would streets lit up by trees be like?
- How much could these plants help the environment?
- Would you like a light plant on your desk?
- How would you turn the lights on plants on and off?

## Phrase Match

- |   |                          |
|---|--------------------------|
| 1. Scientists have created plants that glow | a. plant                 |
| 2. produce plants that can light up         | b. light sources         |
| 3. light that trees produce could           | c. that makes them glow  |
| 4. his team wants to create sustainable     | d. of the plant          |
| 5. a lamp that you don't have to            | e. in the dark           |
| 6. the substance in fireflies               | f. has come              |
| 7. tested the substance on salad leaves,    | g. replace street lights |
| 8. a seedling or a mature                   | h. plug in               |
| 9. last for the lifetime                    | i. our lives             |
| 10. this is an idea whose time              | j. including spinach     |

## Discussion – Student B

- What do you think about what you read?
- What do you think of fireflies?
- What other animal abilities could scientists put into plants?
- How dangerous would it be to eat leaves that light up?
- If all plants lit up, how would the world be different?
- What would owls think if all trees lit up?
- If grass, trees and crops lit up, would we lose the dark?
- What questions would you like to ask the researchers?

## Spelling

- lwog in the dark
- pcrodeu plants that can light up
- their icrvsydoe
- could lrpecea street lights
- create sustainable light rseocsu
- tnucnfio as a desk lamp
- from elferfiis
- They looked at the bnaecusst
- for raleny four hours
- npiachs and watercress
- a auermt plant
- last for the tifeielm of the plant

### Answers – Synonym Match

1. c	2. h	3. e	4. j	5. b
6. i	7. a	8. f	9. g	10. d

## Role Play

### Role A – Grass

You think grass is the most important plant. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the least important of these (and why): rice, bamboo or spinach.

### Role B – Rice

You think rice is the most important plant. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the least important of these (and why): grass, bamboo or spinach.

### Role C – Bamboo

You think bamboo is the most important plant. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the least important of these (and why): rice, grass or spinach.

### Role D – Spinach

You think spinach is the most important plant. Tell the others three reasons why. Tell them what is wrong with their plants. Also, tell the others which is the least important of these (and why): rice, bamboo or grass.

## Speaking – Plants

Rank these with your partner. Put the most important at the top. Change partners often and share your rankings.

- |              |         |
|--------------|---------|
| • bamboo     | • grass |
| • pine trees | • roses |
| • cacti      | • moss  |
| • spinach    | • rice  |

### Answers – True False

a	T	b	T	c	T	d	F	e	T	f	F	g	F	h	F
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Answers to Phrase Match and Spelling are in the text.