

## Plastic-eating worm could remove the world's waste

30th April, 2017



A natural solution to the growing crisis of plastic waste in the environment may be at hand. Researchers have discovered that a tiny caterpillar, commonly known as a waxworm, has a taste for plastic. Researchers from Cambridge University in the UK say that the waxworm devours plastic at "uniquely high speeds". They say that it is possible to utilize this environmentally-friendly solution to global waste on an industrial scale. Millions of waxworms could be bred to spend their days breaking down and consuming plastic bags, bottles, household items and other discarded waste. Around a trillion plastic bags end up in landfills around the world each year. They take centuries to biodegrade.

Researcher Dr Paolo Bombelli said: "It's extremely, extremely exciting because breaking down plastic has proved so challenging." He said the waxworm can break down a notoriously tough plastic like polyethylene more than 1,400 times faster than other organisms. The waxworm uses enzymes in its saliva to digest the plastic's chemical bonds. It might be possible one day to replicate these enzymes and spray them on waste to make it decompose. Another researcher said: "We are planning to implement this finding in a viable way to get rid of plastic waste, working towards a solution to save our oceans, rivers, and all the environment from the unavoidable consequences of plastic accumulation."

Sources:  
[telegraph.co.uk](http://telegraph.co.uk) / [nationalgeographic.com](http://nationalgeographic.com) / [sciencedaily.com](http://sciencedaily.com)

### Writing

The world needs to completely stop using plastic. We don't need it. Discuss.

### Chat

Talk about these words from the article.

natural / solution / taste / high speeds / environmentally-friendly / landfills / bags / exciting / challenging / tough / organisms / chemical bonds / waste / oceans / rivers

### True / False

- a) The article says a solution to the growing plastic crisis could be at hand. T / F
- b) A caterpillar called a waxworm likes to eat plastic. T / F
- c) The worm eats plastic very, very, very quickly. T / F
- d) Around a billion plastic bags are buried in the ground each year. T / F
- e) The article says researchers set a challenge to break plastic down. T / F
- f) The worm can eat plastic over 1,400 times faster than other animals can. T / F
- g) Researchers said it is possible to replicate the enzymes of the worm. T / F
- h) A researcher wants a viable way to save the worms from plastic waste. T / F

### Synonym Match

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

- |                         |                |
|-------------------------|----------------|
| 1. <b>solution</b>      | a. thrown away |
| 2. <b>at hand</b>       | b. eating      |
| 3. <b>tiny</b>          | c. copy        |
| 4. <b>consuming</b>     | d. near        |
| 5. <b>discarded</b>     | e. strong      |
| 6. <b>challenging</b>   | f. apply       |
| 7. <b>tough</b>         | g. answer      |
| 8. <b>replicate</b>     | h. results     |
| 9. <b>implement</b>     | i. very small  |
| 10. <b>consequences</b> | j. hard        |

### Discussion – Student A

- a) What do you think about what you read?
- b) In what other ways can we deal with the problem of plastic waste?
- c) Would you keep waxworms to eat your plastic waste?
- d) How good is your town at disposing of plastic waste?
- e) What other dangers are there to our environment?
- f) What are the dangers of plastic waste?
- g) What could we use instead of plastic?
- h) What questions would you like to ask the researchers?

## Phrase Match

- |                                       |                       |
|---------------------------------------|-----------------------|
| 1. a tiny caterpillar, commonly       | a. consequences       |
| 2. on an industrial                   | b. saliva             |
| 3. household                          | c. biodegrade         |
| 4. Around a trillion plastic bags end | d. known as a waxworm |
| 5. They take centuries to             | e. solution           |
| 6. break down a notoriously tough     | f. scale              |
| 7. The waxworm uses enzymes in its    | g. day                |
| 8. It might be possible one           | h. up in landfills    |
| 9. working towards a                  | i. plastic            |
| 10. unavoidable                       | j. items              |

## Discussion – Student B

- How harmful is plastic to the environment?
- What do you do to recycle plastic?
- Should we stop making plastic products?
- What do you think of the natural solution in the article?
- How would the world be different without plastic waste?
- How would the world be different without plastic?
- How likely do you think it is that the waxworm solution will work?
- What do you think of landfills?

## Spelling

- mlymonoc known as a waxworm
- the waxworm edosruv plastic
- at uenlqyi high speeds
- on an rsuanlidti scale
- Around a itrinllo plastic bags
- They take etuenicsr to biodegrade
- remeylxte exciting
- break down a notoriously ugoht plastic
- enzymes in its lasvai
- spray them on waste to make it dmcoeepos
- We are planning to ltnpeemmi this
- in a elibav way

### Answers – Synonym Match

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

## Role Play

### Role A – Rivers

You think rivers are the most important part of the environment. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least important of these (and why): forests, farmland or mountains.

### Role B – Forests

You think forests are the most important part of the environment. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least important of these (and why): rivers, farmland or mountains.

### Role C – Farmland

You think farmland is the most important part of the environment. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least important of these (and why): forests, rivers or mountains.

### Role D – Mountains

You think mountains are the most important part of the environment. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least important of these (and why): forests, farmland or rivers.

## Speaking – Environment

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

- |             |            |
|-------------|------------|
| • rivers    | • oceans   |
| • mountains | • glaciers |
| • lakes     | • farmland |
| • forests   | • jungles  |

### Answers – True False

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