

Scientists create plastic that repels all bacteria

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A revolutionary new plastic could help to prevent bacteria and superbugs causing disease and illness. Scientists have developed a new kind of transparent, plastic wonder-wrap. They say it will drastically

cut incidences of microbe transfer in hospitals, restaurants, kitchens, bathrooms and other places where bugs lie in wait. The plastic was created by researchers from McMaster University in Canada. They say their material can repel all forms of bacteria, including superbugs like MRSA. The material is like a conventional transparent wrap used to cover food. It can be shrink-wrapped to protect places that attract bacteria, like worktops, door handles, taps, hospital equipment and food containers.

The researchers said the inspiration for their new material came from the lotus plant. They attempted to replicate the method in which the leaves of this plant repelled water. Drops of water either sit on the surface of the leaves or bounce off. Researcher Leyla Soleymani wanted to apply that process to the new plastic. She said: "We're structurally tuning that plastic. This material gives us something that can be applied to all kinds of things." Another researcher, Tohid Didar, said: "We can see this technology being used in all kinds of institutional and domestic settings. As the world confronts the crisis of anti-microbial resistance, we hope it will become an important part of the anti-bacterial toolbox."

Sources: independent.co.uk / sky.com / cnn.com /

Writing

Scientists will win the fight against bacteria and superbugs. Discuss.

Chat

Talk about these words from the article.

revolutionary / plastic / bacteria / superbugs / illness / restaurant / wrap / hospital / inspiration / lotus plant / water / bounce / technology / domestic / crisis / toolbox

True / False

- a) A new plastic called 'Revolution' could prevent the spread of bacteria. T / F
- b) The new plastic is a see-through wrap. T / F
- c) Scientists say the new plastic will considerably cut microbe transfer. T / F
- d) The plastic is shrink-wrapped to cover things. T / F
- e) The inspiration for the plastic came from the lotus plant. T / F
- f) A researcher said the plastic can be applied to all kinds of things. T / F
- g) Researchers say the plastic will only be used in hospitals. T / F
- h) The article says we should cover toolboxes with the new plastic. T / F

Synonym Match

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

- | | |
|-------------------------|-----------------|
| 1. revolutionary | a. motivation |
| 2. transparent | b. fight off |
| 3. incidences | c. key |
| 4. repel | d. cutting-edge |
| 5. equipment | e. copy |
| 6. inspiration | f. apparatus |
| 7. replicate | g. household |
| 8. process | h. see-through |
| 9. domestic | i. procedure |
| 10. important | j. occurrences |

Discussion – Student A

- a) What do you think of plastic?
- b) What is revolutionary about the new plastic?
- c) How much do you worry about bacteria and superbugs?
- d) How useful is plastic wrap?
- e) What effect might the new plastic have on our lives?
- f) How clean are the places in your house?
- g) Will you be using this new plastic?
- h) In what other ways could we protect against bacteria?

Phrase Match

- | | |
|--|-------------------------|
| 1. a new kind of transparent, plastic | a. the method |
| 2. other places where bugs | b. bacterial toolbox |
| 3. a conventional transparent wrap | c. equipment |
| 4. It can be shrink- | d. the crisis |
| 5. hospital | e. wonder-wrap |
| 6. inspiration for their new material came | f. used to cover food |
| 7. They attempted to replicate | g. of water |
| 8. Drops | h. from the lotus plant |
| 9. As the world confronts | i. wrapped |
| 10. an important part of the anti- | j. lie in wait |

Discussion – Student B

- What do you think about what you read?
- What do you know about plastic?
- Can we live without plastic?
- What do you know about lotus plants?
- What inspiration could scientists get from other flowers?
- Will scientists ever protect us from superbugs?
- What should be in your anti-bacterial toolbox?
- What questions would you like to ask the researchers?

Spelling

- A ovatlynuoreri new plastic
- npasettarnr, plastic wonder-wrap
- it will adaiyrlltsc cut incidences
- microbe sfetarnr in hospitals
- repel all forms of atcierba
- hospital eenitpumq
- the ionisaitrpn for their new material
- attempted to paetceril the method
- the leaves of this plant reeeldpl water
- We're yusuctrraltl tuning that plastic
- all kinds of nilsatinoutit and domestic settings
- the crisis of anti-microbial atcserinse

Answers – Synonym Match

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

Role Play

Role A – Door Handles

You think door handles are the dirtiest things. Tell the others three reasons why. Tell them why their things aren't as dirty. Also, tell the others which are the cleanest of these (and why): shopping carts, toilet seats or computer keyboards.

Role B – Shopping Cart

You think shopping carts are the dirtiest things. Tell the others three reasons why. Tell them why their things aren't as dirty. Also, tell the others which are the cleanest of these (and why): door handles, toilet seats or computer keyboards.

Role C – Toilet Seat

You think toilet seats are the dirtiest things. Tell the others three reasons why. Tell them why their things aren't as dirty. Also, tell the others which are the cleanest of these (and why): shopping carts, door handles or computer keyboards.

Role D – Computer Keyboard

You think computer keyboards are the dirtiest things. Tell the others three reasons why. Tell them why their things aren't as dirty. Also, tell the others which are the cleanest of these (and why): shopping carts, toilet seats or door handles.

Speaking – Dirty

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

- | | |
|---------------|---------------------|
| • taps | • door handles |
| • fridge door | • shopping cart |
| • coins | • computer keyboard |
| • toilet seat | • chopping board |

Answers – True False

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