

## Desert beetles used to get water from air

1st March, 2016



Scientists may have found one answer to the problem of water shortages. It is a new material that collects water from the air. They got their idea from a small beetle that lives in the desert in Africa. The deserts

of the Skeleton Coast in Namibia are very dry, but the Namib desert beetle is an expert at surviving in hot and dry conditions. Its shell is covered in small bumps that collect tiny water droplets from the air. The water is enough to keep the beetle alive. Scientists studied the shape and material of the beetle's bumps. They want to use what they found out about the beetle to make their own materials that can collect water from the air. This will help people who live in very dry areas.

The scientists believe this new technology could help in many areas of our life. They said it could be very useful for power plants and for the heating and air conditioning in airplanes, cars and trains. One of the scientists, Philseok Kim, said: "Thermal power plants, for example, rely on condensers to quickly convert steam to liquid water. [Our] design could help speed up that process and even allow for operation at a higher temperature, significantly improving the overall energy efficiency." Another scientist, Joanna Aizenberg, said she was looking forward to the future of getting ideas for new technologies from nature. She said: "Everybody is excited about bio-inspired materials research."

Sources: *PulseHeadlines / NatureWorldNews / mnn.com*

## Writing

We should pay more for water so we save more. Discuss.

## Chat

Talk about these words from the article.

*answer / water shortages / beetle / skeleton / desert / dry / bumps / alive / materials / technology / power / plants / air conditioning / liquid / temperature / looking forward*

## True / False

- Scientists have found the answer to water shortages. T / F
- Scientists got their idea from a beetle that lives in an Arabian desert. T / F
- Bumps on the beetle's back helps collect the water. T / F
- The new material will not help people who live in dry areas. T / F
- Scientists say the material could help us in many ways. T / F
- The new material could help improve air conditioning in cars. T / F
- A scientist was not looking forward to the future. T / F
- The scientist said everyone was inspired by this kind of research. T / F

## Synonym Match

- |             |                      |
|-------------|----------------------|
| 1. answer   | a. think             |
| 2. collects | b. sufficient        |
| 3. dry      | c. depend            |
| 4. enough   | d. gets              |
| 5. areas    | e. beneficial        |
| 6. believe  | f. general           |
| 7. useful   | g. solution          |
| 8. rely     | h. regions           |
| 9. overall  | i. the natural world |
| 10. nature  | j. arid              |

## Discussion – Student A

- What do you think about what you read?
- How useful do you think the new material will be?
- Is water a problem where you live?
- People say there will be water wars in the future? Why?
- What else can we learn from how animals survive?
- How difficult would it be to survive in the desert?
- What would it be like to be a researcher on this project?
- When during the day do you waste water?

# BreakingNewsEnglish - The Mini Lesson

## Phrase Match

- |                                       |                          |
|---------------------------------------|--------------------------|
| 1. one answer to the problem          | a. surviving             |
| 2. an expert at                       | b. process               |
| 3. collect tiny water                 | c. in very dry areas     |
| 4. make their                         | d. efficiency            |
| 5. help people who live               | e. from nature           |
| 6. convert steam                      | f. own materials         |
| 7. speed up that                      | g. to liquid water       |
| 8. energy                             | h. of water shortages    |
| 9. getting ideas for new technologies | i. research              |
| 10. bio-inspired materials            | j. droplets from the air |

## Discussion – Student B

- How can we save water?
- Who will this new technology help?
- What do you know about beetles?
- What do you know about air conditioning?
- How much do you care about energy efficiency?
- What three adjectives best describe this story?
- How excited are you about getting technology ideas from nature?
- What questions would you like to ask the scientists?

## Spelling

- the problem of water rhgsetsao
- It is a new rlamtaei
- the Namib desert beetle is an eprtex
- surviving in hot and dry dinsoitonc
- enough to keep the beetle vliae
- clteolc water from the air
- it could be very fseulu for power plants
- quickly convert steam to iiudlq water
- Our design could help speed up that orcssep
- improving the overall yrneeg efficiency
- looking dwoafrr to the future
- ideas for new technologies from neratu

### Answers – Synonym Match

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

## Role Play

### Role A – Make it more expensive

You think making it more expensive is the best way to save water. Tell the others three reasons why. Tell them things that are wrong with their solutions. Also, tell the others which is the least effective of these (and why): daily limits, no water for gardens or education.

### Role B – Daily limits

You think daily limits are the best way to save water. Tell the others three reasons why. Tell them things that are wrong with their solutions. Also, tell the others which is the least effective of these (and why): making it more expensive, no water for gardens or education.

### Role C – No water for gardens

You think no water for gardens is the best way to save water. Tell the others three reasons why. Tell them things that are wrong with their solutions. Also, tell the others which is the least effective of these (and why): daily limits, making it more expensive or education.

### Role D – Education

You think education is the best way to save water. Tell the others three reasons why. Tell them things that are wrong with their solutions. Also, tell the others which is the least effective of these (and why): daily limits, no water for gardens or making it more expensive.

## Speaking – Save water

Rank these with your partner. Put the best ideas to save water at the top. Change partners often and share your rankings.

- |                        |                            |
|------------------------|----------------------------|
| • education            | • make it more expensive   |
| • no water for gardens | • take fewer baths         |
| • limit car washing    | • turn it off for 12 hours |
| • daily limits         | • social media campaigns   |

### Answers – True False

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a | F | b | F | c | T | d | F | e | T | f | T | g | F | h | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Answers to Phrase Match and Spelling are in the text.