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Level 3

Desert beetles used to get water from air

1st March, 2016

<http://www.breakingnewsenglish.com/1603/160301-collecting-water.html>

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Please try Levels 0, 1 and 2 (they are easier).

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THE ARTICLE

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

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: <http://www.pulseheadlines.com/scientists-developed-material-water-air/18647/>
<http://www.natureworldnews.com/articles/20230/20160326/desert-beetles-cacti-inspire-new-water-harvesting-techniques.htm>
<http://www.mnn.com/green-tech/research-innovations/blogs/scientists-steal-designs-nature-new-water-collecting-material>

WARM-UPS

1. WATER: Students walk around the class and talk to other students about water. Change partners often and share your findings.

2. CHAT: In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?

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

Have a chat about the topics you liked. Change topics and partners frequently.

3. COLLECTING WATER: How can we get water from these things? Complete this table with your partner(s). Change partners often and share what you wrote.

	How?	Could this happen?
Sea		
Garbage		
Trees / plants		
Space		
Ice bergs		
Sewage		

4. PAY MORE: Students A **strongly** believe people need to pay more for water to save it; Students B **strongly** believe the opposite. Change partners again and talk about your conversations.

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

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

6. DESERT: Spend one minute writing down all of the different words you associate with the word "desert". Share your words with your partner(s) and talk about them. Together, put the words into different categories.

BEFORE READING / LISTENING

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

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

2. SYNONYM MATCH: Match the following synonyms from the article.

- | | |
|-------------|----------------------|
| 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 |

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

- | | |
|---------------------------------------|--------------------------|
| 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 |

GAP FILL

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Scientists may have found one (1) _____ to the problem of water shortages. It is a new (2) _____ that collects water from the air. They got their (3) _____ 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 (4) _____ at surviving in hot and dry conditions. Its shell is covered in small bumps that collect tiny water (5) _____ from the air. The water is enough to keep the beetle (6) _____. 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 (7) _____ that can collect water from the air. This will help people who live in very dry (8) _____.

idea
alive
answer
areas
expert
material
materials
droplets

The scientists believe this new (9) _____ could help in many areas of our (10) _____. 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 (11) _____ plants, for example, rely on condensers to quickly (12) _____ steam to liquid water. [Our] design could help speed up that (13) _____ and even allow for operation at a higher temperature, significantly improving the overall (14) _____ efficiency." Another scientist, Joanna Aizenberg, said she was looking forward to the (15) _____ of getting ideas for new technologies from nature. She said: "Everybody is (16) _____ about bio-inspired materials research."

power
process
future
life
excited
technology
convert
energy

LISTENING – Guess the answers. Listen to check.

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

- 1) Scientists may have found one answer to the problem _____
 - a. of water shortage is
 - b. of water shortages
 - c. of watery shortages
 - d. of watery shortage is
- 2) They got their idea from a small beetle that lives in the _____
 - a. deserts in Africa
 - b. deserted in Africa
 - c. desert in Africa
 - d. dessert in Africa
- 3) the Namib desert beetle is an expert at surviving in hot _____
 - a. and wry condition
 - b. and dry conditionals
 - c. and wry conditions
 - d. and dry conditions
- 4) The water is enough to keep _____
 - a. the beetle alive
 - b. the beetle a live
 - c. the beetle a life
 - d. the beetle all live
- 5) They want to use what they found out about the beetle to make _____
 - a. their own material
 - b. their owned materials
 - c. their owns materials
 - d. their own materials
- 6) The scientists believe this new technology could help in many _____
 - a. areas off our life
 - b. areas of our life
 - c. areas for our life
 - d. areas of our live
- 7) They said it could be very useful for power plants and _____
 - a. four the heating
 - b. far the heating
 - c. for the heating
 - d. fore the heating
- 8) Thermal power plants, for example, rely on condensers to quickly convert steam _____
 - a. to liquids water
 - b. to liquid water
 - c. to liquidity water
 - d. too liquid water
- 9) allow for operation at a higher temperature, significantly improving the _____
 - a. overall energy efficiency
 - b. overall energy efficiently
 - c. overall energy efficient see
 - d. overall energy efficiently see
- 10) she was looking forward to the future of getting ideas for new technologies _____
 - a. from nature
 - b. farm nature
 - c. form nature
 - d. frame nature

LISTENING – Listen and fill in the gaps

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Scientists may have found one answer (1) _____ of water shortages. It is a new material that collects water from the air. They got (2) _____ a small beetle that lives in the desert in Africa. The deserts of the Skeleton Coast in Namibia (3) _____, but the Namib desert beetle is an expert at surviving in hot and dry conditions. Its shell is covered in small bumps (4) _____ water droplets from the air. The water is enough to keep the beetle alive. Scientists studied the (5) _____ 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 (6) _____ live in very dry areas.

The scientists believe this new technology could (7) _____ areas of our life. They said it could be very useful for power plants and for the heating and air conditioning (8) _____ and trains. One of the scientists, Philseok Kim, said: "Thermal power plants, for example, rely on condensers to quickly convert steam (9) _____. [Our] design could help speed up that process and even allow for operation at a higher temperature, significantly (10) _____ energy efficiency." Another scientist, Joanna Aizenberg, said she was looking (11) _____ of getting ideas for new technologies from nature. She said: "Everybody is excited (12) _____ materials research."

COMPREHENSION QUESTIONS

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

1. How many answers did scientists find to the water shortage problem?

2. Which country is the beetle from?

3. What is the beetle's shell covered in?

4. What do the scientists want to make?

5. Who will this new material help?

6. What part of planes, cars and trains could the new material help?

7. What do power plant condensers quickly convert to liquid water?

8. What could the new material's design do to power plant efficiency?

9. Where did a scientist say new technologies will come from?

10. What did a scientist say everybody is excited about?

MULTIPLE CHOICE - QUIZ

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

1. How many answers did scientists find to the water shortage problem?
 - a) uncountable
 - b) many
 - c) 100
 - d) one
2. Which country is the beetle from?
 - a) Norway
 - b) Namibia
 - c) Niger
 - d) Nigeria
3. What is the beetle's shell covered in?
 - a) steam
 - b) ice
 - c) bumps
 - d) water
4. What do the scientists want to make?
 - a) their own materials
 - b) a humidifier
 - c) a robot beetle
 - d) money
5. Who will this new material help?
 - a) car designers
 - b) people in Malaysia
 - c) people who live in dry areas
 - d) bus drivers
6. What part of planes, cars and trains could the new material help?
 - a) the windscreen / windshield wipers
 - b) the air conditioning
 - c) the waterproofing
 - d) the seats
7. What do power plant condensers quickly convert to liquid water?
 - a) gas
 - b) coal
 - c) beetles
 - d) steam
8. What could the new material's design do to power plant efficiency?
 - a) improve it
 - b) damage it
 - c) make it perfect
 - d) revolutionise it
9. Where did a scientist say new technologies will come from?
 - a) insects
 - b) space
 - c) nature
 - d) books
10. What did a scientist say everybody is excited about?
 - a) snow
 - b) bio-inspired materials research
 - c) new beetles
 - d) water

ROLE PLAY

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

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.

AFTER READING / LISTENING

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms ... for the words 'water' and 'air'.

water	air
--------------	------------

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

<ul style="list-style-type: none">• one• idea• expert• tiny• enough• people	<ul style="list-style-type: none">• life• cars• rely• allow• forward• excited
--	--

WATER SURVEY

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Write five GOOD questions about water in the table. Do this in pairs. Each student must write the questions on his / her own paper. When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

WATER DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

- 1) What did you think when you read the headline?
- 2) What springs to mind when you hear the word 'water'?
- 3) What do you think about what you read?
- 4) How useful do you think the new material will be?
- 5) Is water a problem where you live?
- 6) People say there will be water wars in the future? Why?
- 7) What else can we learn from how animals survive?
- 8) How difficult would it be to survive in the desert?
- 9) What would it be like to be a researcher on this project?
- 10) When during the day do you waste water?

Desert beetles used to get water from air – 1st March, 2016
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WATER DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

- 11) Did you like reading this article? Why/not?
- 12) What do you use water for every day?
- 13) How can we save water?
- 14) Who will this new technology help?
- 15) What do you know about beetles?
- 16) What do you know about air conditioning?
- 17) How much do you care about energy efficiency?
- 18) What three adjectives best describe this story?
- 19) How excited are you about getting technology ideas from nature?
- 20) What questions would you like to ask the scientists?

DISCUSSION (Write your own questions)

STUDENT A's QUESTIONS (Do not show these to student B)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

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DISCUSSION (Write your own questions)

STUDENT B's QUESTIONS (Do not show these to student A)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

LANGUAGE - CLOZE

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Scientists may have found (1) _____ answer to the problem of water shortages. It is a new material that collects water from the air. They got (2) _____ 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 (3) _____ surviving in hot and dry conditions. Its shell is covered (4) _____ small bumps that collect tiny water droplets from the air. The water is enough to keep the beetle (5) _____. 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 (6) _____.

The scientists believe this new technology could help in many areas of our life. They said it could be very (7) _____ 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, (8) _____ example, rely on condensers to quickly convert steam to liquid water. [Our] design could help (9) _____ up that process and even allow for operation at a higher temperature, significantly improving the (10) _____ energy efficiency." Another scientist, Joanna Aizenberg, said she was looking (11) _____ to the future of getting ideas for new technologies from nature. She said: "Everybody is excited about (12) _____-inspired materials research."

Put the correct words from the table below in the above article.

- | | | | | |
|-----|-------------|-------------|--------------|-------------|
| 1. | (a) only | (b) once | (c) one | (d) ones |
| 2. | (a) their | (b) them | (c) they | (d) these |
| 3. | (a) at | (b) by | (c) as | (d) to |
| 4. | (a) in | (b) on | (c) to | (d) as |
| 5. | (a) life | (b) alive | (c) live | (d) lively |
| 6. | (a) arena | (b) arenas | (c) area | (d) areas |
| 7. | (a) useless | (b) used | (c) useful | (d) usage |
| 8. | (a) from | (b) on | (c) to | (d) for |
| 9. | (a) speed | (b) fast | (c) hurried | (d) dash |
| 10. | (a) overly | (b) overall | (c) overt | (d) overact |
| 11. | (a) behind | (b) forward | (c) sideways | (d) down |
| 12. | (a) neo | (b) pre | (c) bio | (d) auto |

SPELLING

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Paragraph 1

1. the problem of water rhgsetsao
2. It is a new rlamtaei
3. the Namib desert beetle is an eprtex
4. surviving in hot and dry dinsoitonc
5. enough to keep the beetle vliae
6. clteolc water from the air

Paragraph 2

7. it could be very fseulu for power plants
8. quickly convert steam to iiudlq water
9. Our design could help speed up that orcssep
10. improving the overall yrneeg efficiency
11. looking dwoafrr to the future
12. getting ideas for new technologies from neratu

PUT THE TEXT BACK TOGETHER

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Number these lines in the correct order.

- () droplets from the air. The water is enough to keep the beetle alive. Scientists studied the shape and material of the
- () useful for power plants and for the heating and air conditioning in airplanes, cars and trains. One of the scientists,
- () The scientists believe this new technology could help in many areas of our life. They said it could be very
- () nature. She said: "Everybody is excited about bio-inspired materials research."
- () materials that can collect water from the air. This will help people who live in very dry areas.
- () beetle's bumps. They want to use what they found out about the beetle to make their own
- () of the Skeleton Coast in Namibia are very dry, but the Namib desert beetle is an expert at surviving in hot and
- () from the air. They got their idea from a small beetle that lives in the desert in Africa. The deserts
- () dry conditions. Its shell is covered in small bumps that collect tiny water
- () temperature, significantly improving the overall energy efficiency." Another scientist, Joanna Aizenberg, said she
- () to liquid water. [Our] design could help speed up that process and even allow for operation at a higher
- () was looking forward to the future of getting ideas for new technologies from
- () Philseok Kim, said: "Thermal power plants, for example, rely on condensers to quickly convert steam
- (**1**) Scientists may have found one answer to the problem of water shortages. It is a new material that collects water

PUT THE WORDS IN THE RIGHT ORDER

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

1. problem shortages one the water Found to of answer .

2. surviving expert and in at dry hot An conditions .

3. the air Small bumps that collect tiny water droplets from .

4. from water collect can that materials own their Make air the .

5. very dry areas This will help people who live in .

6. believe help this new The technology scientists could .

7. very useful for power plants They said it could be .

8. convert liquid steam Quickly water to .

9. future of getting ideas for new technologies from nature The .

10. excited materials about Everybody is bio-inspired .

CIRCLE THE CORRECT WORD (20 PAIRS)

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Scientists may have found one answer to the problem of water *shortage / shortages*. It is a new material that *collections / collects* water from the air. They got their *idea / ideal* from a small beetle that lives in the desert *on / in* Africa. The deserts of the Skeleton Coast in Namibia are very dry, but the Namib desert beetle is an *expat / expert* at surviving in hot and dry conditions. Its shell is covered in small *bump / bumps* that collect tiny water *droppings / droplets* from the air. The water is enough to *keep / kept* the beetle alive. Scientists studied the shape and material of the beetle's bumps. They want to use what they found *in / 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 / area*.

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

Talk about the connection between each pair of words in italics, and why the correct word is correct.

INSERT THE VOWELS (a, e, i, o, u)

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Sc__nt_sts m_y h_v_ f__nd _n_ _nsw_r t_ th_ pr_bl_m
_f w_t_r sh_rt_g_s. _t_s _n_w m_t_r__l th_t c_ll_cts
w_t_r fr_m th_ __r. Th_y g_t th__r _d__ fr_m _ sm_ll
b__tl_ th_t l_v_s _n th_ d_s_rt _n _fr_c_. Th_ d_s_rts
f th Sk_l_t_n C__st _n N_m_b__ _r_ v_ry dry, b_t
th_ N_m_b d_s_rt b__tl_ _s _n _xp_rt _t s_rv_v_ng _n
h_t _nd dry c_nd_t__ns. _ts sh_ll _s c_v_r_d _n sm_ll
b_mps th_t c_ll_ct t_ny w_t_r dr_pl_ts fr_m th_ __r.
Th_ w_t_r _s _n_g_h t_ k__p th_ b__tl_ _l_v_.
Sc__nt_sts st_d__d th_ sh_p_ _nd m_t_r__l _f th_
b__tl_'s b_mps. Th_y w_nt t_ __s_ wh_t th_y f__nd __t
_b__t th_ b__tl_ t_ m_k_ th__r _wn m_t_r__ls th_t
c_n c_ll_ct w_t_r fr_m th_ __r. Th_s w_ll h_lp p__pl_
wh_ l_v_ _n v_ry dry _r__s.

Th_ sc__nt_sts b_l__v_ th_s n_w t_chn_l_gy c__ld h_lp
_n m_ny _r__s _f __r_l_f_. Th_y s__d _t c__ld b_ v_ry
_s_f_l_f_r p_w_r pl_nts _nd f_r th_ h__t_ng _nd __r
c_nd_t__n_g _n __rpl_n_s, c_rs _nd tr__ns. _n_ _f
th_ sc__nt_sts, Ph_ls__k K_m, s__d: "Th_rm_l p_w_r
pl_nts, f_r _x_mpl_, r_ly _n c_nd_ns_rs t_ q__ckly
c_nv_rt st__m t_ l_q__d w_t_r. [_r] d_s_gn c__ld
h_lp sp__d _p th_t pr_c_ss _nd _v_n _ll_w_f_r
_p_r_t__n _t _h_g_h_r t_m_p_r_t_r_, s_gn_f_c_ntly
_mpr_v_ng th_ _v_r_ll _n_rgy _ff_c__ncy." _n_th_r
sc__nt_st, J__nn_ __z_nb_rg, s__d sh_w_s l__k_ng
f_rw_rd t_ th_ f_t_r _f g_tt_ng _d__s_f_r_n_w
t_chn_l_g__s fr_m n_t_r_. Sh_s__d: "_v_ryb_dy _s
_xc_t_d _b__t b__-nsp_r_d m_t_r__ls r_s__rch."

PUNCTUATE THE TEXT AND ADD CAPITALS

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

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"

PUT A SLASH (/) WHERE THE SPACES ARE

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

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 material 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."

FREE WRITING

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

Write about **water** for 10 minutes. Comment on your partner's paper.

ACADEMIC WRITING

From <http://www.BreakingNewsEnglish.com/1603/160301-collecting-water.html>

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

HOMework

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about technology that learns from nature. Share what you discover with your partner(s) in the next lesson.

3. NAMIB DESERT BEETLE: Make a poster about the Namib desert beetle. Show your work to your classmates in the next lesson. Did you all have similar things?

4. WATER SHORTAGES: Write a magazine article about water shortages and what we can do to save water. Include imaginary interviews with scientists and with people who have very little water.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. WHAT HAPPENED NEXT? Write a newspaper article about the next stage in this news story. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

6. LETTER: Write a letter to an expert on water. Ask him/her three questions about water. Give him/her three of your ideas. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE (p.4)

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

SYNONYM MATCH (p.4)

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

COMPREHENSION QUESTIONS (p.8)

1. One
2. Namibia
3. Bumps
4. Their own materials
5. People who live in dry areas
6. The air conditioning
7. Steam
8. Improve it
9. Nature
10. Bio-inspired materials research

MULTIPLE CHOICE - QUIZ (p.9)

1. d 2. b 3. c 4. a 5. c 6. b 7. d 8. a 9. c 10. b

ALL OTHER EXERCISES

Please check for yourself by looking at the Article on page 2.
(It's good for your English ;-)