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Level 6 – 24th April, 2021 Scientists make biodegradable plastic

FREE online quizzes, mp3 listening and more for this lesson here: https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Contents

The Article	2	Discussion (Student-Created Qs)	15
Warm-Ups	3	Language Work (Cloze)	16
Vocabulary	4	Spelling	17
Before Reading / Listening	5	Put The Text Back Together	18
Gap Fill	6	Put The Words In The Right Order	19
Match The Sentences And Listen	7	Circle The Correct Word	20
Listening Gap Fill	8	Insert The Vowels (a, e, i, o, u)	21
Comprehension Questions	9	Punctuate The Text And Add Capitals	22
Multiple Choice - Quiz	10	Put A Slash (/) Where The Spaces Are	23
Role Play	11	Free Writing	24
After Reading / Listening	12	Academic Writing	25
Student Survey	13	Homework	26
Discussion (20 Questions)	14	Answers	27

Please try Levels 4 and 5 (they are easier).

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THE ARTICLE

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Plastic has been a blight on the landscape and a deadly threat to wildlife for decades. Environmentalists have issued many pleas for us to reduce the amount of plastic we use or switch to biodegradable alternatives. One solution to this problem may be at hand. Scientists have developed a form of biodegradable plastic. This means that the billions of plastic bags, cups, straws and utensils that we dispose of each day could be "compostable" - they could decompose and break down as naturally as organic waste. The scientists are from the University of California, Berkeley. They say they have invented a plastic that could break down within a few weeks, rather than centuries, using just heat and water.

The new, biodegradable product involves embedding polyester-eating enzymes into the plastic during the production process. When these enzymes are exposed to heat and water, they eat away at the plastic and reduce it to lactic acid. This provides nutrients for the soil when composted. Professor Ting Xu said up to 98 per cent of the plastic her team made degraded into small molecules. She said: "We are basically saying that we are on the right track. We can solve this continuing problem of single-use plastics." She added: "Look at all the wasted stuff we throw away - clothing, shoes, electronics like cellphones and computers. We are taking things from the earth at a faster rate than we can return them."

Sources: https://phys.org/news/2021-04-biodegradable-plastics-compostable.html https://www.sciencenews.org/article/plastic-compost-new-enzyme-technique-biodegradable https://www.abc.net.au/news/science/2021-04-22/biodegradable-plastic-compost-enzymesenvironment-soil-green/100082958

1. BIODEGRADABLE PLASTIC: Students walk around the class and talk to other students about biodegradable plastic. 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?

plastic / blight / landscape / environmentalist / alternatives / straw / organic / heat / product / polyester / enzymes / nutrients / molecules / single-use plastics / electronics

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

3. PLASTIC TAX: Students A **strongly** believe there should be a heavy tax on plastic; Students B **strongly** believe the opposite. Change partners again and talk about your conversations.

4. ALTERNATIVES: What could we use instead of plastic for these things? Would this be better? Complete this table with your partner(s). Change partners often and share what you wrote.

	Alternative	Better?
Bags		
Straws		
Bottles		
Utensils		
Pens		
Furniture		

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

6. WASTED STUFF: Rank these with your partner. Put the things we should never throw away at the top. Change partners often and share your rankings.

- Clothing
- Shoes
- Cellphones
- Computers

- Books
- Bicycles
- Carpets
- Newspapers

VOCABULARY MATCHING

Paragraph 1

1.	blight	a.	A period of ten years.
2.	decade	b.	One or more things available as another possibility.
3.	plea	c.	Material that is not wanted.
4.	alternative	d.	A request made in an urgent and emotional manner.
5.	utensils	e.	Make or become rotten; decay or cause to decay.
6.	decompose	f.	A thing that spoils or damages something.
7.	waste	g.	A thing, container, or other article, especially for household use.
Pai	ragraph 2		
8.	nolycotor	h	
0.	polyester	h.	A substance produced by a living organisms which bring about a specific biochemical reaction.
9.	enzyme	i.	which bring about a specific biochemical
			which bring about a specific biochemical reaction. Leave something uncovered or unprotected,
9.	enzyme	i.	which bring about a specific biochemical reaction.Leave something uncovered or unprotected, especially from the weather.Things we use that have transistors or
9. 10.	enzyme exposed nutrients	i. j.	which bring about a specific biochemical reaction.Leave something uncovered or unprotected, especially from the weather.Things we use that have transistors or microchips in them.The upper layer of earth in which plants
9. 10. 11.	enzyme exposed nutrients	i. j. k.	 which bring about a specific biochemical reaction. Leave something uncovered or unprotected, especially from the weather. Things we use that have transistors or microchips in them. The upper layer of earth in which plants grow. Substances that provide nourishment

BEFORE READING / LISTENING

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

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

- a. The article says plastic is very bright in the landscape. **T / F**
- b. The article says scientists have several solutions for plastic. **T / F**
- c. The scientists said the plastic they created could be compostable. **T / F**
- d. The new biodegradable plastic could take weeks to decompose. **T / F**
- e. The new plastic contains enzyme-eating polyester. T / F
- f. The new plastic biodegrades into lactic acid and feeds the soil. T / F
- g. A professor said her team are on the left track. T / F
- h. A professor said we are taking things from Earth at a slower rate. **T / F**

2. SYNONYM MATCH:

Match the following synonyms. The words in **bold** are from the news article.

- 1. blight
- 2. pleas
- 3. switch
- 4. dispose of
- 5. break down
- 6. embedding
- 7. exposed
- 8. solve
- 9. wasted
- 10. rate

- a. figure out
- b. throw away
- c. implanting
- d. requests
- e. pace
- f. nuisance
- g. squandered
- h. decompose
- i. change
- j. introduced

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

- 1. Plastic has been a blight
- 2. a deadly threat to
- 3. switch to biodegradable
- 4. the billions of plastic bags, cups, straws
- 5. break down as naturally as organic
- 6. embedding polyester-eating
- 7. When these enzymes are exposed
- 8. This provides nutrients
- 9. we are on the right
- 10. all the wasted

- a. enzymes
- b. waste
- c. track
- d. wildlife for decades
- e. to heat and water
- f. on the landscape
- g. stuff we throw away
- h. and utensils
- i. for the soil
- j. alternatives

GAP FILL

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Plastic has been a blight on the (1) _____ and a alternatives deadly threat to wildlife for decades. Environmentalists have utensils issued many (2) _____ for us to reduce the amount centuries of plastic we use or switch to biodegradable (3)______. landscape One solution to this problem may be at (4) Scientists have developed a form of biodegradable plastic. This hand means that the billions of plastic bags, cups, straws and invented (5) _____ that we dispose of each day could be pleas "compostable" - they could decompose and break down as naturally as organic (6) ______. The scientists are waste from the University of California, Berkeley. They say they have (7) _____ a plastic that could break down within a few weeks, rather than (8) _____, using just heat and water.

The new, biodegradable product involves (9) _____ rate polyester-eating enzymes into the plastic during the production process (10) _____. When these enzymes are exposed to heat basically water, they eat away at the and plastic and embedding (11) _____ it to lactic acid. This provides nutrients for the soil when (12) _____. Professor Ting Xu said up electronics to 98 per cent of the plastic her team made degraded into small composted molecules. She said: "We are (13) _____ saying that single we are on the right track. We can solve this continuing problem of (14) ______ -use plastics." She added: "Look at all the reduce stuff we throw away - clothing, shoes, wasted (15) _____ like cellphones and computers. We are taking things from the earth at a faster (16) _____ than we can return them."

LISTENING – Guess the answers. Listen to check.

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

1) Plastic has been a blight on the landscape and a deadly threat to a. wildlife for decadence b. wildlife for decants c. wildlife for arcades d. wildlife for decades reduce the amount of plastic we use or switch to _____ a. biodegradable alternatively b. biodegradable alter natives c. biodegradable alternatives d. biodegradable all the natives 3) One solution to this problem may _____ a. be at head b. be at hand c. be at hard d. be at heart 4) the billions of plastic bags, cups, _____ a. straws and you tensile b. straws and your pencils c. straws and your tonsils d. straws and utensils 5) a plastic that could break down within a few weeks, _____ a. rather than centuries b. lather that century c. rather that century d. lather than centuries 6) The new, biodegradable product involves embedding polyestera. eat in enzymes b. eat tin enzymes c. eating enzymes d. e-thing enzymes 7) Xu said up to 98 per cent of the plastic her team made degraded _____ a. into small mole cues b. into small Molly cues c. into small molecules d. into small cuticles 8) We can solve this continuing problem of a. single-user plastics b. single-used plastics c. single-uses plastics d. single-use plastics 9) all the wasted stuff we throw away - clothing, shoes, _____ a. electronics alike cellphones b. electronics like cellphones c. electronics liked cellphones d. electronics likes cellphones 10) We are taking things from the earth at a faster rate than we _____ a. can't adjourn them b. can adjourn them c. can return them d. can lantern them

LISTENING – Listen and fill in the gaps

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Plastic has been (1) ______ the landscape and a deadly threat to wildlife for decades. Environmentalists have issued (2) ______ us to reduce the amount of plastic we use or switch to biodegradable alternatives. One solution to this problem may (3) ______. Scientists have developed a form of biodegradable plastic. This means that the billions of plastic bags, cups, (4) ______ that we dispose of each day could be "compostable" - they could decompose and break down as naturally (5) ______. The scientists are from the University of California, Berkeley. They say they have invented a plastic that could break down within a few weeks, (6) ______, using just heat and water.

The new, biodegradable (7) ______ polyester-eating enzymes into the plastic during the production process. When these (8) ______ to heat and water, they eat away at the plastic and reduce it to lactic acid. This provides (9) ______ soil when composted. Professor Ting Xu said up to 98 per cent of the plastic her team made degraded (10) _______. She said: "We are basically saying that we are on the right track. We can solve this continuing problem of single-use plastics." She added: "Look at all (11) _______ we throw away - clothing, shoes, electronics like cellphones and computers. We are taking things from the earth at (12) ______ than we can return them."

COMPREHENSION QUESTIONS

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

- 1. What does the article say plastic has been a blight on?
- 2. What does the article say we could switch to?
- 3. What could the new plastic break down as naturally as?
- 4. Where are the scientists from?
- 5. How long might the plastic take to biodegrade?
- 6. What has been embedded in the new plastic?
- 7. What does the new plastic become after it decomposes?
- 8. How much of the teams plastic degraded into small molecules?
- 9. What kind of track did a professor say her team was on?
- 10. Where did a professor say we are taking things from?

MULTIPLE CHOICE - QUIZ

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

 1) What does the article say plastic has been a blight on? a) research b) wildlife c) the landscape d) decades 	 6) What has been embedded in the new plastic? a) an MP3 file b) polyester-eating enzymes c) code d) plastic-dissolving nutrients
 2) What does the article say we could switch to? a) biodegradable alternatives b) recyclable packaging c) sustainable energy d) single-use plastics 	7) What does the new plastic become after it decomposes?a) nitric acidb) citric acidc) amino acidd) lactic acid
 3) What could the new plastic break down as naturally as? a) enzymes b) paper c) polymers d) organic waste 	 8) How much of the teams plastic degraded into small molecules? a) exactly 98% b) up to 98% c) around 98% d) just over 98%
 4) Where are the scientists from? a) New York University b) the University of California c) MIT d) Yale 5) How long might the plastic take to 	 9) What kind of track did a professor say her team was on? a) the right track b) a deep track c) an off-the-beaten track d) a fast track
 biodegrade? a) a few years b) months c) weeks d) a decade or two 	10) Where did a professor say we are taking things from?a) enzymesb) soilc) compostd) the earth

ROLE PLAY

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Role A – Clothing

You think clothing is top of the list of things never to throw away. Tell the others three reasons why. Tell them why it is OK to throw their things away. Also, tell the others which of these is top of the list of things that can be disposed of (and why): computers, books or bicycles.

Role B – Computers

You think computers are top of the list of things never to throw away. Tell the others three reasons why. Tell them why it is OK to throw their things away. Also, tell the others which of these is top of the list of things that can be disposed of (and why): clothing, books or bicycles.

Role C – Books

You think books are top of the list of things never to throw away. Tell the others three reasons why. Tell them why it is OK to throw their things away. Also, tell the others which of these is top of the list of things that can be disposed of (and why): computers, clothing or bicycles.

Role D – Bicycles

You think bicycles are top of the list of things never to throw away. Tell the others three reasons why. Tell them why it is OK to throw their things away. Also, tell the others which of these is top of the list of things that can be disposed of (and why): computers, books or clothing.

AFTER READING / LISTENING

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

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

biodegradable	plastic	

- 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:

 blight switch form billions waste weeks 	 involves exposed soil small solve rate
Weeks	• rate

BIODEGRADABLE PLASTIC SURVEY

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Write five GOOD questions about biodegradable plastic 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.

BIODEGRADABLE PLASTIC DISCUSSION

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

- 1. What did you think when you read the headline?
- 2. What images are in your mind when you hear the word 'biodegradable'?
- 3. What do you think of plastic?
- 4. How do you feel when you see plastic waste in the countryside?
- 5. What damage is plastic doing to Earth?
- 6. How do you dispose of plastic?
- 7. How could you switch to alternatives to plastic?
- 8. What do you think of compostable plastic?
- 9. Do we need the plastic stuff around us right now to be made of plastic?
- 10. How good are you at recycling?

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BIODEGRADABLE PLASTIC 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 think of when you hear the word 'plastic'?
- 13. What do you think about what you read?
- 14. How beneficial would biodegradable plastic be?
- 15. How is plastic made?
- 16. What do you think of single-use plastics?
- 17. How can we get all governments to focus on reducing plastic use?
- 18. What photos have you seen of plastic harming wildlife?
- 19. Should governments introduce a plastic tax?
- 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.	
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 https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Plastic has been a (1) _____ on the landscape and a deadly threat to wildlife for decades. Environmentalists have issued many (2) _____ for us to reduce the amount of plastic we use or switch (3) _____ biodegradable alternatives. One solution to this problem may be at (4) _____. Scientists have developed a form of biodegradable plastic. This means that the billions of plastic bags, cups, straws and utensils that we dispose of each day could be "compostable" - they could decompose and break down as naturally as (5) _____ waste. The scientists are from the University of California, Berkeley. They say they have invented a plastic that could break down (6) _____ a few weeks, rather than centuries, using just heat and water.

The new, biodegradable product involves (7) _____ polyester-eating enzymes into the plastic during the production process. When these enzymes are exposed to heat and water, they eat (8) _____ at the plastic and reduce it to lactic acid. This provides nutrients for the soil when composted. Professor Ting Xu said up to 98 per cent of the plastic her team made degraded into small molecules. She said: "We are (9) _____ saying that we are on the right track. We can solve this continuing problem of single-(10) _____ plastics." She added: "Look at all the wasted (11) _____ we throw away - clothing, shoes, electronics like cellphones and computers. We are taking things from the earth (12) _____ a faster rate than we can return them."

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

1.	(a)	bright	(b)	blight	(c)	bite	(d)	bait
2.	(a)	peas	(b)	pleas	(c)	plies	(d)	please
3.	(a)	as	(b)	of	(c)	by	(d)	to
4.	(a)	head	(b)	hand	(c)	heart	(d)	hip
5.	(a)	ogre	(b)	origin	(c)	organ	(d)	organic
6.	(a)	wither	(b)	with	(c)	within	(d)	without
_								
7.	(a)	embedding	(b)	imbibing	(c)	subduing	(d)	inducing
7. 8.	(a) (a)	embedding of	(b) (b)	imbibing around	(c) (c)	subduing away	(d) (d)	inducing out
		2		-		2	• •	-
8.	(a)	of	(b)	around	(c)	away	(d)	out
8. 9.	(a) (a)	of base	(b) (b)	around basic	(c) (c)	away basics	(d) (d)	out basically

SPELLING

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Paragraph 1

- 1. Plastic has been a <u>ilhbtg</u> on the landscape
- 2. switch to biodegradable <u>arenltiteavs</u>
- 3. plastic bags, cups, straws and *iuesstnl*
- 4. could be copmlbsoeta
- 5. they could <u>mcopodees</u> and break down
- 6. a few weeks, rather than uestcrein

Paragraph 2

- 7. involves embedding polyester-eating <u>yneemsz</u>
- 8. during the production <u>ceporss</u>
- 9. <u>eedsoxp</u> to heat and water
- 10. This provides <u>nitteusnr</u> for the soil
- 11. degraded into small loelmuecs
- 12. srnceciloet like cellphones and computers

PUT THE TEXT BACK TOGETHER

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Number these lines in the correct order.

- () pleas for us to reduce the amount of plastic we use or switch to biodegradable
- () to lactic acid . This provides nutrients for the soil when composted . Professor Ting Xu said up to 98 per cent of the plastic her
- () and computers . We are taking things from the earth at a faster rate than we can return them ."
- () the production process . When these enzymes are exposed to heat and water, they eat away at the plastic and reduce it
- () down as naturally as organic waste . The scientists are from the University of California, Berkeley . They say they have
- () team made degraded into small molecules . She said: "We are basically saying that we are on the right
- (**1**) Plastic has been a blight on the landscape and a deadly threat to wildlife for decades . Environmentalists have issued many
- () alternatives . One solution to this problem may be at hand . Scientists have developed a form
- () The new, biodegradable product involves embedding polyestereating enzymes into the plastic during
- () track . We can solve this continuing problem of single-use plastics ." She added: "Look
- dispose of each day could be "compostable" they could decompose and break
- () invented a plastic that could break down within a few weeks, rather than centuries, using just heat and water .
- () at all the wasted stuff we throw away clothing, shoes, electronics like cellphones
- () of biodegradable plastic . This means that the billions of plastic bags, cups, straws and utensils that we

PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

1. blight the has on been Plastic a landscape .

2. to deadly threat for A wildlife decades .

3. to use . amount of plastic the Pleas reduce

4. as down waste . Break organic as naturally

5. say invented They plastic . they have a

6. to exposed enzymes these When heat . are

7. for when composted . soil the nutrients provides This

8. track . on we're We're saying basically the right

9. earth . the are taking We from things

10. return faster than we A rate can them .

CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Plastic has been a *blight / bright* on the landscape and a deadly threat to wildlife for decades. Environmentalists have issued many *please / pleas* for us to reduce the amount of plastic we use or *switch / twitch* to biodegradable alternatives. One solution to this problem may be at *band / hand*. Scientists have developed a *frame / form* of biodegradable plastic. This means that the billions of plastic bags, cups, straws and *utensils / utensil* that we dispose *of / to* each day could be "compostable" - they could decompose and break down as naturally as *organically / organic* waste. The scientists are from the University of California, Berkeley. They say they have invented a plastic that could break down *within / wither* a few weeks, rather than centuries, using *justly / just* heat and water.

The new, biodegradable product *revolves / involves* embedding polyestereating enzymes into the plastic during the production *process / progress*. When these enzymes are exposed *of / to* heat and water, they eat away at the plastic and reduce *them / it* to lactic acid. This provides nutrients for the soil when composted. Professor Ting Xu said up to 98 per cent of the plastic her team made degraded *onto / into* small molecules. She said: "We are basically saying that we are on the *right / left* track. We can solve this continuing problem of *single-user / single-use* plastics." She added: "Look at all the wasted stuff we *thrown / throw* away - clothing, shoes, *electronics / electrical* like cellphones and computers. We are taking things from the earth *at / to* a faster rate than we can return them."

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 https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

PI_st_c h_s b__n _ bl_ght _n th_ I _nd s c_p _ nd _ d__dly thr__t t_ w_ldl_f_ f_r d_c_d_s. _nv_r_nm_nt_l_sts h_v_ _ss__d m_ny pl__s f_r _s t_ r_d_c_ th_ _m__nt _f pl_st_c w_ _s_ _r sw_tch t_ b__d_gr_d_bl_ _lt_rn_t_v_s. _n_ s_l_t__n t_ th_s pr_bl_m m_y b_ _t h_nd. Sc__nt_sts h_v_ d_v_l_p_d _ f_rm _f b__d_gr_d_bl_ pl_st_c. Th_s m__ns th_t th_ b_ll__ns _f pl_st_c b_gs, c_ps, str_ws _nd _t_ns_ls th_t w_ d_sp_s_ _f __ch d_y c__ld b_ "c_mp_st_bl_" th_y c__ld d_c_mp_s_ _nd br__k d_wn _s n_t_r_lly _s _rg_n_c w_st_. Th_ sc__nt_sts _r_ fr_m th_ _n_v_rs_ty _f C_l_f_rn__, B_rk_l_y. Th_y s_y th_y h_v_ _nv_nt_d _ pl_st_c th_t c__ld br__k d_wn w_th_n _ f_w w__ks, r_th_r th_n c_nt_r_s, _s_ng j_st h_t_ nd w_tr.

Th_ n_w, b__d_gr_d_bl_ pr_d_ct _nv_lv_s _mb_dd_ng p_ly_st_r-__t_ng _nzym_s _nt_ th_ pl_st_c d_r_ng th_ pr_d_ct__n pr_c_ss. Wh_n th_s_ _nzym_s _r_ _xp_s_d t_ h__t _nd w_t_r, th_y __t _w_y _t th_ pl_st_c _nd r_d_c_ _t t_ l_ct_c _c_d. Th_s pr_v_d_s n_tr__nts f_r th_ s__l wh_n c_mp_st_d. Pr_f_ss_r T_ng X_ s__d _p t_ 98 p_r c_nt _f th_ pl_st_c h_r t__m m_d_ d_gr_d_d _nt_ sm_ll m_l_c_l_s. Sh_ s__d: "W_ _r_ b_s_c_lly s_y_ng th_t w_ _r_ _n th_ r_ght tr_ck. W_ c_n s_lv_ th_s c_nt_n_ng pr_bl_m _f s_ngl_-s_ pl_st_cs." Sh_ _dd_d: "L__k _t _ll th_ w_st_d st_ff w_ thr_w _w_y - cl_th_ng, sh__s, _l_ctr_n_cs l_k_ c_llph_n_s _nd c_mp_t_rs. W_ _r_ t_k_ng th_ngs fr_m th_ _rth _t _ f_st_r r_t th_n w_ c_n r_t_rn th_m."

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

plastic has been a blight on the landscape and a deadly threat to wildlife for decades environmentalists have issued many pleas for us to reduce the amount of plastic we use or switch to biodegradable alternatives one solution to this problem may be at hand scientists have developed a form of biodegradable plastic this means that the billions of plastic bags cups straws and utensils that we dispose of each day could be compostable they could decompose and break down as naturally as organic waste the scientists are from the university of california berkeley they say they have invented a plastic that could break down within a few weeks rather than centuries using just heat and water

the new biodegradable product involves embedding polyestereating enzymes into the plastic during the production process when these enzymes are exposed to heat and water they eat away at the plastic and reduce it to lactic acid this provides nutrients for the soil when composted professor ting xu said up to 98 per cent of the plastic her team made degraded into small molecules she said we are basically saying that we are on the right track we can solve this continuing problem of singleuse plastics she added look at all the wasted stuff we throw away clothing shoes electronics like cellphones and computers we are taking things from the earth at a faster rate than we can return them

PUT A SLASH (/) WHERE THE SPACES ARE

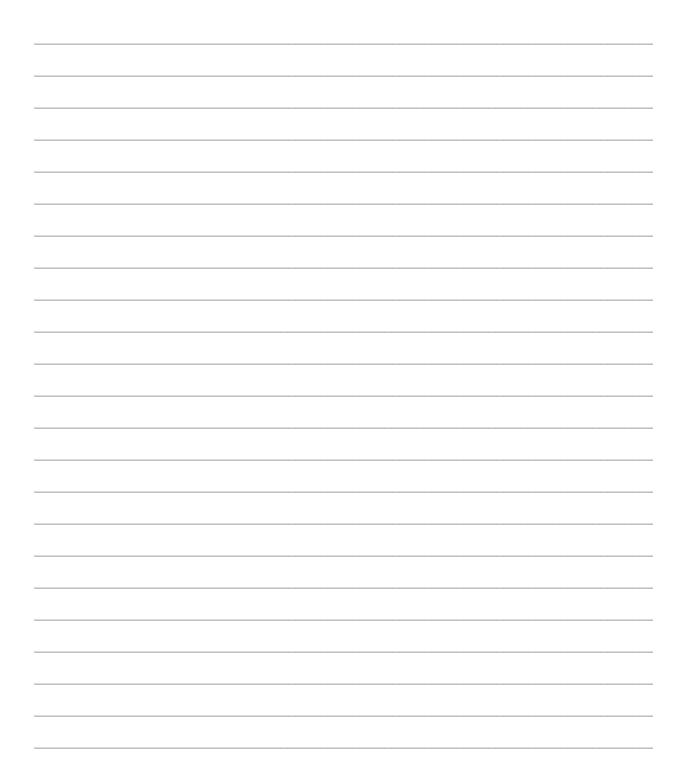
From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

Plastichasbeenablightonthelandscapeandadeadlythreattowildlifefor decades.Environmentalistshaveissuedmanypleasforustoreducethe amountofplasticweuseorswitchtobiodegradablealternatives.Onesol utiontothisproblemmaybeathand.Scientistshavedevelopedaformof biodegradableplastic.Thismeansthatthebillionsofplasticbags,cups,s trawsandutensilsthatwedisposeofeachdaycouldbe"compostable"theycould decompose and break down as naturally as organic waste. Th escientistsarefromtheUniversityofCalifornia,Berkeley.Theysaythey haveinventedaplasticthatcouldbreakdownwithinafewweeks, rathert hancenturies, using just heat and water. The new, biodegradable produ ctinvolvesembeddingpolyester-eatingenzymesintotheplasticdurin gtheproductionprocess. When these enzymes are exposed to heat and water, they eat away at the plastic and reduce it to lactic acid. This provide snutrientsforthesoilwhencomposted.ProfessorTingXusaidupto98pe rcentoftheplasticherteammadedegradedintosmallmolecules.Shesai d:"Wearebasicallysayingthatweareontherighttrack.Wecansolvethis continuingproblemofsingle-useplastics."Sheadded:"Lookatallthew astedstuffwethrowaway-clothing, shoes, electronicslikecellphones and computers. We are taking things from the earth at a faster rate than w ecanreturnthem."

FREE WRITING

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

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



ACADEMIC WRITING

From https://breakingnewsenglish.com/2104/210424-biodegradable-plastic.html

We should all pay a big tax for products made of plastic. 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 this news story. Share what you discover with your partner(s) in the next lesson.

3. BIODEGRADABLE PLASTIC: Make a poster about biodegradable plastic. Show your work to your classmates in the next lesson. Did you all have similar things?

4. PLASTIC TAX: Write a magazine article about introducing a big plastic tax on all products made from plastic. Include imaginary interviews with people who are for and against this.

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 biodegradable plastic. Ask him/her three questions about it. Give him/her three of your ideas on how to reduce plastic use. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

1.	f	2.	а	3.	d	4.	b	5.	g	6.	е	7.	С
8.	m	9.	h	10.	i	11.	I	12.	k	13.	n	14.	j

TRUE / FALSE (p.5)

aF bF cT dT eF fT gF hF	а	F	b	F	С	Т	dТ	e F	fΤ	g F	h F
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SYNONYM MATCH (p.5)

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

COMPREHENSION QUESTIONS (p.9)

- 1. The landscape
- 2. Biodegradable alternatives
- 3. Organic waste
- 4. The University of California
- 5. Weeks
- 6. Polyester-eating enzymes
- 7. Lactic acid
- 8. Up to 98%
- 9. The right track
- 10. The earth

WORDS IN THE RIGHT ORDER (p.19)

- 1. Plastic has been a blight on the landscape.
- 2. A deadly threat to wildlife for decades.
- 3. Pleas to reduce the amount of plastic use.
- 4. Break down as naturally as organic waste.
- 5. They say they have invented a plastic.
- 6. When these enzymes are exposed to heat.
- 7. This provides nutrients for the soil when composted.
- 8. We're basically saying we're on the right track.
- 9. We are taking things from the earth.
- 10. A faster rate than we can return them.

MULTIPLE CHOICE - QUIZ (p.10)

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

ALL OTHER EXERCISES

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