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### Level 6 – 14th August 2023 Microplastics found in human heart for first time

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https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.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

#### From <u>https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html</u>

While many of us are aware of the environmental damage done by plastic, fewer people know about the threat from the ubiquity of microplastics. Scientists first found them in our bodies more than a decade ago. Worryingly, researchers have now found them in the human heart. Scientists at the Beijing Anzhen Hospital in China collected cardiac tissue samples from 15 patients undergoing heart surgery. After analyzing the samples, they discovered tiny pieces of plastic, from a multitude of sources. They included a plastic commonly used as a shatter-proof alternative to glass, a polythene widely used in clothing and food containers, and a polyvinyl chloride used in construction.

The scientists reported finding, "tens to thousands of individual microplastic pieces in most tissue samples". Chemicals from microplastics are released into the body, potentially leading to allergic reactions, cancer, cell death, and chronic inflammation, among other complications. Scientists reckon the average person consumes around five grams of microplastics a week, or 52,000 particles a year. Microplastics are so prevalent that they make up 39 per cent of dust particles in our homes. Scientists say these tiny shards are near-impossible to remove from the body. They say it is becoming critical to limit the amount of plastic we breathe in, ingest, swallow or absorb.

Sources: https://www.**dailymail.co.uk**/health/article-12384881/Microplastics-discovered-human-HEART.html https://**people.com**/microplastics-discovered-human-heart-tissue-first-time-7642489 https://www.**iflscience.com**/thousands-of-microplastics-discovered-in-human-heart-tissue-forfirst-time-70199

#### WARM-UPS

**1. MICROPLASTICS:** Students walk around the class and talk to other students about microplastics. 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?

aware / environmental damage / threat / ubiquity / heart / tissue / plastic / clothing / scientist / allergic reaction / cancer / complication / dust / critical / breathe / swallow

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

**3. END PLASTIC:** Students A **strongly** believe we should end plastic this decade; Students B **strongly** believe that's not a good idea. Change partners again and talk about your conversations.

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

	Alternatives	How much better
Pens		
Shopping bags		
Drink bottles		
Plates		
Containers		
Car dashboards		

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

**6. RECYCLE:** Rank these with your partner. Put the most important things to recycle at the top. Change partners often and share your rankings.

• plastic bottles

• cars

- books
- computers
- furniture

- clothes
- mobile phones
- cups and plates

### **VOCABULARY MATCHING**

#### Paragraph 1

1.	threat	a.	Of one or more things available as another possibility or choice.				
2.	ubiquity	b.	A person or thing likely to cause damage or danger.				
3.	cardiac	C.	A large number of people or things.				
4.	tissue	d.	The fact of appearing everywhere or of being very common.				
5.	multitude	e.	Any of the material of which animals or plants are made.				
6.	shatter	f.	Relating to the heart.				
7.	alternative	g.	Break or cause to break suddenly and violently into pieces.				
Pa	Paragraph 2						
8.	allergic	h.	Caused by or relating to a damaging immune response by the body to a substance.				
9.	chronic	i.	Take food, drink, or another substance into the body by swallowing or absorbing it.				
10.	inflammation	j.	Of an illness persisting for a long time or constantly recurring.				
11.	complication	k.	A piece of broken ceramic, plastic metal, glass, or rock, usually having sharp edges.				
12.							
	prevalent	Ι.	A localized physical condition in which part of the body becomes reddened, swollen, hot, and often painful, especially as a reaction to injury or infection				
13.	prevalent shard	l. m.	of the body becomes reddened, swollen, hot, and often painful, especially as a				

### **BEFORE READING / LISTENING**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

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

- 1. The article says most of us know about the harm microplastics do. **T / F**
- 2. Microplastics were first found in our bodies in the 1970s. T / F
- 3. Scientists found microplastics in the hearts of heart surgery patients. **T / F**
- 4. Scientists found plastics from construction materials in a human heart. **T / F**
- 5. There were tens of thousands of microplastics in the heart tissue. **T / F**
- 6. Microplastics can cause allergic reactions. **T / F**
- 7. An average person gets 52,000 bits of microplastic a year in their body. T / F
- 8. It is relatively easy to remove microplastics from our bodies. **T / F**

#### 2. SYNONYM MATCH: (The words in **bold** are from the news article.)

- 1. aware
- 2. ubiquity
- 3. cardiac
- 4. alternative
- 5. construction
- 6. individual
- 7. complications
- 8. consumes
- 9. prevalent
- 10. critical

- a. eats or drinks
- b. heart
- c. building
- d. problems
- e. omnipresence
- f. commonplace
- g. substitute
- h. vital
- i. single
- j. conscious

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

- 1. the environmental damage
- 2. the threat from the ubiquity
- 3. cardiac tissue
- 4. a shatter-proof alternative
- 5. polyvinyl chloride used
- 6. allergic
- 7. average person consumes
- 8. dust
- 9. these tiny shards are near-
- 10. the amount of plastic we breathe in,

- a. impossible to remove
- b. samples
- c. in construction
- d. reactions
- e. ingest, swallow or absorb
- f. done by plastic
- g. particles
- h. to glass
- i. around five grams
- j. of microplastics

### GAP FILL

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

While many of us are (1) \_\_\_\_\_\_ of the environmental threat damage done by plastic, fewer people know about the shatter (2) \_\_\_\_\_ from the ubiquity of microplastics. tissue Scientists first found them in our bodies more than a (3) construction \_\_\_\_\_\_ ago. Worryingly, researchers have now found aware them in the human heart. Scientists at the Beijing Anzhen Hospital in China collected cardiac (4) \_\_\_\_\_\_ samples from 15 widely patients undergoing heart surgery. After analyzing the samples, decade they discovered (5) \_\_\_\_\_ pieces of plastic, from a tinv multitude of sources. They included a plastic commonly used as a (6) \_\_\_\_\_\_\_ -proof alternative to glass, a polythene (7) \_\_\_\_\_\_ used in clothing and food containers, and a polyvinyl chloride used in (8) \_\_\_\_\_\_.

The scientists reported finding, "tens to thousands of reckon (9) microplastic pieces in most tissue potentially samples". Chemicals from microplastics are released into the shards body, (10) leading to allergic reactions, cancer, chronic cell death, and (11) \_\_\_\_\_\_ inflammation, among other prevalent the average complications. Scientists (12) person consumes around five grams of microplastics a week, or swallow 52,000 particles a year. Microplastics are so individual (13) \_\_\_\_\_ that they make up 39 per cent of dust critical particles in our homes. Scientists say these tiny (14) \_\_\_\_\_\_ are near-impossible to remove from the body. They say it is becoming (15) \_\_\_\_\_\_ to limit the amount of plastic we breathe in, ingest, (16) \_\_\_\_\_ or absorb.

#### **LISTENING** – Guess the answers. Listen to check.

From <u>https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html</u>

	······································
1)	While many of us are aware of the environmental damage
,	a. done by plasticity
	b. done by plasticine
	c. done by plastic
	d. done by plasticize
2)	fewer people know about the threat from the
	a. ubiquity off microplastics
	b. ubiquity of microplastics
	c. ubiquity oft microplastics
21	d. ubiquity over microplastics
3)	Scientists first found them in our bodies more than
	a. add deck aid ago
	<ul><li>b. a deck add ago</li><li>c. a decade ago</li></ul>
	d. add decade ago
(۱	Scientists at the Beijing Anzhen Hospital in China collected
4)	a. cardiac tissue samples
	b. cardiac tissue simples
	c. cardiac tissue sump pulls
	d. cardiac tissue same pulls
5)	They included a plastic commonly used as a shatter-proof
	a. alternatively to glass
	b. alternate to glass
	c. alter native to glass
	d. alternative to glass
6)	The scientists reported finding, "tens to thousands of
	a. individually microplastic pieces
	b. individualize microplastic pieces
	<ul><li>c. individualism microplastic pieces</li><li>d. individual microplastic pieces</li></ul>
7١	Chemicals from microplastics are released into the body, potentially leading
')	a. to allergy reactions
	b. to allergic reactions
	c. to allergen reactions
	d. to allergically reactions
8)	Microplastics are so prevalent that they make up 39 per cent
	a. of dusty particles
	b. of dusted particles
	c. of dust particles
	d. of dusts particles
9)	They say it is becoming critical to
	a. limitation the amount
	<ul><li>b. limits the amount</li><li>c. delimit the amount</li></ul>
	d. limit the amount
10	) plastic we breathe in, ingest,
TO	a. swallow or abs orb
	a. Swallow of abs context

- b. swallow or abs sorbet
- c. swallow or absorb
- d. swallow or ab sorbet

#### LISTENING – Listen and fill in the gaps

From <u>https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html</u>

While many of us (1) \_\_\_\_\_\_ the environmental damage done by plastic, fewer people know about (2) \_\_\_\_\_\_ the ubiquity of microplastics. Scientists first found them in our bodies more than (3) \_\_\_\_\_\_. Worryingly, researchers have now found them in the human heart. Scientists at the Beijing Anzhen Hospital in China collected (4) \_\_\_\_\_\_ from 15 patients undergoing heart surgery. After analyzing the samples, they discovered tiny pieces of plastic, from a (5) \_\_\_\_\_\_. They included a plastic commonly used as a shatter-proof alternative to glass, a polythene (6) \_\_\_\_\_\_ clothing and food containers, and a polyvinyl chloride used in construction.

The scientists reported finding, "tens to thousands of individual microplastic (7) \_\_\_\_\_\_ tissue samples". Chemicals from microplastics are released into the body, potentially (8) \_\_\_\_\_\_ reactions, cancer, cell death, and chronic inflammation, among other complications. Scientists (9) \_\_\_\_\_ person consumes around five grams of microplastics a week, or 52,000 particles a year. Microplastics are (10) they make up 39 per cent of (11) our homes. Scientists say these tiny shards are near-impossible to remove from the body. They say it is becoming critical to limit the amount of plastic (12) \_\_\_\_\_, ingest, swallow or absorb.

### **COMPREHENSION QUESTIONS**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

- 1. What do fewer of us know about the threat of?
- 2. When were microplastics first found in our bodies?
- 3. Where was the research conducted?
- 4. What kind of operation were 15 patients having?
- 5. What was a polyvinyl chloride used in?
- 6. How many microplastics were found in the human heart tissue?
- 7. What kind of inflammation can chemicals from microplastics cause?
- 8. How many bits of microplastic does the average person consume a year?
- 9. How much of the dust in our homes are made up of microplastics?
- 10. How important does the article say it is to limit ingested microplastics?

## **MULTIPLE CHOICE - QUIZ**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

- 1) What do fewer of us know about the threat of?
- a) climate change
- b) health problems
- c) the scarcity of microplastics
- d) the ubiquity of microplastics
- 2) When were microplastics first found in our bodies?
- a) last year
- b) over 10 years ago
- c) in 2018
- d) a few years ago
- 3) Where was the research conducted?
- a) South Korea
- b) Japan
- c) China
- d) Singapore
- 4) What kind of operation were 15 patients having?
- a) heart surgery
- b) a hernia operation
- c) a kidney transplant
- d) broken bones
- 5) What was a polyvinyl chloride used in?
- a) clothing
- b) glass
- c) construction
- d) food containers

6) How many microplastics were found in the human heart tissue?

- a) tens of thousands
- b) from tens to thousands
- c) fifteen thousand
- d) hundreds of thousands
- 7) What kind of inflammation can chemicals from microplastics cause?
- a) short-term inflammation
- b) mild inflammation
- c) sore inflammation
- d) chronic inflammation
- 8) How many bits of microplastic does the average person consume a year?
- a) 52,000 particles
- b) 50,000 particles
- c) 58,000 particles
- d) 54,000 particles
- 9) How much of the dust in our homes are made up of microplastics?
- a) 32%
- b) 33%
- c) 39%
- d) 38%

10) How important does the article say it is to limit ingested microplastics?

- a) It's beyond urgent.
- b) It's becoming critical.
- c) It's of little importance.
- d) It's quite important.

## **ROLE PLAY**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

#### **Role A – Plastic Bottles**

You think plastic bottles are the most important things to recycle. Tell the others three reasons why. Tell them what problems there are with recycling their things. Also, tell the others which of these is the least important to recycle (and why): computers, clothes or cars.

#### **Role B – Computers**

You think computers are the most important things to recycle. Tell the others three reasons why. Tell them what problems there are with recycling their things. Also, tell the others which of these is the least important to recycle (and why): plastic bottles, clothes or cars.

#### **Role C – Clothes**

You think clothes are the most important things to recycle. Tell the others three reasons why. Tell them what problems there are with recycling their things. Also, tell the others which of these is the least important to recycle (and why): computers, plastic bottles or cars.

#### Role D – Cars

You think cars are the most important things to recycle. Tell the others three reasons why. Tell them what problems there are with recycling their things. Also, tell the others which of these is the least important to recycle (and why): computers, clothes or plastic bottles.

## **AFTER READING / LISTENING**

From <u>https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html</u>

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

plastic	heart

- 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:

• aware	• tens
• decade	leading
<ul> <li>collected</li> </ul>	<ul> <li>average</li> </ul>
<ul> <li>patients</li> </ul>	• week
• tiny	homes
alternative	• limit

### **MICROPLASTICS SURVEY**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

Write five GOOD questions about microplastics 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.

### **MICROPLASTICS 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 'microplastics'?
- 3. What damage do microplastics do?
- 4. How can we reduce the amount of microplastics?
- 5. What damage could microplastics do to our body?
- 6. How can we live without plastic?
- 7. How much plastic pollution do you see every day?
- 8. Would you switch to alternatives to plastic?
- 9. How do you feel about microplastics being in your body?
- 10. What should governments do about microplastics?

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MICROPLASTICS 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 'heart'?
- 13. What do you think about what you read?
- 14. Would you move house to live somewhere with fewer microplastics?
- 15. Do you suffer from any allergies?
- 16. What do you think of your body consuming 52,000 bits of microplastic?
- 17. Should we dust our homes more to remove microplastics?
- 18. What will things be like in the future?
- 19. What do you think of microplastics?
- 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.		

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### **DISCUSSION (Write your own questions)**

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

1.	
C	
2.	
3.	
4.	
5.	
6.	

### LANGUAGE - CLOZE

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

While many of (1) \_\_\_\_\_ are aware of the environmental damage done by plastic, fewer people know about the (2) \_\_\_\_\_ from the ubiquity of microplastics. Scientists first found them in our bodies more than (3) \_\_\_\_\_ decade ago. Worryingly, researchers have now found them in the human heart. Scientists at the Beijing Anzhen Hospital in China collected cardiac tissue samples from 15 patients (4) \_\_\_\_\_ heart surgery. After analyzing the samples, they discovered (5) \_\_\_\_\_ pieces of plastic, from a multitude of sources. They included a plastic commonly used as a shatter-proof alternative (6) \_\_\_\_\_ glass, a polythene widely used in clothing and food containers, and a polyvinyl chloride used in construction.

The scientists reported finding, "tens (7) \_\_\_\_\_ thousands of individual microplastic pieces in most tissue samples". Chemicals from microplastics are released into the body, (8) \_\_\_\_\_ leading to allergic reactions, cancer, cell death, and chronic inflammation, among other complications. Scientists (9) \_\_\_\_\_ the average person consumes around five grams of microplastics a week, or 52,000 particles a year. Microplastics are so prevalent that they make (10) \_\_\_\_\_ 39 per cent of dust particles in our homes. Scientists say these tiny shards are (11) \_\_\_\_\_-impossible to remove from the body. They say it is becoming (12) \_\_\_\_\_ to limit the amount of plastic we breathe in, ingest, swallow or absorb.

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

1.	(a)	them	(b)	us	(c)	people	(d)	doctors
2.	(a)	treat	(b)	threat	(c)	threaten	(d)	throat
3.	(a)	the	(b)	several	(c)	that	(d)	а
4.	(a)	ongoing	(b)	undergoing	(c)	outgoing	(d)	tangoing
5.	(a)	tinny	(b)	tiny	(c)	tinted	(d)	tin
6.	(a)	of	(b)	from	(c)	to	(d)	on
7.	(a)	on	(b)	as	(c)	to	(d)	in
8.	(a)	potential	(b)	potent	(c)	potentially	(d)	portent
9.	(a)	harken	(b)	wrecking	(c)	beckon	(d)	reckon
10.	(a)	up	(b)	down	(c)	over	(d)	through
11.	(a)	near	(b)	adjacent	(c)	close	(d)	far
12.	(a)	critique	(b)	critic	(c)	critical	(d)	criticize

### SPELLING

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

#### Paragraph 1

- 1. the <u>uqbtiyui</u> of microplastics
- 2. <u>aardcci</u> tissue samples
- 3. from a <u>eulttmudi</u> of sources
- 4. a shatter-proof irnatlvetea to glass
- 5. widely used in clothing and food saronnteci
- 6. polyvinyl chloride used in coontuncstri

#### Paragraph 2

- 7. ellgrcia reactions
- 8. iccrnoh inflammation
- 9. Microplastics are so lepavenrt
- 10. dust <u>scletpair</u>
- 11. becoming lirticca to limit the amount
- 12. plastic we breathe in, ingest, swallow or <u>barobs</u>

### PUT THE TEXT BACK TOGETHER

From <a href="https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html">https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html</a>

#### Number these lines in the correct order.

- ( ) from the ubiquity of microplastics. Scientists first found them in our bodies more than a decade
- (1) While many of us are aware of the environmental damage done by plastic, fewer people know about the threat
- ( ) ago. Worryingly, researchers have now found them in the human heart. Scientists at the Beijing Anzhen Hospital in China
- ( ) to allergic reactions, cancer, cell death, and chronic inflammation, among other complications. Scientists reckon the average
- ( ) homes. Scientists say these tiny shards are near-impossible to remove from the body. They say it is becoming critical
- ( ) samples". Chemicals from microplastics are released into the body, potentially leading
- ( ) to glass, a polythene widely used in clothing and food containers, and a polyvinyl chloride used in construction.
- ( ) a year. Microplastics are so prevalent that they make up 39 per cent of dust particles in our
- ( ) collected cardiac tissue samples from 15 patients undergoing heart surgery. After analyzing
- ( ) the samples, they discovered tiny pieces of plastic, from a multitude
- ( ) person consumes around five grams of microplastics a week, or 52,000 particles
- ( ) The scientists reported finding, "tens to thousands of individual microplastic pieces in most tissue
- ( ) of sources. They included a plastic commonly used as a shatterproof alternative
- ( ) to limit the amount of plastic we breathe in, ingest, swallow or absorb.

#### PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

1. damage . of environmental aware of Many us are

2. Researchers the have found them in now heart .

3. from Tissue patients 15 samples heart undergoing surgery .

4. as used Commonly alternative shatter-proof to a glass .

5. containers . food in used A polythene widely

6. microplastics Chemicals the into released body . from are

7. consumes person Scientists grams . the reckon five average

8. dust They up per make particles . of cent 39

9. from to remove are body . the near-impossible They

10. the becoming critical is It to limit amount .

### **CIRCLE THE CORRECT WORD (20 PAIRS)**

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

While many of us are *beware / aware* of the environmental damage done by plastic, fewer people know about the *threat / treat* from the *ubiquity / ubiquitous* of microplastics. Scientists first found them in our bodies more than *the / a* decade ago. Worryingly, researchers have now found them *in / at* the human heart. Scientists at the Beijing Anzhen Hospital in China collected cardiac tissue *sample / samples* from 15 patients *ongoing / undergoing* heart surgery. After analyzing the samples, they discovered *tiny / tinny* pieces of plastic, from a multitude of sources. They included a plastic commonly used *as / has* a shatter-proof alternative to glass, a polythene *widen / widely* used in clothing and food containers, and a polyvinyl chloride used in construction.

The scientists reported *funding / finding*, "tens to thousands of individual microplastic pieces *in / at* most tissue samples". Chemicals from microplastics are released *into / onto* the body, potentially leading *on / to* allergic reactions, cancer, cell death, and chronic inflammation, among *others / other* complications. Scientists reckon the average person consumes around five grams of microplastics *a / in* week, or 52,000 particles a year. Microplastics are so prevalent that they make *up / down* 39 per cent of dust particles in our homes. Scientists say *these / them* tiny shards are near-impossible to remove from the body. They say *they / it* is becoming critical to limit the amount of plastic we *breathe in / breath*, in ingest, swallow or absorb.

## Talk about the connection between each pair of words in italics, and why the correct word is correct. Look up the definition of new words.

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

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

Wh\_l\_ m\_ny \_f \_s \_r \_w\_r \_f th\_ \_nv\_r\_nm\_nt\_l d\_m\_g d\_n\_ by pl\_st\_c, f\_w\_r p\_\_pl\_ kn\_w \_b\_\_t th\_ thr\_\_t fr\_m th\_ \_b\_q\_ty \_f m\_cr\_pl\_st\_cs. Sc\_\_nt\_sts f\_rst f\_\_nd th\_m \_n \_\_r b\_d\_s m\_r th\_n \_ d\_c\_d\_ \_g. W\_rry\_ngly, r\_s\_\_rch\_rs h\_v\_ n\_w f\_\_nd th\_m \_n th\_ h\_m\_n h\_\_rt. Sc\_\_nt\_sts \_t th\_ B\_\_j\_ng \_nzh\_n H\_sp\_t\_l \_n Ch\_n\_ c\_ll\_ct\_d c\_rd\_\_c t\_ss\_\_ s\_mpl\_s fr\_m 15 p\_t\_\_nts \_nd\_rg\_\_ng h\_\_rt s\_rg\_ry. \_ft\_r \_n\_lyz\_ng th\_ s\_mpl\_s, th\_y d\_sc\_v\_r\_d t\_ny p\_\_c\_s \_f pl\_st\_c, fr\_m \_ m\_lt\_t\_d\_ \_f s\_\_rc\_s. Th\_y \_ncl\_d\_d \_ pl\_st\_c c\_mm\_nly \_s\_d \_s \_ sh\_tt\_r-pr\_\_f \_lt\_rn\_t\_v\_ t\_ gl\_ss, \_ p\_lyth\_n\_ w\_d\_ly \_s\_d \_n cl\_th\_ng \_nd f\_\_d c\_nt\_\_n\_rs, \_nd \_ p\_lyv\_nyl chl\_r\_d\_ \_s\_d \_n

Th\_ sc\_\_nt\_sts r\_p\_rt\_d f\_nd\_ng, "t\_ns t\_ th\_\_s\_nds \_f \_nd\_v\_d\_\_I m\_cr\_pl\_st\_c p\_\_c\_s \_n m\_st t\_ss\_\_ s\_mpl\_s". Ch\_m\_c\_ls fr\_m m\_cr\_pl\_st\_cs \_r\_ r\_l\_\_s\_d \_nt\_ th\_ b\_dy, p\_t\_nt\_\_lly l\_\_d\_ng t\_ ll\_rg\_c r\_\_ct\_\_ns, c\_nc\_r, c\_ll d\_\_th, \_nd chr\_n\_c \_nfl\_mm\_t\_\_n, \_m\_ng \_th\_r c\_mpl\_c\_t\_\_ns. Sc\_\_nt\_sts r\_ck\_n th\_ v\_r\_g p\_rs\_n c\_ns\_m\_s \_r\_\_nd f\_v\_ gr\_ms \_f m\_cr\_pl\_st\_cs \_ w\_\_k, \_r 52,000 p\_rt\_cl\_s \_ y\_\_r. M\_cr\_pl\_st\_cs \_r\_ s\_ pr\_v\_l\_nt th\_t th\_y m\_k\_ p 39 p\_r c\_nt \_f d\_st p\_rt\_cl\_s \_n \_r h\_m\_s. Sc\_\_nt\_sts s\_y th\_s\_ t\_ny sh\_rds \_r\_ n\_\_r -mp\_ss\_bl\_ t\_ r\_m\_v\_ fr\_m th\_ b\_dy. Th\_y s\_y \_t \_s b\_c\_m\_ng cr\_t\_cl\_ t\_ l\_m\_t th\_ \_m\_nt \_f pl\_st\_c w\_ br\_\_th\_ \_n, \_ng\_st, sw\_ll\_w \_r \_bs\_rb.

#### PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

while many of us are aware of the environmental damage done by plastic fewer people know about the threat from the ubiquity of microplastics scientists first found them in our bodies more than a decade ago worryingly researchers have now found them in the human heart scientists at the beijing anzhen hospital in china collected cardiac tissue samples from 15 patients undergoing heart surgery after analyzing the samples they discovered tiny pieces of plastic from a multitude of sources they included a plastic commonly used as a shatterproof alternative to glass a polythene widely used in clothing and food containers and a polyvinyl chloride used in construction

the scientists reported finding tens to thousands of individual microplastic pieces in most tissue samples chemicals from microplastics are released into the body potentially leading to allergic reactions cancer cell death and chronic inflammation among other complications scientists reckon the average person consumes around five grams of microplastics a week or 52000 particles a year microplastics are so prevalent that they make up 39 per cent of dust particles in our homes scientists say these tiny shards are near-impossible to remove from the body they say it is becoming critical to limit the amount of plastic we breathe in ingest swallow or absorb

## PUT A SLASH ( / ) WHERE THE SPACES ARE

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

Whilemanyofusareawareoftheenvironmentaldamagedonebyplastic, fewerpeopleknowaboutthethreatfromtheubiquityofmicroplastics.Sc ientistsfirstfoundtheminourbodiesmorethanadecadeago.Worryingl y, researchershavenow found them in the human heart. Scientists at the BeijingAnzhenHospitalinChinacollectedcardiactissuesamplesfrom1 5patientsundergoingheartsurgery.Afteranalyzingthesamples,theyd iscoveredtinypiecesofplastic, from a multitude of sources. They include daplasticcommonlyusedasashatter-proofalternativetoglass, apolyt henewidelyusedinclothingandfoodcontainers, and apolyvinylchloride usedinconstruction. Thescientists reported finding, "tenstothousands" ofindividualmicroplasticpiecesinmosttissuesamples". Chemicals fro mmicroplasticsarereleasedintothebody, potentially leading to all ergic reactions, cancer, celldeath, and chronic inflammation, among other co mplications.Scientistsreckontheaveragepersonconsumes around fiv egramsofmicroplasticsaweek, or 52,000 particles ayear. Microplastics aresoprevalentthattheymakeup39percentofdustparticlesinourhom es.Scientistssaythesetinyshardsarenear-impossibletoremovefromt hebody.Theysayitisbecomingcriticaltolimittheamountofplasticwebr eathein, ingest, swallow or absorb.

### FREE WRITING

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

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

### ACADEMIC WRITING

From https://breakingnewsenglish.com/2308/230814-microplastics-in-human-heart.html

We need to stop using plastic immediately. 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. MICROPLASTICS:** Make a poster about microplastics. Show your work to your classmates in the next lesson. Did you all have similar things?

**4. END PLASTIC:** Write a magazine article about ending the use of 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 microplastics. Ask him/her three questions about them. 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.	b	2.	d	3.	f	4.	е	5.	С	6.	g	7.	а
8.	h	9.	j	10.	Ι	11.	m	12.	n	13.	k	14.	i

#### TRUE / FALSE (p.5)

1	F	2 F	3 T	4 T	5 F	6 T	7 T	8 F

1.

#### SYNONYM MATCH (p.5)

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

#### **COMPREHENSION QUESTIONS (p.9)**

- 1. The ubiquity of microplastics
- 2. Over a decade ago
- 3. China
- 4. Heart surgery
- 5. Construction
- 6. From tens to thousands
- 7. Chronic inflammation
- 8. 52,000 particles
- 9. 39%

10. It's becoming critical.

#### WORDS IN THE RIGHT ORDER (p.19)

- Many of us are aware of environmental damage.
- 2. Researchers have now found them in the heart.
- 3. Tissue samples from 15 patients undergoing heart surgery.
- 4. Commonly used as a shatter-proof alternative to glass.
- 5. A polythene widely used in food containers.
- 6. Chemicals from microplastics are released into the body.
- 7. Scientists reckon the average person consumes five grams.
- 8. They make up 39 per cent of dust particles.
- 9. They are near-impossible to remove from the body.
- 10. It is becoming critical to limit the amount.

#### **MULTIPLE CHOICE - QUIZ (p.10)**

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 ;-)