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Level 6 - 6th June, 2020

Scientists discover the world's cleanest air

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https://breakingnewsenglish.com/2006/200606-clean-air.html

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

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THE ARTICLE

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Scientists have discovered what they believe to be the cleanest air on Earth. Researchers from Colorado State University and the Australian Bureau of Meteorology conducted research on the purity of the air above Antarctica. They found a region over the Southern Ocean, between the south of Australia and Antarctica, that was "unaffected" by human activity. The scientists said the area they researched formed the atmosphere in the lower clouds. The analysis of the air showed that it was totally free from "anthropogenic aerosols". These are pollutants or particles derived from human activity, or dust from other continents. The scientists called this pollution-free area, "truly pristine".

The scientists analysed the structure of airborne microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and tracked where they came from. Their analysis included monitoring wind trajectories to detect how far the microbes may have travelled. They found that the atmospheric eco-system was very much "isolated," self-contained, and free from contaminants from elsewhere in the world. The source of the microbes was the Southern Ocean, rather than airborne pollutants from other continents. The researchers concluded that the Southern Ocean is one of very few places on Earth that has been "minimally affected by anthropogenic activities".

Sources: https://www.newsweek.com/air-antarctica-cleanest-world-1508433

https://www.ecowatch.com/cleanest-air-earth-scientists-2646150814.html

https://scitechdaily.com/cleanest-air-on-earth-identified-by-atmospheric-scientists-in-first-of-its-order and other contents of the content of the cont

kind-study/

WARM-UPS

- **1. CLEAN AIR:** Students walk around the class and talk to other students about clean air. 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?

discover / clean air / purity / region / atmosphere / clouds / pollutants / pristine / structure / microbes / analysis / eco-system / microbes / continent / Antarctica

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

- **3. HEAVY FINES:** Students A **strongly** believe we should give heavy fines to factories that create pollution; Students B **strongly** believe we shouldn't. Change partners again and talk about your conversations.
- **4. CLEAN:** How important is it for these things to be clean? How can we make them cleaner? Complete this table with your partner(s). Change partners often and share what you wrote.

	Importance	How To Make Them Cleaner
Air		
Oceans		
Roads		
Rivers		
Cities		
Public buildings		

- **5. EARTH:** Spend one minute writing down all of the different words you associate with the word "Earth". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **6. POLLUTION:** Rank these with your partner. Put the most dangerous forms of pollution at the top. Change partners often and share your rankings.
 - Water pollution
 - Plastic pollution
 - Air pollution
 - Radioactive contamination

- Noise pollution
- Light pollution
- Visual pollution
- Littering

VOCABULARY MATCHING

Paragraph 1

- discovered
 a. Found or observed a place, substance, or scientific happening or phenomenon.
- 2. conducted b. A tiny, tiny portion of a physical substance.
- 3. region c. Organized and carried out.
- 4. unaffected d. The layer of gases surrounding the earth or another planet.
- 5. atmosphere e. An area of a country or the world having easy-to-understand characteristics, but not always with borders or fixed boundaries.
- 6. particle f. Not impacted by.
- 7. pristine g. In its original condition; unspoiled.

Paragraph 2

- 8. airborne h. Far away from other places, buildings, or people; remote.
- 9. microbe i. Discover or identify the presence or existence of something.
- 10. trajectory j. In the air; travelling in the air.
- 11. detect k. Any of the world's main continuous areas of land (Africa, Antarctica, Asia, Australia, Europe, North America, South America).
- 12. isolated I. A micro-organism, especially a bacteria causing disease.
- 13. continent m. To an extremely small extent; negligibly.
- 14. minimally n. The path or direction followed by something flying or an object moving somewhere.

BEFORE READING / LISTENING

From https://breakingnewsenglish.com/2006/200606-clean-air.html

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

- b. Researchers found an area that was not affected by human activity. **T/F**
- c. The area the researchers looked at was in the lower clouds. T / F
- d. Researchers said the area they monitored was pristine. T / F
- e. The scientists analysed the DNA of microbes in the air. T / F
- f. The scientists said the area under study was not an isolated eco-system. T / F
- g. The air the scientists studied had microbes from nearby continents. T / F
- h. The Southern Ocean is the only place on Earth unaffected by aerosols. T / F

2. SYNONYM MATCH:

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

- 1. discovered
- 2. conducted
- 3. region
- 4. showed
- 5. pristine
- 6. airborne
- 7. trajectories
- 8. isolated
- 9. source
- 10. few

- a. unspoiled
- b. revealed
- c. remote
- d. carried out
- e. paths
- f. scant
- g. found
- h. origin
- i. area
- j. in flight

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

- 1. discovered what they believe to be
- 2. conducted research on the purity
- 3. the atmosphere in
- 4. pollutants or particles derived
- 5. scientists called this pollution-free area
- 6. scientists analysed the structure of
- 7. They looked at the
- 8. wind
- 9. contaminants
- 10. one of very few

- a. airborne microbes
- b. from human activity
- c. from elsewhere
- d. of the air
- e. the cleanest air
- f. trajectories
- g. the lower clouds
- h. places on Earth
- i. "truly pristine"
- i. DNA of the microbes

GAP FILL

Scientists have discovered what they believe to be the	unaffected
(1) air on Earth. Researchers from Colorado State	conducted
University and the Australian Bureau of Meteorology	analysis
(2) research on the purity of the air above Antarctica. They found a (3) over the Southern	pristine
Ocean, between the south of Australia and Antarctica, that was	region
"(4) " by human activity. The scientists said the	pollutants
area they researched formed the (5) in the lower	cleanest
clouds. The (6) of the air showed that it was totally	atmosphere
free from "anthropogenic aerosols". These are (7)	aunospnere
or particles derived from human activity, or dust from other	
continents. The scientists called this pollution-free area, "truly	
(8)".	
The scientists analysed the structure of (9)	isolated
The scientists analysed the structure of (9) microbes in the lower clouds over the Southern Ocean. They	isolated continents
	continents
microbes in the lower clouds over the Southern Ocean. They	continents tracked
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where	continents
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind	continents tracked
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have	continents tracked minimally
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have travelled. They found that the atmospheric eco-system was very	continents tracked minimally detect
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have travelled. They found that the atmospheric eco-system was very much "(12)," self-contained, and free from	continents tracked minimally detect few airborne
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have travelled. They found that the atmospheric eco-system was very much "(12)," self-contained, and free from contaminants from (13) in the world. The source of	continents tracked minimally detect few
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have travelled. They found that the atmospheric eco-system was very much "(12)," self-contained, and free from contaminants from (13) in the world. The source of the microbes was the Southern Ocean, rather than airborne	continents tracked minimally detect few airborne
microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and (10) where they came from. Their analysis included monitoring wind trajectories to (11) how far the microbes may have travelled. They found that the atmospheric eco-system was very much "(12)," self-contained, and free from contaminants from (13) in the world. The source of the microbes was the Southern Ocean, rather than airborne pollutants from other (14) The researchers	continents tracked minimally detect few airborne

LISTENING — Guess the answers. Listen to check.

1)	Scientists have discovered what they believe to be the Earth a. cleanest air on b. cleanest air in c. cleanest air by d. cleanest air at
2)	between the south of Australia and Antarctica, that was "unaffected" a. by humane activity b. by human activity c. by humanly activity d. by humans activity
3)	The scientists said the area they researched formed the atmosphere ina. the low are clouds b. the lower cloudy c. them lower clouds d. the lower clouds
4)	These are pollutants or particles activity a. derived from human b. delivered from human c. delved from human d. derived from human
5)	The scientists called this pollution-free area, "" a. true pre teens b. truly pre-steam c. truly pristine d. truly pre-stem
6)	The scientists analysed the structure of a. airborne micro bees b. airborne microbes c. air born my crabs d. air born mic robes
7)	They looked at the DNA of the microbes and came from a. tracked where they b. track it where they c. trucked where they d. truck it where they
8)	They found that the atmospheric eco-system was very much a. "isolated," self-contained b. "isolate it," self-contained c. "I so late," it self-contained d. "isolated," self-contained
9)	The source of the microbes was the Southern Ocean, rather a. than airborne polluted ants b. than airborne pollute ants c. than airborne poll mutants d. than airborne pollutants
10) one of very few places on Earth that has
	a. been "minimally affected"
	b. been "minimally reflected"c. been "minimally dissected"
	d. been "minimally infected"

LISTENING – Listen and fill in the gaps

Scientists have discovered what they believe to (1)
air on Earth. Researchers from Colorado State University and the Australian
Bureau of Meteorology conducted research (2) of the
air above Antarctica. They (3) over the Southern
Ocean, between the south of Australia and Antarctica, that was "unaffected"
(4) The scientists said the area they researched
formed the atmosphere in the lower clouds. The analysis of the air showed
that it was totally free from "anthropogenic aerosols". These are
(5) derived from human activity, or dust from other
continents. The scientists called this pollution-free
(6)
The scientists analysed (7) airborne microbes in the
lower clouds over the Southern Ocean. They looked at the DNA of the
(8) where they came from. Their analysis included
monitoring wind trajectories to (9) the microbes may
have travelled. They found that the atmospheric eco-system was very much
"isolated," self-contained, and free from contaminants
the world. The source of the microbes was the
Southern Ocean, rather than airborne pollutants (11)
The researchers concluded that the Southern Ocean is one of very few
places on Earth that has been "(12) anthropogenic

COMPREHENSION QUESTIONS

1.	Which country's meteorology bureau took part in the research?
2.	In which area of the world did researchers study air purity?
3.	Where was the area scientists researched in relation to Australia?
4.	What anthropogenic things was the air free from?
5.	What was the air free from besides pollutants and particles?
6.	What airborne things did scientists examine the DNA of?
7.	What did the scientists analyse the trajectory of?
8.	What did the scientists say the source of the microbes was?
9.	Where had microbes in the Southern Ocean not come from?
10.	Where did scientists say had been minimally affected by anthropogenes?

MULTIPLE CHOICE - QUIZ

From https://breakingnewsenglish.com/2006/200606-clean-air.html

- 1) Which country's meteorology bureau took part in the research?
- a) Canada's
- b) Argentina's
- c) Australia's
- d) India's
- 2) In which area of the world did researchers study air purity?
- a) Antarctica
- b) Siberia
- c) Greenland
- d) the Arctic
- 3) Where was the area scientists researched in relation to Australia?
- a) north by northwest
- b) behind Australia
- c) north by northeast
- d) it was south of Australia
- 4) What anthropogenic things was the air free from?
- a) bugs
- b) aerosols
- c) birds
- d) airplanes
- 5) What was the air free from besides pollutants and particles?
- a) ice
- b) pollen
- c) dust
- d) smoke

- 6) What airborne things did scientists examine the DNA of?
- a) airplanes
- b) microbes
- c) birds
- d) flying fish
- 7) What did the scientists analyse the trajectory of?
- a) an airborne insect
- b) the sun's rays
- c) climate change
- d) wind
- 8) What did the scientists say the source of the microbes was?
- a) plankton
- b) the Southern Ocean
- c) photosynthesis
- d) climate change
- 9) Where did scientists say microbes had not come from?
- a) other continents
- b) space
- c) the seabed
- d) a lab
- 10) Where did scientists say had been minimally affected by anthropogenes?
- a) the upper atmosphere
- b) the seabed
- c) The Pacific Ocean
- d) the Southern Ocean

ROLE PLAY

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Role A - Water Pollution

You think water pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, noise pollution or light pollution.

Role B - Plastic Pollution

You think plastic pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): water pollution, noise pollution or light pollution.

Role C - Noise Pollution

You think noise pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, water pollution or light pollution.

Role D - Light Pollution

You think light pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, noise pollution or water pollution.

AFTER READING / LISTENING

From https://breakingnewsenglish.com/2006/200606-clean-air.html

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

clean	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:

believe	structure
• purity	• DNA
• region	• wind
 formed 	• free
• dust	• source
• truly	• few

CLEAN AIR SURVEY

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Write five GOOD questions about clean air 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.

CLEAN AIR 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 'clean'?
- 3. How clean is the air where you live?
- 4. How important is it for you to have perfectly clean air?
- 5. How do you feel when the air is polluted?
- 6. To what degree is 100% pure air a human right?
- 7. What do you think of factories that create pollution?
- 8. What activities do you do that creates pollution?
- 9. Would you pay for clean air?
- 10. Would you move to Antarctica to be able to breathe pure air?

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CLEAN AIR 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 'air'?
- 13. What do you think about what you read?
- 14. What do you know about clouds?
- 15. What would you advise your government regarding clean air?
- 16. What do you think is contained in the DNA of air?
- 17. What collocations do you know for the word 'air'?
- 18. What damage have humans done to the air?
- 19. What will our air be like in 50 years from now?
- 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)

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SCU	ISSION (W B's QUESTIONS	Vrite yo	OUT OW	n que	stion	
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LANGUAGE - CLOZE

Rese Mete foun Anta area the	earche eorolo d a i rctica they air sh	have discovers from Col gy conducted region over to that was "u researched (4)	orado researd he Sou naffecte) was (5)	State University of the control of t	versity (a) (b) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	and the and the and the air and the seen the seen the seen the seen the lower of thropogeni	Australian above An outh of The scier clouds. To aeroso	n Bureau o tarctica. They Australia and itists said the he analysis o Is". These are
-		or particles o cists called this					ווסווו סנוו	er continents
the they how syst (10) than Sout by a	South came far t em we airbo thern nthro	tists analysed ern Ocean. Their he microbes ras very much in the world. The pollutants Ocean is one opogenic activit	ney look analysi may had "isolate The sou s from of of very ties".	ked at the I s included ve travelled d," self-con rce of the r other contin few places o	DNA of tomonitorial. They intained, and increases the contract of the contract	the microbouting wind that and free from was the Sine research that has be	es and (8 rajectorie the atmom conta outhern lers (11) een "(12)	s) where es to (9) cospheric eco- eminants from Ocean, rather that the affected
Р սւ 1.	(a)	orrect words believe	(b)	belief	(c)	believer	(d)	• believing
2.	(a)	parity	(b)	paucity	(c)	purity	(d)	particle
3.	(a)	at	(b)	on	(c)	by	(d)	of
4.	(a)	foamed	(b)	framed	(c)	famed	(d)	formed
5.	(a)	total	(b)	totality	(c)	totally	(d)	totals
6.	(a)	pasted	(b)	pristine	(c)	parting	(d)	praised
7.	(a)	stricture	(b)	structure	(c)	stature	(d)	statue
8.	(a)	tricked	(b)	tracked	(c)	trickled	(d)	trekked
9.	(a)	detract	(b)	inject	(c)	detect	(d)	defect
10.	(a)	else	(b)	whenever	(c)	where	(d)	elsewhere
11.	(a)	precluded	(b)	secluded	(c)	included	(d)	concluded
12.	(a)	maxim	(b)	minimum	(c)	minimal	(d)	minimally

SPELLING

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Paragraph 1

- 1. research on the <u>ytrupi</u> of the air
- 2. a rngoie over the Southern Ocean
- 3. <u>ctfdafnuee</u> by human activity
- 4. the atorpmhese in the lower clouds
- 5. parisclte derived from human activity
- 6. scientists called this pollution-free area, "truly irntsepi"

Paragraph 2

- 7. The scientists analysed the ttceurrus
- 8. airborne eibmcsro
- 9. free from oaimcatnsntn
- 10. from other cenntotsin
- 11. The researchers docdelucn that
- 12. <u>liymilamn</u> affected by anthropogenic activities

PUT THE TEXT BACK TOGETHER

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Number these lines in the correct order.

()	Ocean. They looked at the DNA of the microbes and tracked where they came from. Their analysis included
()	The scientists analysed the structure of airborne microbes in the lower clouds over the Southern
()	system was very much "isolated," self-contained, and free from contaminants from elsewhere
()	than airborne pollutants from other continents. The researchers concluded that the Southern Ocean is one
()	atmosphere in the lower clouds. The analysis of the air showed that it was totally
()	dust from other continents. The scientists called this pollution-free area, "truly pristine".
()	monitoring wind trajectories to detect how far the microbes may have travelled. They found that the atmospheric eco-
(1)	Scientists have discovered what they believe to be the cleanest air on Earth. Researchers from
,		
()	free from "anthropogenic aerosols". These are pollutants or particles derived from human activity, or
)	· ·
(particles derived from human activity, or and Antarctica, that was "unaffected" by human activity. The
()	particles derived from human activity, or and Antarctica, that was "unaffected" by human activity. The scientists said the area they researched formed the purity of the air above Antarctica. They found a region over the
()	particles derived from human activity, or and Antarctica, that was "unaffected" by human activity. The scientists said the area they researched formed the purity of the air above Antarctica. They found a region over the Southern Ocean, between the south of Australia Colorado State University and the Australian Bureau of Meteorology

PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2006/200606-clean-air.html

- 1. believe to Discovered they be the what cleanest .
- 2. Conducted on research the the purity air . of
- 3. found a region the They Ocean . Southern over
- 4. area they atmosphere . The the formed researched
- 5. pollution-free this The truly area pristine . scientists called
- 6. structure microbes . analysed airborne of The the scientists
- 7. the microbes . at They the DNA looked of
- 8. travelled . may far the Detect how microbes have
- 9. in from Free world . from elsewhere the contaminants
- 10. the few on of very places Earth . One

CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/2006/200606-clean-air.html

Scientists have discovered what they *belief / believe* to be the cleanest air on Earth. Researchers from Colorado State University and the Australian Bureau of Meteorology *conduction / conducted* research on the purity of the air *above / higher* Antarctica. They found a *legion / region* over the Southern Ocean, between the *southern / south* of Australia and Antarctica, that was "unaffected" by human *active / activity*. The scientists said the area they researched formed the atmosphere in the lower clouds. The *analysis / analysts* of the air showed that it was totally *free / freedom* from "anthropogenic aerosols". These are pollutants or particles *drive / derived* from human activity, or *dust / dusty* from other continents. The scientists called this pollution-free area, "truly pristine".

The scientists analysed the *map / structure* of airborne microbes in the lower clouds over the Southern Ocean. They looked *by / at* the DNA of the microbes and tracked *where / when* they came from. Their analysis included monitoring wind *tragedies / trajectories* to detect how far the microbes may have travelled. They found that the atmospheric eco-system was very *many / much* "isolated," self-contained, and free from contaminants from elsewhere in *the / a* world. The source of the microbes was the Southern Ocean, rather than *airborne / born* pollutants from other continents. The researchers *findings / concluded* that the Southern Ocean is *one / once* of very few places on Earth that has been "*minimally / maximum* affected by anthropogenic activities".

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/2006/200606-clean-air.html

 Sc_{-} $nt_{-}sts$ $h_{-}v_{-}$ $d_{-}sc_{-}v_{-}r_{-}d$ $wh_{-}t$ $th_{-}y$ $b_{-}l_{-}v_{-}$ t_ b_ t h_ c l__ n_s t __ r _n E_r t h . R_s__ r c h_r s $fr_m C_l_r_d_ St_t_ U n_v_r s_t y _n d t h_ A_s t$ r_l_ n B_r__ f M_t_ r_l_g y c_n d_c t_d r_s_ r c h _n th_ p_r_ty _f th_ __ r _b_v_ A nt_rct_c_. T h_y f__ nd _ r_g__ n _v_r th_ S__ th_rn Oc__ n, b_t w__ n t h_ s__ t h _f A_s t r_l__ _nd A n t_r c t_c_, th_t w_s "_n_ff_ct_d" by h_m_n _ct_v_ty . Th_ s c__ n t_s t s s__ d t h_ _r__ t h_y r_s__ r c h_d f_r m_d t h__t m_s p h_r_ _n t h__ l_w_r c l__ d s. Th_ _n_l y s_s _f th_ __ r sh_w_d th_t _t w_s t_t_lly fr__ fr_m "_n t h r_p_g_n_c __ r_s_ls ". Th_s_ r_ p_l l_t_n ts _r p_r t_c l_s d_r_v_d f r_m h_m_n _c t_v_t y , _r d_s t f r_m _t h_r c_n t_n_t . The scentests colled the pulletime $\label{eq:n-fr} n - f r_{--} - r_{--} \; , \quad " \; t \; r_{-} l \; y \quad p \; r_{-} s \; t_{-} n_{-} " \; .$

Th_sc__nt_sts_n_lys_d th_str_ct_r__f__r S_{-} th_rn O c__ n. T h_y I_{-} k_d _t th_ D N A _f th_ m_cr_b_s _n d tr_ck_d wh_r_ th_y c_m_ f r_m . Th_ r _n_lys_s _n cl_d_d m_n_t_r_ng w_n d $t r_j c t_r s t_d d_t c t h_w f_r t h_m c r_b s$ m_y $h_v_t tr_v_l l_d$. Th_y $f_n d th_t th_t$, " s_lf-c_nt__ n_d , _n d fr__ fr_m c_nt_m_n_n $ts\ fr_m\ _ls_w\ h_r_\ _n\ th_\ w_r\ ld$. Th_ $s__\ rc_$ _f th_ m_cr_b_s w_s th_ S__ th_rn O c__ n, r_t h_r t h_n __ r b_r n_ p_l l_t_n ts f r_m _t h_r $c_n \ t_n_n \ t \ s \ . \quad T \ h_ \ r_s__ \ r \ c \ h_r \ s \ c_n \ c \ l_d_d \ t \ h_t \ t$ h_ S__ t h_r n O c__ n _s _n_ _f v_r y f_w p l_c_s by nthrpqnc ctvt_s".

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2006/200606-clean-air.html

scientists have discovered what they believe to be the cleanest air on earth

researchers from colorado state university and the australian bureau of

meteorology conducted research on the purity of the air above antarctica

they found a region over the southern ocean between the south of australia

and antarctica that was unaffected by human activity the scientists said the

area they researched formed the atmosphere in the lower clouds the

analysis of the air showed that it was totally free from anthropogenic

aerosols these are pollutants or particles derived from human activity or

dust from other continents the scientists called this pollutionfree area truly

pristine

the scientists analysed the structure of airborne microbes in the lower clouds

over the southern ocean they looked at the dna of the microbes and tracked

where they came from their analysis included monitoring wind trajectories to

detect how far the microbes may have travelled they found that the

atmospheric ecosystem was very much isolated selfcontained and free from

contaminants from elsewhere in the world the source of the microbes was

the southern ocean rather than airborne pollutants from other continents the

researchers concluded that the southern ocean is one of very few places on

earth that has been minimally affected by anthropogenic activities

Level 6 Scientists discover the world's cleanest air – 6th June, 2020

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PUT A SLASH (/) WHERE THE SPACES ARE

From https://breakingnewsenglish.com/2006/200606-clean-air.html

ScientistshavediscoveredwhattheybelievetobethecleanestaironEart h.ResearchersfromColoradoStateUniversityandtheAustralianBurea uofMeteorologyconductedresearchonthepurityoftheairaboveAntarc tica. They found are gion over the Southern Ocean, between the south of AustraliaandAntarctica,thatwas"unaffected"byhumanactivity.Thes cientistssaidtheareatheyresearchedformedtheatmosphereinthelow erclouds. The analysis of the air showed that it was to tally free from "anthr opogenicaerosols". These are pollutants or particles derived from huma nactivity, or dust from other continents. The scient is to scalled this pollution n-freearea, "trulypristine". The scientists analysed the structure of airb ornemicrobesinthelowercloudsovertheSouthernOcean.Theylooked attheDNAofthemicrobesandtrackedwheretheycamefrom. Theiranal ysisincludedmonitoringwindtrajectoriestodetecthowfarthemicrobes may have travelled. They found that the atmospheric eco-system was v erymuch"isolated,"self-contained, and free from contaminants from e Isewhereintheworld. The source of the microbes was the Southern Ocea n,ratherthanairbornepollutantsfromothercontinents.Theresearcher sconcluded that the Southern Ocean is one of very few places on Earth that the Southern Ocean is one of very few places of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Southern Ocean is one of very few places on the Sothasbeen "minimally affected by anthropogenic activities".

FREE WRITING

Write about cle	Write about clean air for 10 minutes. Comment on your partner's paper.					

ACADEMIC WRITING

It is impossible for the world to be pollution free. 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. CLEAN AIR:** Make a poster about clean air. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. POLLUTION:** Write a magazine article about governments imposing huge taxes on companies to keep the air clean. 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 clean air. Ask him/her three questions about it. Give him/her three of your ideas on how to make the air cleaner. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

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

TRUE / FALSE (p.5)

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

SYNONYM MATCH (p.5)

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

COMPREHENSION QUESTIONS (p.9)

5.

6.

7.

8.

9.

Wind

WORDS IN THE RIGHT ORDER (p.20)

- Australia's
 Discovered what they believe to be the cleanest.
 Antarctica
 Conducted research on the purity of the air.
- 3. It was south of Australia 3. They found a region over the Southern Ocean.
- 4. Aerosols 4. The area they researched formed the atmosphere.
 - Dust

 5. The scientists called this pollution-free area truly pristine.

 Microbes

 6. The scientists analysed the structure of airborne
 - 6. The scientists analysed the structure of airborne microbes.
 - 7. They looked at the DNA of the microbes.
 - 8. Detect how far the microbes may have travelled.
 - 9. Free from contaminants from elsewhere in the world.
- 10. The Southern Ocean 10. One of the very few places on Earth.

MULTIPLE CHOICE - QUIZ (p.10)

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

ALL OTHER EXERCISES

The Southern Ocean

Other continents

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