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Level 3 – 9th August, 2020

Scientists discover why shaving blunts razors

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https://breakingnewsenglish.com/2008/200809-shaving.html

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

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THE ARTICLE

From https://breakingnewsenglish.com/2008/200809-shaving.html

Scientists from MIT have discovered why razor blades become blunt after repeated use. They did research into why razor blades lose their sharpness. Razor blades are 50 times harder than the hairs they cut. Even though human hair is 50 times softer than the metal of a razor blade, the hair damages the edge of the blade. Razor blades are made from stainless steel. They are usually coated with tougher materials like hardened carbon. The MIT scientists said that each time a blade cuts a hair, the hair causes tiny amounts of damage. A blade usually cuts thousands of hairs in one shaving session. This means the life of a razor blade is limited and will need to be replaced regularly.

The researchers used powerful microscopes to find out how hair damages a razor blade. They got a close-up view of what happens during a shave when the blade cuts a hair. The blade gets damaged in a variety of ways. One way is that a single hair creates a tiny chip on the edge of a blade. This chip becomes bigger as it cuts more hair. After more shaving, the blade loses its ability to cut cleanly and becomes blunt. A researcher said: "We are metallurgists and want to...make better metals. In this case, it was intriguing that if you cut something very soft, like human hair, with something very hard, like steel, the hard material would fail." He said his team is "aiming to solve an important engineering problem".

Sources: http://news.mit.edu/2020/why-shaving-dulls-razors-0806

https://science.sciencemag.org/content/369/6504/689

https://www.newscientist.com/article/2251202-we-just-figured-out-why-shaving-soft-hair-blunts-

steel-razor-blades/

WARM-UPS

- **1. SHAVING:** Students walk around the class and talk to other students about shaving. 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?

scientists / razor blades / research / human / hair / steel / carbon / shaving / damage microscopes / close-up / variety / chip / edge / metallurgists / intriguing / engineering

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

- **3. NO SHAVING:** Students A **strongly** believe no one should shave; Students B **strongly** believe the opposite. Change partners again and talk about your conversations.
- **4. HAIR:** What do you know about these problems? What would you do about them? Complete this table with your partner(s). Change partners often and share what you wrote.

	What Do You Know?	What Would You Do?
Greasy hair		
Split ends		
Thinning hair		
Greying hair		
Dry hair		
Dandruff		

- **5. BLADE:** Spend one minute writing down all of the different words you associate with the word "blade". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **6. DAILY HYGIENE:** Rank these with your partner. Put the most enjoyable at the top. Change partners often and share your rankings.
 - Shaving
 - Bathing
 - Washing your hair
 - Brushing your teeth

- Brushing your hair
- Cutting your nails
- Cutting your hair
- Washing your face

VOCABULARY MATCHING

Paragraph 1

- blunt a. The flat cutting edge of a knife, razor, saw, or other tool or weapon.
- 2. blade b. The outside border of an object, area, or surface.
- 3. sharpness c. When something is less sharp and less able to cut.
- 4. edge d. Very, very small.
- 5. tougher e. Stronger.
- 6. tiny f. Having little time to be used.
- 7. limited g. How sharp something is.

Paragraph 2

- 8. microscope h. Find an answer to, explanation for, or means of dealing with a problem or mystery.
- 9. view i. A small piece of something removed or breaking because of cutting.
- 10. variety j. Making people very interested in something.
- 11. chip

 k. An instrument used for looking at very small objects, such as mineral samples or animal or plant cells, usually hundreds of times their real size.
- 12. intriguing I. The sight of something.
- 13. aiming m. Wanting and trying to do something or reach a goal.
- 14. solve n. A number of different things.

BEFORE READING / LISTENING

From https://breakingnewsenglish.com/2008/200809-shaving.html

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

- a. The scientists who did this research are from a school called TIM. T / F
- b. Razor blades are 500 times harder than human hair. T / F
- c. Stainless steel razor blades are toughened with carbon. T / F
- d. The article said a razor blade can cut thousands of hairs when shaving. T / F
- e. Scientists used a microscope to look at hairs being cut. **T / F**
- f. Human hairs cause tiny chips on the edge of razor blades. T / F
- g. A scientist said he wanted to make softer metals. **T / F**

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

- 1. discovered
- 2. repeated
- 3. damages
- 4. tiny
- 5. replaced
- 6. happens
- 7. single
- 8. intriguing
- 9. solve
- 10. problem

- a. harms
- b. work out
- c. changed
- d. continual
- e. interesting
- f. puzzle
- g. found out
- h. solitary
- i. very small
- i. occurs

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

- 1. discovered why razor blades become blunt
- 2. research into why razor blades lose their
- 3. Razor blades are made from
- 4. coated with tougher materials
- 5. This means the life of a razor blade
- 6. The researchers used powerful
- 7. They got a close-up
- 8. the blade loses its ability
- 9. if you cut something
- 10. solve an important

- a. like hardened carbon
- b. stainless steel
- c. very soft
- d. view of what happens
- e. to cut cleanly
- f. after repeated use
- g. microscopes
- h. engineering problem
- i. is limited
- j. sharpness

GAP FILL

Scientists from MIT have discovered why razor blades become	sharpness
blunt after (1) use. They did research into why	materials
razor blades lose their (2) Razor blades are	metal
50 times harder than the hairs they cut. Even though human hair	
is 50 times softer than the (3) of a razor	regularly
blade, the hair damages the (4) of the blade.	repeated
Razor blades are made from stainless steel. They are usually	shaving
coated with tougher (5) like hardened carbon.	edge
The MIT scientists said that each time a blade cuts a hair, the hair	tiny
causes (6) amounts of damage. A blade	Cirry
usually cuts thousands of hairs in one (7)	
session. This means the life of a razor blade is limited and will	
need to be replaced (8)	
The researchers used (9) microscopes to find	variety
out how hair damages a razor blade. They got a close-up	cleanly
of what happens during a shave when the	powerful
blade cuts a hair. The blade gets damaged in a	solve
of ways. One way is that a single hair	SUIVE
creates a tiny chip on the (12) of a blade. This	edge
chip becomes bigger as it cuts more hair. After more shaving, the	hard
blade loses its ability to cut (13) and becomes	view
blunt. A researcher said: "We are metallurgists and want	6260
tomake better metals. In this (14), it was	case
intriguing that if you cut something very soft, like human hair,	
with something very hard, like steel, the (15)	
material would fail." He said his team is "aiming to	
(16) an important engineering problem".	

LISTENING — Guess the answers. Listen to check.

1)	a. b. c.	entists from MIT have discovered why razor blades become blunt after repeated used after repeat it use after repeated use after repeat it used
2)	Th a. b. c.	ey did research into why razor blades lose them sharpness lose their sharp nest lose them sharp nest lose their sharpness
3)	a. b. c.	times softer than the metal of a razor blade, the hair damages the blade ledge of the edge of the verge of the hedge of the
4)	a. b. c.	ey are usually coated with tougher materials likes hardened carbon liked hardened carbon likely hardened carbon like hardened carbon
5)	a. b. c.	e life of a razor blade is limited and will need to be replace regular be replaced regularly been replaced regularly been replace regular
6)	a. b. c.	ey got a close-up view of what happens during the shave during a shave during all shave during shave
7)	a. b. c.	e blade gets damaged in a variety off ways variety of way variety of ways variety of weighs
8)	a. b. c.	ter more shaving, the blade loses its ability to cut clean to cut cleanly two cut clean two cuts cleanly
9)	a. b. c.	researcher said we are metallurgists and want to make better met tails make better nettles make better metallic make better metals
10	•	le said his team is aiming to solve an important
		engineer in problem
		engineering probe them
		engineering problem engineer ring problem

LISTENING – Listen and fill in the gaps

Scientists from MIT have discovered why razor (1)	
after repeated use. They did research into why razor black	des
(2) Razor blades are 50 times harder than	the
hairs they cut. Even (3) is 50 times softer than	the
metal of a razor blade, the hair damages (4)	the
blade. Razor blades are made from stainless steel. They are usually coa	ted
with tougher materials like hardened carbon. The MIT scientists said t	hat
each time a blade cuts a hair, the hair causes (5)	
damage. A blade usually cuts thousands of hairs in one shaving session. T	his
means the life of a razor blade (6) will need to	be
replaced regularly.	
The researchers used powerful microscopes to find out how hair damage	s a
razor blade. They got (7) of what happens durin	g a
shave when the blade cuts a hair. The blade gets damaged	(8)
of ways. One way is that a single hair create	s a
tiny chip on the edge of a blade. This chip becomes bigger as it cuts m	ore
hair. After more shaving, the blade loses (9)	cut
cleanly and becomes blunt. A researcher said: "We are metallurgists a	and
want tomake better metals. (10), it was intrigu	ing
that if you cut something very soft, like human hair, with something v	ery
hard, like steel, (11) would fail." He said his team	n is
"(12) an important engineering problem".	

COMPREHENSION QUESTIONS

1.	Where are the scientists from?
2.	How much harder are razor blades than human hair?
3.	What are razor blades made from?
4.	What are razor blades hardened with?
5.	How often did the article say razor blades needed to be replaced?
6.	What did scientists use to look at a blade cutting a hair?
7.	What does cutting hair create on the edge of a blade?
8.	What does a blade lose its ability to do after a lot of shaving?
9.	What do metallurgists want to create?
10.	What problem does the team want to solve?

MULTIPLE CHOICE - QUIZ

- 1) Where are the scientists from?
- a) Yale
- b) MIT
- c) UCLA
- d) NYU
- 2) How much harder are razor blades than human hair?
- a) 5,000 times
- b) 500 times
- c) 150 times
- d) 50 times
- 3) What are razor blades made from?
- a) tin
- b) silicon
- c) stainless steel
- d) iron
- 4) What are razor blades hardened with?
- a) carbon
- b) oil
- c) plastic
- d) diamonds
- 5) How often did the article say razor blades needed to be replaced?
- a) weekly
- b) regularly
- c) once in a blue moon
- d) every now and then

- 6) What did scientists use to look at a blade cutting a hair?
- a) a microscope
- b) a magnifying glass
- c) a periscope
- d) binoculars
- 7) What does cutting hair create on the edge of a blade?
- a) wafers
- b) crisps
- c) chips
- d) nuggets
- 8) What does a blade lose its ability to do after a lot of shaving?
- a) to cut cleanly
- b) to shine
- c) to handle foam
- d) to rust
- 9) What do metallurgists want to create?
- a) a new shaving gel
- b) stronger hair
- c) easy-to-cut hair
- d) better metals
- 10) What problem does the team want to solve?
- a) rust
- b) baldness
- c) an engineering problem
- d) greasy hair

ROLE PLAY

From https://breakingnewsenglish.com/2008/200809-shaving.html

Role A - Shaving

You think shaving is the most enjoyable activity. Tell the others three reasons why. Tell them what is wrong with their activities. Also, tell the others which is the worst of these (and why): brushing your teeth, cutting your nails or washing your hair.

Role B - Brushing Your Teeth

You think brushing your teeth is the most enjoyable activity. Tell the others three reasons why. Tell them what is wrong with their activities. Also, tell the others which is the worst of these (and why): shaving, cutting your nails or washing your hair.

Role C - Cutting Your Nails

You think cutting your nails is the most enjoyable activity. Tell the others three reasons why. Tell them what is wrong with their activities. Also, tell the others which is the worst of these (and why): brushing your teeth, shaving or washing your hair.

Role D - Washing Your Hair

You think washing your hair is the most enjoyable activity. Tell the others three reasons why. Tell them what is wrong with their activities. Also, tell the others which is the worst of these (and why): brushing your teeth, cutting your nails or shaving.

AFTER READING / LISTENING

From https://breakingnewsenglish.com/2008/200809-shaving.html

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

shaving	razor

- 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:

 repeated 	 powerful
 sharpness 	• view
though	• single
tougher	• cleanly
• tiny	• case
• life	• solve

SHAVING SURVEY

From https://breakingnewsenglish.com/2008/200809-shaving.html

Write five GOOD questions about shaving 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.

SHAVING 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 'shaving'?
- 3. What do you think of shaving?
- 4. What do you think of razors?
- 5. Would it be better if we all stopped shaving?
- 6. Why do people shave?
- 7. Why do razor blades become blunt?
- 8. Should scientists make better razor blades?
- 9. What do you think of hair?
- 10. How important is research into razor-blade sharpness?

Scientists discover why shaving blunts razors – 9th August, 2020 Thousands more free lessons at breakingnewsenglish.com

SHAVING 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 'razor'?
- 13. What do you think about what you read?
- 14. Is it better to shave with soap, gel or foam?
- 15. What would the scientists see through their powerful microscopes?
- 16. What would you like a close-up view of?
- 17. Should we be able to sharpen razor blades and reuse them?
- 18. What problems are there with shaving?
- 19. What is a close shave?
- 20. What questions would you like to ask the researchers?

DISCUSSION (Write your own questions)

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

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LANGUAGE - CLOZE

times blade. toughe blade o	ed u are softe Razo er ma cuts a	from MIT have se. They did re 50 times harder than the met or blades are materials like har a hair, the hair of hairs in one d will need to be	seard than al of ade dened cause shav	th into why rand the hairs they a razor blade from stainless d carbon. The les (5) amount of the les (6)	zor by cut y cut y the steel MIT ounts nis m	plades lose the Even (3)e hair damage . They are usu scientists said to f damage. A	eir (2) _ hum s the ually that blade	Razor nan hair is 50 edge of the (4) with each time a usually cuts
		chers used pow / got a close-up		•				_
	-	The blade gets				_		
		s a tiny chip on		_		-	-	_
cuts m	nore	hair. After more	sha	ving, the blade	lose	es (10) ab	ility 1	to cut cleanly
		es blunt. A res				_		
		als. In (11) uman hair, with		•	_	•		- ,
		id his team is "a						
								ing problem
			_		_			
		rrect words fr					ticle.	- '
1. ((a)	post	(b)	after	(c)	follow	ticle. (d)	then
1. (2. ((a) (a)	post sharpen	(b) (b)	after sharply	(c) (c)	follow sharp	ticle. (d) (d)	then sharpness
1. (2. (3. ((a) (a)	post sharpen through	(b) (b)	after sharply though	(c) (c)	follow sharp thou	(d) (d) (d) (d)	then sharpness thought
1. (2. (3. (4. ((a) (a) (a) (a)	post sharpen through jacketed	(b) (b) (b) (b)	after sharply though clothed	(c) (c) (c)	follow sharp thou coated	(d) (d) (d) (d)	then sharpness thought worn
1. ((2. ((3. (4. ((5. ((4. ((5. ((4. ((5. ((5. ((5.	(a) (a) (a) (a)	post sharpen through jacketed tiny	(b) (b) (b) (b)	after sharply though clothed tinted	(c) (c)	follow sharp thou coated tinny	(d) (d) (d) (d) (d) (d)	then sharpness thought
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1. ((2. ((3. ((4. ((5. ((4. ((5. ((4. ((4. ((4. ((4	(a)	post sharpen through jacketed tiny limited stare	(b) (b) (b) (b) (b) (b) (b)	after sharply though clothed tinted incorporated gaze	(c) (c) (c) (c) (c) (c) (c)	follow sharp thou coated tinny public watch	(d) (d) (d) (d) (d) (d) (d) (d) (d)	then sharpness thought worn teeny private view
1. ((2. ((3. ((4. ((5. ((4. ((5. ((4. ((4. ((4. ((4	(a)	post sharpen through jacketed tiny limited stare variety	(b) (b) (b) (b) (b) (b) (b) (b)	after sharply though clothed tinted incorporated gaze various	(c) (c) (c) (c) (c) (c) (c) (c)	follow sharp thou coated tinny public watch varied	(d)	then sharpness thought worn teeny private view varied
1. ((2. (3. (4. (5. (6. (7. (8. (9. (10. (10. (10. (10. (10. (10. (10. (10	(a)	post sharpen through jacketed tiny limited stare variety was	(b) (b) (b) (b) (b) (b) (b) (b) (b)	after sharply though clothed tinted incorporated gaze various as	(c) (c) (c) (c) (c) (c) (c) (c)	follow sharp thou coated tinny public watch varied has	(d)	then sharpness thought worn teeny private view varied thus

SPELLING

From https://breakingnewsenglish.com/2008/200809-shaving.html

Paragraph 1

- 1. razor blades lose their ehpasrsns
- 2. blades are made from aiesnIsst steel
- 3. coated with tougher <u>msiartale</u> like hardened carbon
- 4. in one shaving ssoiens
- 5. the life of a razor blade is itmidle
- 6. need to be replaced ryeurglal

Paragraph 2

- 7. The researchers used powerful scocmpoersi
- 8. damaged in a erivtya of ways
- 9. a tiny chip on the <u>geed</u> of a blade
- 10. it was tgigiunrin
- 11. very soft, like <u>mhanu</u> hair
- 12. <u>Isoev</u> an important engineering problem

PUT THE TEXT BACK TOGETHER

From https://breakingnewsenglish.com/2008/200809-shaving.html

Number these lines in the correct order.

()	with tougher materials like hardened carbon. The MIT scientists said that each
()	hairs in one shaving session. This means the life of a razor blade is limited and will need to be replaced regularly.
()	steel, the hard material would fail." He said his team is "aiming to solve an important engineering problem".
()	the edge of the blade. Razor blades are made from stainless steel. They are usually coated
()	into why razor blades lose their sharpness. Razor blades are 50 times harder than the hairs they
()	case, it was intriguing that if you cut something very soft, like human hair, with something very hard, like
()	cut. Even though human hair is 50 times softer than the metal of a razor blade, the hair damages
()	of ways. One way is that a single hair creates a tiny chip on the edge of a blade. This chip becomes
()	view of what happens during a shave when the blade cuts a hair. The blade gets damaged in a variety
()	The researchers used powerful microscopes to find out how hair damages a razor blade. They got a close-up
()	bigger as it cuts more hair. After more shaving, the blade loses its ability to cut cleanly and becomes
()	blunt. A researcher said: "We are metallurgists and want tomake better metals. In this
()	time a blade cuts a hair, the hair causes tiny amounts of damage. A blade usually cuts thousands of
(1)	Scientists from MIT have discovered why razor blades become blunt after repeated use. They did research

PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2008/200809-shaving.html

- 1. blunt razor repeated Why blades after become use .
- 2. why Research into lose sharpness . blades their razor
- 3. hairs . 50 than harder blades times are Razor
- 4. edge of the The the damages hair blade .
- 5. is blade limited. life razor The of a
- 6. what A a happens during of shave . view
- 7. loses ability The its blade cut to cleanly .
- 8. make and We're metals . metallurgists better to want
- 9. cut Intriguing hair . something you if like soft
- 10. engineering Aiming solve to important an problem .

CIRCLE THE CORRECT WORD (20 PAIRS)

From https://breakingnewsenglish.com/2008/200809-shaving.html

Scientists from MIT have *discover / discovered* why razor blades become blunt after repeated use. They *did / had* research into why razor blades lose their sharpness. Razor blades are 50 *times / cuts* harder than the hairs they *cutting / cut*. Even though human hair is 50 times softer than the metal of a razor blade, the hair damages the *edge / fringe* of the blade. Razor blades are made from stainless *steal / steel*. They are usually *coated / jacketed* with tougher materials like hardened carbon. The MIT scientists said that each time a blade cuts a hair, the hair causes *tinny / tiny* amounts of damage. A blade usually cuts thousands of hairs in *one / once* shaving session. This means the life of a razor blade is limited and will need to be replaced *regularly / regularity*.

The researchers used powerful *microphones / microscopes* to find out how hair damages a razor blade. They got a close-up *watch / view* of what happens *during / while* a shave when the blade cuts a hair. The blade gets damaged in a *variety / various* of ways. One way is that a *single / singled* hair creates a tiny chip on the edge of a blade. This chip becomes bigger *has / as* it cuts more hair. After more shaving, the blade loses its *able / ability* to cut cleanly and becomes blunt. A researcher said: "We are metallurgists and want to...make better *metals / meals*. In this case, it was intriguing that if you cut something very soft, like human hair, with something very hard, like steel, the hard material would *fall / fail*." He said his team is "aiming to *solve / solution* an important engineering problem".

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/2008/200809-shaving.html

 Sc_{-} $nt_{-}sts$ $fr_{-}m$ MIT $h_{-}v_{-}$ $d_{-}sc_{-}v_{-}r_{-}d$ whyr_z_r bl_d_s b_c_m_ bl_nt _ft_r r_p__ t_d _s_. T h_y d_d r_s__ r c h _n t_ w h y r_z_r b l_d_s l_s_ $t \ h__ \ r \quad s \ h_r \ p \ n_s \ s \ . \quad R_z_r \quad b \ l_d_s \quad _r_ \quad 5 \ 0 \quad t_m_s$ $h_r d_r t h_n t h_r s t h_y c_t$. Ev_n $t h_g$ h h_m_n h__ r _s 50 t_m_s s_ft_r th_n th_ $m_t_l = f_r_z_r + b_l_d$, $t_h_r + d_m_g_s + d_m_g$ $g__f \quad t \ h__b \ l_d_. \quad R_z_r \quad b \ l_d_s \quad _r__m_d__f \ r_m \quad s$ $t_n \, n \, l_s \, s \, s \, t_l \, l \, .$ Th_y _r_ _s__ | | y \, c__ t_d \, w_t h $t_g h_r m_t_r_l s l_k h_r d_n_d c_r b_n$. Th_ MIT sc__ n t_sts s__ d t h_t __ c h t_m_ _ b l_d_ $c_t s _h_r , t _h_r c_s s_s t_n y _m_n t s$ _f d_m_g_. A bl_d__s__lly c_ts th__ s_nds _f $h_rs_n_n_sh_v_ng_s_ss__n$. Th_s $m__ns_t$ h_ l_f_ f _ r_z_r b l_d_ s l_m_t_d _n d w_l l n__ d $t_b r_p l_c d r_g l_r l y$.

Th_ r_s__ r ch_r s _s_d p_w_r f_l m_c r_s c_p_s t_ f_n d __ t h_w h__ r d_m_g_s _ r_z_r b l_d_. T $g \ _ \ s \ h_v_ \ w \ h_n \ t \ h_ \ b \ l_d_ \ c_t \ s \ _ \ h__ \ r \ . \ T \ h_ \ b$ I_d_gts $d_m_gd_n_vr_lty_fw_ys.$ On_ $w_y = s + h_t = s_n + g + l_s = t_n + l_$ $h_p _n t h_d g_f b l_d$. Th_s ch_p b_c_m_s $b_g \ g_r \ _s \ _t \ c_t \ s \ m_r_ \ h__ \ r \ . \ A \ f \ t_r \ m_r_ \ s$ h_v_n g , t h_ b l_d_ l_s_s _t s _b_l_t y t_ c_t c l__ $n \mid y \mid n \mid d \mid b \mid c \mid m \mid s \mid b \mid l \mid n \mid t \mid . \quad A \quad r \mid s \mid _ \mid r \mid c \mid h \mid r \mid s \mid _ \mid d :$ " W _ r _ m _ t _ l l _ r g _ s t s _ n d w _ n t t _ . . . m _ k _ b _ t t_r m_t_ls. In th_s c_s_, _t w_s _ntr_g__ ng $t \ h_t \ _f \ y__ \ c_t \ s_m_t \ h_n \ g \ v_r \ y \ s_f \ t \ , \ l_k_$ $h_m_n h_r$, w_th $s_m_th_ng$ v_ry h_rd , l_k_r st__ I, th_ h_rd m_t_r__ I w__ Id f__ I." H_ s_ d h_s t_ m _s "__ m_n g t_ s_l v_ _n _m p_r

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2008/200809-shaving.html

scientists from mit have discovered why razor blades become blunt after repeated use they did research into why razor blades lose their sharpness razor blades are 50 times harder than the hairs they cut even though human hair is 50 times softer than the metal of a razor blade the hair damages the edge of the blade razor blades are made from stainless steel they are usually coated with tougher materials like hardened carbon the mit scientists said that each time a blade cuts a hair the hair causes tiny amounts of damage a blade usually cuts thousands of hairs in one shaving session this means the life of a razor blade is limited and will need to be replaced regularly

the researchers used powerful microscopes to find out how hair damages a razor blade they got a closeup view of what happens during a shave when the blade cuts a hair the blade gets damaged in a variety of ways one way is that a single hair creates a tiny chip on the edge of a blade this chip becomes bigger as it cuts more hair after more shaving the blade loses its ability to cut cleanly and becomes blunt a researcher said we are metallurgists and want to make better metals in this case it was intriguing that if you cut something very soft like human hair with something very hard like steel the hard material would fail he said his team is aiming to solve an important engineering problem

PUT A SLASH (/) WHERE THE SPACES ARE

From https://breakingnewsenglish.com/2008/200809-shaving.html

ScientistsfromMIThavediscoveredwhyrazorbladesbecomebluntafte rrepeateduse. They didrese archintowy yrazor blades lose their sharpne ss.Razorbladesare50timesharderthanthehairstheycut.Eventhough humanhairis50timessofterthanthemetalofarazorblade,thehairdama gestheedgeoftheblade.Razorbladesaremadefromstainlesssteel.The vareusuallycoatedwithtoughermaterialslikehardenedcarbon. The MI Tscientistssaidthateachtimeabladecutsahair, the hair causestiny amo untsofdamage. Abladeusually cuts thousands of hairs in one shaving ses sion. This means the life of a razor blade is limited and will need to be replaced to the repl edregularly. There searchers used powerful microscope stofind out how hairdamagesarazorblade. Theygotaclose-upviewofwhathappensdu ringashavewhenthebladecutsahair. Thebladegetsdamagedinavariet vofways. One way is that a single hair creates at in ychip on the edge of a bla de.Thischipbecomesbiggerasitcutsmorehair.Aftermoreshaving,the bladelosesitsabilitytocutcleanlyandbecomesblunt. Aresearchersaid: "Wearemetallurgistsandwantto...makebettermetals.Inthiscase,itw asintriguingthatifyoucutsomethingverysoft,likehumanhair,withsom ethingveryhard, likesteel, the hardmaterial would fail. "He saidhisteam is "aiming to solve an important engineering problem".

FREE WRITING

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

ACADEMIC WRITING

Shaving is a total waste of time. 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. SHAVING:** Make a poster about shaving. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. NO SHAVING:** Write a magazine article about banning shaving. 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 shaving. Ask him/her three questions about it. Give him/her three of your ideas on shaving. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

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

TRUE / FALSE (p.5)

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

SYNONYM MATCH (p.5)

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

COMPREHENSION QUESTIONS (p.9)

WORDS IN THE RIGHT ORDER (p.20)

1.	MIT	1.	Why razor blades become blunt after repeated use.
2.	Fifty times harder	2.	Research into why razor blades lose their sharpness.
3.	Stainless steel	3.	Razor blades are 50 times harder than hairs.
4.	Carbon	4.	The hair damages the edge of the blade.
5.	Regularly	5.	The life of a razor blade is limited.
6.	A powerful microscope	6.	A view of what happens during a shave.
7.	Tiny chips	7.	The blade loses its ability to cut cleanly.
8.	Cut cleanly	8.	We're metallurgists and want to make better metals.
9.	Better metals	9.	Intriguing if you cut something soft like hair.
10.	An important engineering problem	10.	Aiming to solve an important engineering problem.

MULTIPLE CHOICE - QUIZ (p.10)

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

ALL OTHER EXERCISES

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