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## Level 3 - 25th November, 2020

### Scientists say they can reverse ageing process

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https://breakingnewsenglish.com/2011/201125-ageing-process.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/2011/201125-ageing-process.html

Scientists in Israel say they have conducted tests to successfully stop and reverse the biological ageing process. The tests were part of a joint project by Tel Aviv University and the Shamir Medical Center. The researchers said the science behind their experiments was very simple - they used only oxygen to slow down and turn around what happens to cells at they age. They used high-pressure oxygen on cells that were in a pressure chamber. The scientists said two processes related to ageing and illnesses slowed down. The scientists did tests on 35 adults over the age of 64 for 90 minutes a day, five times a week for three months. Their study was published in the magazine "Ageing" on November the 18th.

A lead scientist explained how important his team's research was. Professor Shai Efrati says the study shows that the ageing process can be reversed at the cellular level. He says we may be able to stop telomeres from shortening. Telomeres are inside cells. The shorter they become, the more we age. If we can stop them getting shorter, cells will not age. Professor Efrati said: "Today telomere shortening is considered the 'Holy Grail' of the biology of ageing. Researchers around the world are trying to develop [drugs] that enable telomere lengthening." He added: "The study gives hope, and opens the door for a lot of young scientists to target ageing as a reversible disease."

Sources: https://www.aljazeera.com/news/2020/11/22/israeli-scientists-claim-new-study-reverses-ageing-

https://www.timesofisrael.com/israeli-scientists-claim-to-reverse-ageing-in-blood-cells-with-pressure-chamber/

https://**metro.co.uk**/2020/11/21/scientists-reverse-effects-of-ageing-with-groundbreaking-

treatment-13631999/

#### **WARM-UPS**

- **1. AGEING:** Students walk around the class and talk to other students about ageing. 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 / tests / biological / ageing process / experiments / oxygen / pressure / important / research / level / age / world / develop / hope / scientists / disease

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

- **3. 200:** Students A **strongly** believe it would be great if we all lived to be 200; Students B **strongly** believe it wouldn't. Change partners again and talk about your conversations.
- **4. AGES:** What are the pros and cons of these ages? Complete this table with your partner(s). Change partners often and share what you wrote.

	Pros	Cons
5		
15		
25		
45		
65		
95		

- **5. OXYGEN:** Spend one minute writing down all of the different words you associate with the word "oxygen". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **6. GETTING OLD:** Rank these with your partner. Put the worst things about getting old at the top. Change partners often and share your rankings.
  - Wrinkles
  - Grey hair
  - Memory loss
  - Muscle loss

- Heart problems
- Poor eyesight
- Oral health
- Loss of bladder control

#### **VOCABULARY MATCHING**

#### Paragraph 1

- conducted
   a. A scientific action to make a discovery, test a hypothesis, or show a known fact.
- 2. reverse b. Organized and carried out.
- 3. biological c. About the study of living things.
- experiment d. A series of actions or steps to achieve a goal.
- 5. oxygen e. Prepared and issued a book, journal, piece of music, or other work for people to buy.
- 6. process f. Make something the opposite of what it was.
- 7. published g. The gas we need to breathe; O2.

#### Paragraph 2

- 8. lead h. Thought about carefully.
- 9. cellular i. Choose as an object to do something to.
- 10. shortening j. Grow or cause to grow and become more advanced.
- 11. considered k. Making shorter.
- 12. Holy Grail I. Something difficult that people really, really try to get.
- 13. develop m. Top; in first place.
- 14. target n. About cells in the body.

### **BEFORE READING / LISTENING**

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

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

- a. Scientists will start new tests to speed up the ageing process. T / F
- b. The scientists used high-pressure oxygen in their experiments. **T/F**
- c. Three processes related to ageing were slowed down in the tests. T / F
- d. The tests were on 64 adults over the age of 35. **T / F**
- e. A professor says ageing can be turned around at the cellular level. T / F
- g. A professor says telomere shortening is important in chemistry. **T / F**
- h. The professor says young scientists can target ageing as a disease. T / F

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

- 1. conducted
- 2. reverse
- 3. experiments
- 4. age
- 5. published
- 6. explained
- 7. stop
- 8. considered
- 9. develop
- 10. target

- a. described
- b. tests
- c. issued
- d. aim at
- e. carried out
- f. advance
- g. get older
- h. halt
- i. turn around
- i. thought

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

- 1. Scientists in Israel say they have conducted
- 2. reverse the biological
- 3. The tests were part of a joint
- 4. the science behind their experiments
- 5. two processes related
- 6. A lead scientist explained how important
- 7. the ageing process can be reversed
- 8. If we can stop them getting shorter,
- 9. trying to develop drugs that enable
- 10. target ageing as

- a. project
- b. his team's research was
- c. was very simple
- d. a reversible disease
- e. tests
- f. cells will not age
- g. telomere lengthening
- h. ageing process
- i. at the cellular level
- j. to ageing and illnesses

## **GAP FILL**

Scientists in Israel say they have (1) tests to	pressure
successfully stop and reverse the biological ageing	conducted
(2) The tests were part of a joint project by	magazine
Tel Aviv University and the Shamir Medical Center. The	process
researchers said the science (3) their	-
experiments was very simple - they used only oxygen to slow	adults
down and turn around what happens to cells at they	age
(4) They used high-pressure oxygen on cells	slowed
that were in a (5) chamber. The scientists said	behind
two processes related to ageing and illnesses	
(6) down. The scientists did tests on 35	
over the age of 64 for 90 minutes a day,	
five times a week for three months. Their study was published in	
the (8) "Ageing" on November the 18th.	
	,,
A lead scientist explained how (9) his team's	cells
research was. Professor Shai Efrati says the study shows that the	considered
ageing process can be (10) at the cellular level.	important
He says we may be able to stop telomeres from shortening.	hope
Telomeres are inside (11) The shorter they	shorter
become, the more we age. If we can stop them getting	
(12), cells will not age. Professor Efrati said:	disease
"Today telomere shortening is (13) the 'Holy	reversed
Grail' of the biology of ageing. Researchers around the world are	develop
trying to (14) [drugs] that enable telomere	
lengthening." He added: "The study gives (15),	
and opens the door for a lot of young scientists to target ageing as	
a reversible (16) ."	

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

1)	a. b. c.	ducted tests to successfully stop and reverse the biological age in process aged din process age din process ageing process
2)	a. b. c.	ey used only oxygen to slow down and turn around what happens to cells at they age as they age and they age has they age
3)	a. b. c.	e scientists said two processes related to ageing and illnesses slow down illness is slowed down illnesses slow downer illnesses slowed down
4)	a. b. c.	e scientists did tests on 35 adults over the age of 64 for 90 minute a day minutes a day minutes the day minutes of day
5)	a. b. c.	eir study was published in the mega scene "Ageing" mega screen "Ageing" mag a scene "Ageing" magazine "Ageing"
6)	a. b. c.	ead scientist explained how important his team's research wasn't research was research has research wash
7)	a. b. c.	the cell you are level the sell you are level the sell you are level the sell you are level the cellular level the cell lunar level
8)	a. b. c.	says we may be able to stop telomeres from short tanning from shorten in from shortening from short ten in
9)	a. b. c.	day telomere shortening is considered the 'Holy Grail' of the biology off the biology of a biology of the biological
10	) T	he study gives hope, and opens the door for a lot of young scientists
		to target ageing
		too tar get ageing to tar gets ageing
		two target ageing

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

Scientists in Israel say they have (1)	successiumy
stop and reverse the biological ageing process. The tests	were part of
(2) by Tel Aviv University and the S	Shamir Medical
Center. The researchers said the (3)	_ experiments
was very simple - they used only oxygen to slow down and tur	rn around what
happens to cells at they age. They used (4)	on cells
that were in a pressure chamber. The scientists said two pro	ocesses related
to ageing (5) down. The scientists d	did tests on 35
adults over the age of 64 for 90 minutes a day, five times a	week for three
months. Their study (6) the magazing	ne "Ageing" on
November the 18th.	
A lead scientist explained (7) team's	research was.
Professor Shai Efrati says the study shows that the ageing p	orocess can be
Troicissor Shar Errati says the study shows that the ageing p	
(8) cellular level. He says we may b	
	pe able to stop
(8) cellular level. He says we may b	oe able to stop
(8) cellular level. He says we may be telomeres from shortening. Telomeres (9)	e able to stop The getting shorter,
cellular level. He says we may be telomeres from shortening. Telomeres (9)shorter they become, the more we age. If we can stop them g	pe able to stop The getting shorter, foday telomere
cellular level. He says we may be telomeres from shortening. Telomeres (9)shorter they become, the more we age. If we can stop them general cells (10) Professor Efrati said: "T	pe able to stop The getting shorter, foday telomere gy of ageing.
cellular level. He says we may be telomeres from shortening. Telomeres (9) shorter they become, the more we age. If we can stop them go cells (10) Professor Efrati said: "T shortening is considered the 'Holy Grail' of the biolog Researchers around the world are (11)	pe able to stop The getting shorter, foday telomere gy of ageing [drugs] that
cellular level. He says we may be telomeres from shortening. Telomeres (9) shorter they become, the more we age. If we can stop them go cells (10) Professor Efrati said: "T shortening is considered the 'Holy Grail' of the biologonal states."	ne able to stop The getting shorter, foday telomere gy of ageing [drugs] that ope, and opens

## **COMPREHENSION QUESTIONS**

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

1.	Which country did the scientists conduct their tests in?
2.	What chemical did the scientists use in their experiments?
3.	Where did the scientists put the cells in their experiments?
4.	How many adults did the scientists test?
5.	What is the name of the magazine that published the research?
6.	At what level does a professor say ageing can be reversed?
7.	What does a scientist say they can stop telomeres from doing?
8.	What did a professor say telomere shortening was the Holy Grail of?
9.	What are scientists around the world trying to develop?
10.	Who did the scientist say the research opens the door for?

## **MULTIPLE CHOICE - QUIZ**

- 1) Which country did the scientists conduct their tests in?
- a) the USA
- b) Israel
- c) the UAE
- d) India
- 2) What chemical did the scientists use in their experiments?
- a) hydrogen
- b) nitrogen
- c) helium
- d) oxygen
- 3) Where did the scientists put the cells in their experiments?
- a) a test tube
- b) a petri dish
- c) a pressure chamber
- d) a microscope
- 4) How many adults did the scientists test?
- a) 35
- b) 18
- c) 64
- d) 90
- 5) What is the name of the magazine that published the research?
- a) Aged
- b) Ageing
- c) Ageist
- d) Elderly

- 6) At what level does a professor say ageing can be reversed?
- a) the cellular level
- b) the molecular level
- c) the atomic level
- d) the highest level
- 7) What does a scientist say they can stop telomeres from doing?
- a) dying
- b) lengthening
- c) shortening
- d) multiplying
- 8) What did a professor say telomere shortening was the Holy Grail of?
- a) the biology of ageing
- b) the physics of ageing
- c) the chemistry of ageing
- d) the pharmacology of ageing
- 9) What are scientists around the world trying to develop?
- a) targets
- b) hope
- c) telomeres
- d) drugs
- 10) Who did the scientist say the research opens the door for?
- a) telomeres
- b) professors
- c) young scientists
- d) young people

#### **ROLE PLAY**

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

#### Role A - Wrinkles

You think wrinkles are the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, muscle loss or loss of bladder control.

#### **Role B - Memory Loss**

You think memory loss is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): wrinkles, muscle loss or loss of bladder control.

#### Role C – Muscle Loss

You think muscle loss is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, wrinkles or loss of bladder control.

#### Role D - Loss of Bladder Control

You think loss of bladder control is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, muscle loss or wrinkles.

## AFTER READING / LISTENING

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

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

ageing	process

- 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:

	<del>_</del>
<ul> <li>conducted</li> </ul>	• lead
• part	• level
<ul> <li>behind</li> </ul>	• stop
<ul> <li>pressure</li> </ul>	<ul> <li>considered</li> </ul>
• 35	<ul> <li>develop</li> </ul>
<ul> <li>published</li> </ul>	• lot

#### **AGEING SURVEY**

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

Write five GOOD questions about ageing 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.

#### AGEING 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 'ageing'?
- 3. How do you feel about ageing?
- 4. What are the good things about ageing?
- 5. Would you like to age at a slower rate?
- 6. Do you like getting older?
- 7. What is the best age to be?
- 8. Would you like to take drugs to make you younger?
- 9. What three adjectives best describe this story?
- 10. What advice do you have for old people?

Scientists say they can reverse ageing process – 25th November, 2020 Thousands more free lessons at breakingnewsenglish.com

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#### AGEING 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 'reverse'?
- 13. What do you think about what you read?
- 14. What are the bad things about ageing?
- 15. Would you like to live to be 200 years old?
- 16. What is the worst age to be?
- 17. How important is the scientists' research?
- 18. Do you think ageing is a disease?
- 19. What would happen to the world if everyone lived to be 200?
- 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**

reve Tel beh dow oxyg prod	erse the Aviv Uind the name of the Aviv Uind the name of the Aviv Uindon of the Uindon of Uindon of the Uindon of	ne biological Iniversity an eir experim turn around n cells (4) related (5)	ageing point ageing point age in a graph g	rocess. To make the main media wery appens to be in a peing and	he tests we cal Center.  simple - cells at the ressure clinesses	rere part of a The research they used ley age. The hamber. The slowed down	a (2) hers sa only ox y used e scient n. The	fully stop and project by hid the science kygen to slow high-pressure tists said two scientists die times a weel	y e v e d
	hree i 18th.	months. The	eir study w	vas publis	hed in the	magazine "A	Ageing"	on Novembe	r
Sha cellu Telc can telo Rese (11) scie	i Efratular (8 merestop mere mere earche montists	i says the second secon	study sho says we cells. The ng shorte is (10) the world "The stude eing (12)	ws that to may be eshorter r, cells we the are tryindy gives he may a rev	the ageing able to they becowill not age 'Holy Go devenope, and versible dis	process car stop telomer me, the mor je. Professor rail' of the lop [drugs] t opens the do	n be re res froi re we (s Efrati biolog chat en	vas. Professo eversed at the m shortening e) If we said: "Today ly of ageing able telomere a lot of young	e . e y . e
1.	(a)	on	(b)	by	(c)		(d)	to	
2.	(a)	joins		, joining	(c)		(d)	joint	
3.	(a)	be	(b)	was	(c)		(d)	are	
4.	(a)	what	(b)	when	(c)	that	(d)	how	
5.	(a)	of	(b)	on	(c)	to	(d)	at	
6.	(a)	age	(b)	old	(c)	years	(d)	birth	
7.	(a)	what	(b)	how	(c)	that	(d)	which	
8.	(a)	level	(b)	flat	(c)	edge	(d)	border	
9.	(a)	years	(b)	age	(c)	old	(d)	ageing	
10.	(a)	belief	(b)	idea	(c)	considered	(d)	opinion	
11.	(a)	lengths	(b)	length	(c)	lengthening	(d)	longing	
12.	(a)	was	(b)	has	(c)	that's	(d)	as	

#### **SPELLING**

From <a href="https://breakingnewsenglish.com/2011/201125-ageing-process.html">https://breakingnewsenglish.com/2011/201125-ageing-process.html</a>

#### Paragraph 1

- 1. they have <u>dotndeccu</u> tests
- 2. the <u>oalgibocli</u> ageing process
- 3. part of a joint jectopr
- 4. they used only gxyneo
- 5. in a resurspe chamber
- 6. edhlubpis in the magazine "Ageing"

### Paragraph 2

- 7. at the uallecrl level
- 8. stop telomeres from neosnrghit
- 9. ddseciorne the 'Holy Grail'
- 10. trying to poevdle drugs
- 11. young scientists to <u>aretgt</u> ageing
- 12. a eiblrvrsee disease

## **PUT THE TEXT BACK TOGETHER**

From <a href="https://breakingnewsenglish.com/2011/201125-ageing-process.html">https://breakingnewsenglish.com/2011/201125-ageing-process.html</a>

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

(	)	[drugs] that enable telomere lengthening." He added: "The study gives hope, and opens the
(	)	age. If we can stop them getting shorter, cells will not age. Professor Efrati said: "Today telomere shortening is considered
(	)	chamber. The scientists said two processes related to ageing and illnesses slowed
(	<b>1</b> )	Scientists in Israel say they have conducted tests to successfully stop and reverse the biological ageing
(	)	times a week for three months. Their study was published in the magazine "Ageing" on November the 18th.
(	)	down. The scientists did tests on 35 adults over the age of 64 for 90 minutes a day, five
(	)	process. The tests were part of a joint project by Tel Aviv University and the Shamir Medical Center. The researchers said the science
(	)	stop telomeres from shortening. Telomeres are inside cells. The shorter they become, the more we
(	)	door for a lot of young scientists to target ageing as a reversible disease."
(	)	A lead scientist explained how important his team's research was. Professor Shai Efrati says the study
(	)	behind their experiments was very simple - they used only oxygen to slow down and turn
(	)	the 'Holy Grail' of the biology of ageing. Researchers around the world are trying to develop
(	)	shows that the ageing process can be reversed at the cellular level. He says we may be able to
(	)	around what happens to cells at they age. They used high-pressure oxygen on cells that were in a pressure

#### PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

- 1. ageing . stop to Tests reverse and successfully the
- 2. a The joint of tests project . part were
- 3. very science experiments their The was behind simple .
- 4. 35 did tests The adults . on scientists
- 5. was study magazine . in published Their the
- 6. the shows can reversed . ageing process It be
- 7. The shorter become, more the we they age .
- 8. getting shorter . them If can we stop
- 9. trying to are drugs . develop worldwide Researchers
- 10. as Young a reversible scientists ageing disease . target

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

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

Scientists in Israel say they have *conducted / contracted* tests to successfully stop and *reserve / reverse* the biological ageing process. The tests were part of a *join / joint* project by Tel Aviv University and the Shamir Medical Center. The researchers said the science *beyond / behind* their experiments *was / were* very simple - they used only oxygen to slow down and turn around what happens *at / to* cells at they age. They used high-pressure oxygen *on / at* cells that were in a pressure chamber. The scientists said two processes related *at / to* ageing and illnesses slowed down. The scientists did tests on 35 adults over the age *for / of* 64 for 90 minutes a day, five times a week for three months. Their study was *published / publication* in the magazine "Ageing" on November the 18th.

A *lead / leader* scientist explained how important his team's research was. Professor Shai Efrati says the study shows *what / that* the ageing process can be reversed at the cellular level. He says we may be *ability / able* to stop telomeres from shortening. Telomeres are *inside / insides* cells. The shorter they become, the more we *old / age*. If we can stop them getting *shorter / shorten*, cells will not age. Professor Efrati said: "Today telomere shortening is *consider / considered* the 'Holy Grail' of the biology of ageing. Researchers around the world are *tried / trying* to develop [drugs] that enable telomere lengthening." He added: "The study gives *hope / hoping*, and opens the door for a lot of young scientists to *target / aim* ageing as a reversible disease."

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/2011/201125-ageing-process.html

Sc\_\_nt\_sts \_n \_sr\_\_l s\_y th\_y h\_v\_ c\_nd\_ct\_d t\_sts t\_  $s\_cc\_ssf\_lly \quad st\_p \quad \_nd \quad r\_v\_rs\_ \quad th\_ \quad b\_\_l\_g\_c\_l \quad \_g\_\_ng$ pr\_c\_ss. Th\_ t\_sts w\_r\_ p\_rt \_f \_ j\_\_nt pr\_j\_ct by T\_l \_v\_v \_n\_v\_rs\_ty \_nd th\_ Sh\_m\_r M\_d\_c\_l C\_nt\_r. Th\_ r\_s\_\_rch\_rs s\_\_d th\_\_ sc\_\_nc\_\_ b\_h\_nd th\_\_r \_xp\_r\_m\_nts w\_s v\_ry s\_mpl\_ - th\_y \_s\_d \_nly \_xyg\_n t\_ sl\_w d\_wn \_nd t\_rn \_r\_\_nd wh\_t h\_pp\_ns t\_ c\_lls \_t th\_y \_g\_. Th\_y \_s\_d h\_gh-pr\_ss\_r\_ \_xyg\_n \_n c\_lls th\_t w\_r\_ \_n \_ pr\_ss\_r\_ ch\_mb\_r. Th\_ sc\_\_nt\_sts s\_\_d tw\_  $pr\_c\_ss\_s$   $r\_l\_t\_d$   $t\_\_g\_ng$   $\_nd$   $\_lln\_ss\_s$   $sl\_w\_d$   $d\_wn$ . Th\_ sc\_\_nt\_sts d\_d t\_sts \_n 35 \_d\_lts \_v\_r th\_ \_g\_ \_f 64 f\_r 90 m\_n\_t\_s \_ d\_y, f\_v\_ t\_m\_s \_ w\_\_k f\_r thr\_\_ m\_nths. Th\_\_r st\_dy w\_s p\_bl\_sh\_d \_n th\_ m\_g\_z\_n\_ "\_g\_ng" \_n N\_v\_mb\_r th\_ 18th. I d sc nt st xpl n d h w mp rt nt h s t m's r\_s\_\_rch w\_s. Pr\_f\_ss\_r Sh\_\_ \_fr\_t\_ s\_ys th\_ st\_dy sh\_ws th\_t th\_ \_g\_\_ng pr\_c\_ss c\_n b\_ r\_v\_rs\_d \_t th\_  $c_{ll_r} = l_v_l$ . H\_  $s_ys$  w\_  $m_y$  b\_  $b_l$  t\_  $st_p$ t\_l\_m\_r\_s fr\_m sh\_rt\_n\_ng. T\_l\_m\_r\_s \_r\_ \_ns\_d\_ c\_lls.  $Th\_ sh\_rt\_r th\_y b\_c\_m\_, th\_ m\_r\_ w\_ \_g\_. \_f w\_$ c\_n st\_p th\_m g\_tt\_ng sh\_rt\_r, c\_lls w\_ll n\_t \_g\_. Pr\_f\_ss\_r \_fr\_t\_ s\_\_d: "T\_d\_y t\_l\_m\_r\_ sh\_rt\_n\_ng \_s c\_ns\_d\_r\_d th\_ 'H\_ly Gr\_\_l' \_f th\_ b\_\_l\_gy \_f \_g\_\_ng. R\_s\_\_rch\_rs \_r\_\_nd th\_ w\_rld \_r\_ try\_ng t\_ d\_v\_l\_p  $[dr\_gs]$  th\_t \_n\_bl\_ t\_l\_m\_r\_ l\_ngth\_n\_ng." H\_ \_dd\_d: "Th\_ st\_dy  $g_v_s h_p_$ , \_nd \_p\_ns th\_ d\_\_r f\_r \_ l\_t \_f y\_\_ng sc\_\_nt\_sts t\_ t\_rg\_t \_g\_\_ng \_s \_ r\_v\_rs\_bl\_

d\_s\_\_s\_."

PUNCTUATE THE TEXT AND ADD CAPITALS

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

scientists in israel say they have conducted tests to successfully stop and

reverse the biological ageing process the tests were part of a joint project by

tel aviv university and the shamir medical center the researchers said the

science behind their experiments was very simple they used only oxygen to

slow down and turn around what happens to cells at they age they used

highpressure oxygen on cells that were in a pressure chamber the scientists

said two processes related to ageing and illnesses slowed down the scientists

did tests on 35 adults over the age of 64 for 90 minutes a day five times a

week for three months their study was published in the magazine ageing on

november the 18th

a lead scientist explained how important his teams research was professor

shai efrati says the study shows that the ageing process can be reversed at

the cellular level he says we may be able to stop telomeres from shortening

telomeres are inside cells the shorter they become the more we age if we

can stop them getting shorter cells will not age professor efrati said today

telomere shortening is considered the holy grail of the biology of ageing

researchers around the world are trying to develop drugs that enable

telomere lengthening he added the study gives hope and opens the door for

a lot of young scientists to target ageing as a reversible disease

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

From https://breakingnewsenglish.com/2011/201125-ageing-process.html

ScientistsinIsraelsaytheyhaveconductedteststosuccessfullystopan dreversethebiologicalageingprocess. The tests were part of a joint proje ctbyTelAvivUniversityandtheShamirMedicalCenter.Theresearchers saidthesciencebehindtheirexperimentswasverysimple-theyusedo nlyoxygentoslowdownandturnaroundwhathappenstocellsastheyag e.Theyusedhigh-pressureoxygenoncellsthatwereinapressurecha mber. The scientists said two processes related to ageing and illnessess! oweddown. The scientists did tests on 35 adults over the age of 64 for 90 m inutesaday, fivetimesaweek for three months. Their study was publishe dinthemagazine"Ageing"onNovemberthe18th.Aleadscientistexplai nedhowimportanthisteam'sresearchwas.ProfessorShaiEfratisaysth estudyshowsthattheageingprocesscanbereversedatthecellularlevel .Hesayswemaybeabletostoptelomeresfromshortening.Telomeresar einsidecells. The shorter they become, the more weage. If we can stop th emgettingshorter,cellswillnotage.ProfessorEfratisaid:"Todaytelom ereshorteningisconsideredthe 'HolyGrail' of the biology of ageing. Rese archersaroundtheworldaretryingtodevelop[drugs]thatenabletelom erelengthening."Headded:"Thestudygiveshope,andopensthedoorfo ralotofyoungscientiststotargetageingasareversibledisease."

## **FREE WRITING**

Write about <b>ageing</b> for 10 minutes. Comment on your partner's paper.				

## **ACADEMIC WRITING**

It is better to let people age naturally than to slow ageing down. 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. AGEING:** Make a poster about ageing. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. TWO HUNDRED:** Write a magazine article about slowing down ageing so we can all live to be 200 years old. 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 ageing. Ask him/her three questions about it. Give him/her three of your opinions on reversing ageing. 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. f 3. С 4. a 5. g 6. d 7. 8. 9. 10. 11. h 12. 1 13. i 14. i m k

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

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

#### **SYNONYM MATCH (p.5)**

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

#### COMPREHENSION QUESTIONS (p.9)

#### WORDS IN THE RIGHT ORDER (p.20)

1.	Israel	1.	Tests to successfully stop and reverse the ageing.
2.	Oxygen	2.	The tests were part of a joint project.
3.	A pressure chamber	3.	The science behind their experiments was very simple.
4.	35	4.	The scientists did tests on 35 adults.
5.	Ageing	5.	Their study was published in the magazine.
6.	The cellular level	6.	It shows the ageing process can be reversed.
7.	Shortening	7.	The shorter they become, the more we age.
8.	The biology of ageing	8.	If we can stop them getting shorter.
9.	Drugs	9.	Researchers worldwide are trying to develop drugs.
10.	Young scientists	10.	Young scientists target ageing as a reversible disease.

## **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 ;-)