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# **Level 6** – 4th September 2023

# Mystery of radioactivity of Germany's wild boars

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https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

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

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### THE ARTICLE

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

Radioactive wild boars have been roaming the forests of Germany for decades. Scientists believed their radioactivity was due to the 1986 Chernobyl nuclear disaster. However, the animals' radioactivity has long mystified scientists because while levels of radioactive caesium in other animals has decreased over the years, radioactivity in wild boars has persisted at high levels. Scientists have dubbed this mystery the "wild boar paradox". New research now attributes the contamination of Germany's wild boars to nuclear weapons tests from the mid-20th century. The Chernobyl reactor produced caesium-137, which has a much shorter life than the caesium-135 created by nuclear weapons.

Scientists believe the reason wild boars have remained so radioactive compared to other forest creatures is their love of the delicacy truffle mushrooms. Radioactive particles accumulate in these underground fungi, which form part of the boars' diet. The high levels of caesium in boars make the animals too dangerous to be eaten under German law. This has resulted in a reduction in the hunting of the animals, which has led to a proliferation of their numbers. Geochemist James Kaste asks why the effects of nuclear weapons testing on the environment have been "understudied and largely forgotten". He said: "This is one of the ultimate case studies showing how legacy soil pollution can haunt generations to come."

 $Sources: \quad \text{https://www.} \textbf{science.org}/\text{content/article/germany-s-radioactive-boars-are-bristly-reminder-source}.$ 

nuclear-fallout

https://www.sciencealert.com/wild-pigs-in-germany-are-mysteriously-radioactive-and-we-finally-

know-why

https://au.news.yahoo.com/mystery-radioactive-bavarian-boar-solved-162014981.html

## **WARM-UPS**

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

radioactivity / wild boars / forests / nuclear disaster / mystery / contamination / life / scientists / forest / creatures / delicacy / fungi / hunting / soil / pollution / legacy

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

- **3. NO NUCLEAR:** Students A **strongly** believe nuclear power is too risky; Students B **strongly** believe it isn't. Change partners again and talk about your conversations.
- **4. MYSTERY:** Spend one minute writing down all of the different words you associate with the word "mystery". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **5. FOREST CREATURES:** Rank these with your partner. Put the best forest creatures at the top. Change partners often and share your rankings.
  - Wild boar
  - Deer
  - Squirrels
  - Foxes

- Bears
- Raccoons
- Owls
- Rabbits

## **VOCABULARY MATCHING**

#### Paragraph 1

- 1. roaming a. Totally bewilder or perplex someone.
- 2. mystified b. A contradiction or inconsistency.
- 3. persisted c. Gave an unofficial name or nickname to.
- 4. dubbed d. Continued to exist; prolonged.
- 5. paradox e. Moving about aimlessly or unsystematically, especially over a wide area.
- 6. contamination f. A structure in which material can be made to undergo a controlled, self-sustaining nuclear reaction to release of energy.
- 7. reactor g. The action or state of making or being made impure by polluting or poisoning.

#### Paragraph 2

- 8. creature h. The long-lasting impact of particular events, actions, etc. that took place in the past, or of a person's life.
- 9. delicacy i. An animal, as distinct from a human being.
- 10. accumulate j. Being the best or most extreme example of its kind.
- 11. proliferation k. Of something unpleasant that continues to affect or cause problems for.
- 12. ultimate | Gather together or acquire an increasing number or quantity of.
- 13. legacy m. A rapid increase in the number or amount of something.
- 14. haunt n. A delicious, expensive food.

## **BEFORE READING / LISTENING**

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

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

- 1. There have been radioactive wild boars in Germany for over a century. **T/F**
- 2. Other creatures in the forest are just as radioactive as wild boars. T / F
- 3. Scientists were puzzled as to why the wild boars were radioactive. T / F
- 4. The radioactive materials caesium 137 has the longest life. **T / F**
- 5. Mushrooms are the probable cause for the wild boars' radioactivity. **T / F**
- 6. German law says the wild boars are too radioactive to be eaten. T / F
- 7. The number of wild boars in Germany's forests has increased. T / F
- 8. The effect of weapons tests on the environment has had little research. T / F

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

- 1. roaming
- 2. mystified
- 3. persisted
- 4. dubbed
- 5. attributes
- 6. creatures
- 7. delicacy
- 8. proliferation
- 9. ultimate
- 10. haunt

- a. animals
- b. nicknamed
- c. greatest
- d. puzzled
- e. gourmet food
- f. credits
- g. wandering
- h. trouble
- i. rapid increase
- j. continued

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

- 1. Radioactive wild boars have been roaming
- 2. radioactivity was due to the 1986
- 3. the animals' radioactivity has long
- 4. radioactivity in wild boars has persisted
- 5. Scientists have dubbed this mystery
- 6. their love of the delicacy
- 7. led to a proliferation
- 8. the effects of nuclear weapons testing
- 9. This is one of the ultimate case
- 10. soil pollution can haunt generations

- a. at high levels
- b. mystified scientists
- c. studies
- d. the "wild boar paradox"
- e. of their numbers
- f. the forests of Germany
- g. to come
- h. truffle mushrooms
- i. Chernobyl nuclear disaster
- j. on the environment

# **GAP FILL**

Radioactive wild boars have been (1) the	radioactivity
forests of Germany for decades. Scientists believed their	tests
(2) was due to the 1986 Chernobyl nuclear	dubbed
disaster. However, the animals' radioactivity has long	uubbeu
(3) scientists because while levels of	roaming
radioactive caesium in other animals has decreased over the	life
years, radioactivity in wild boars has (4) at	persisted
high levels. Scientists have (5) this mystery	•
the "wild boar paradox". New research now	mystified
(6) the contamination of Germany's wild boars	attributes
to nuclear weapons (7) from the mid-20th	
century. The Chernobyl reactor produced caesium-137, which has	
a much shorter (8) than the caesium-135	
created by nuclear weapons.	
Coinntists believe the reason wild bears have -	diat
Scientists believe the reason wild boars have (7)	diet
so radioactive compared to other forest (8) is	creatures
their love of the delicacy truffle mushrooms. Radioactive particles  (9) in these underground fungi, which form	effects
part of the boars' (10) The high levels of	generations
caesium in boars make the animals too dangerous to be eaten	accumulate
under German law. This has resulted in a (11)	largely
in the hunting of the animals, which has led to a proliferation of	largery
their numbers. Geochemist James Kaste asks why the	remained
of nuclear weapons testing on the	reduction
environment have been "understudied and (13)	
forgotten". He said: "This is one of the ultimate case studies	
showing how legacy soil pollution can haunt	

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

1)	Radioactive wild boars have been roaming the forests of  a. Germany for decades  b. Germany for decadence c. Germany ford arcades d. Germany ford decays
2)	Scientists believed their radioactivity was due to the 1986  a. Chernobyl nucleus disaster  b. Chernobyl gnu clear disaster  c. Chernobyl nuclear disaster  d. Chernobyl new clear disaster
3)	However, the animals' radioactivity has a. long mystified scientist b. long mystified scientists c. long mystify scientists d. longs mystified scientists
4)	Scientists have dubbed this mystery the  a. wild boar paradox  b. wild boar parade ox  c. wild boar para docks  d. wild boar parade docks
5)	the contamination of Germany's wild boars to nuclear weapons tests from a. the mad-20th century b. the mid-20th century c. the mud-20th century d. the mod-20th century
6)	Scientists believe the reason wild boars have  a. remained so radioactive b. remains so radioactive c. remaining so radioactive d. remained sew radioactive
7)	compared to other forest creatures is their love of the  a. delicious truffle mushrooms  b. deli cases truffle mushrooms  c. delicate truffle mushrooms  d. delicacy truffle mushrooms
8)	high levels of caesium in boars make the animals too dangerous to be eatena. under German law b. over German law c. ending German law d. wonder German law
9)	weapons testing on the environment have been "under-studied a. and large forgotten b. and largely forgetting c. and largely forgotten d. and large life gotten
10	) one of the ultimate case studies showing how legacy soil pollution
	a. can hunt generations
	<ul><li>b. can gaunt generations</li><li>c. can haunt generations</li></ul>
	d. can jaunt generations

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

Radioactive wild boars have (1)	forests of Germany
for decades. Scientists believed their (2)	to the
1986 Chernobyl nuclear disaster. However, the animal	ls' radioactivity has
long mystified scientists because while levels of radioacti	ve caesium in other
animals (3) the years, radioac	tivity in wild boars
has persisted at high levels. Scientists have (4)	the
"wild boar paradox". New research now attributes th	e contamination of
Germany's wild boars to (5)	from the mid-20th
century. The Chernobyl reactor produced caesium-	137, which has a
(6) than the caesium-135 c	created by nuclear
weapons.	
Scientists believe the reason wild boars have remai	ned so radioactive
compared to other (7) their lo	
truffle mushrooms. Radioactive particles (8)	
underground fungi, which form part of the boars' diet.	The high levels of
caesium in boars make the animals too	dangerous to
(9) German law. This has result	ed in a reduction in
the hunting of the animals, which has led to (10)	
their numbers. Geochemist James Kaste asks why the	e effects of nuclear
weapons testing on the environment have been "under	studied and largely
forgotten". He said: "This is one of (11)	studies
showing how legacy soil pollution can haunt (12)	."

# **COMPREHENSION QUESTIONS**

1.	For how long have radioactive wild boars been roaming German forests?
2.	What disaster happened in 1986?
3.	What did scientists call the mystery of the boars' radioactivity?
4.	When were nuclear weapons tests conducted?
5.	Where is caesium-137 created?
6.	What is the delicacy that the wild boars like?
7.	What has dictated that the wild boars are dangerous to eat?
8.	Why has the number of wild boars increased?
9.	Who is James Kaste?
10.	What will legacy soil pollution haunt?

# **MULTIPLE CHOICE - QUIZ**

- 1) For how long have radioactive wild boars been roaming German forests?
- a) since last May
- b) a century of two
- c) 12 years
- d) decades
- 2) What disaster happened in 1986?
- a) forest fires
- b) Chernobyl
- c) floods
- d) an earthquake
- 3) What did scientists call the mystery of the boars' radioactivity?
- a) the "wild boar truffle"
- b) Bob
- c) the "wild boar paradox"
- d) strange
- 4) When were nuclear weapons tests conducted?
- a) in the mid-20<sup>th</sup> century
- b) 1999
- c) 1986
- d) during WWII
- 5) Where is caesium-137 created?
- a) the Sun
- b) deep underground
- c) the Chernobyl reactor
- d) in a lab

- 6) What is the delicacy that the wild boars like?
- a) marshmallows
- b) truffle mushrooms
- c) forest vegetables
- d) leftover barbecue meat
- 7) What has dictated that the wild boars are dangerous to eat?
- a) a restaurant chain
- b) the IAEA
- c) the WHO
- d) German law
- 8) Why has the number of wild boars increased?
- a) a reduction in hunting
- b) a breeding programme
- c) radioactivity
- d) a lack of predators
- 9) Who is James Kaste?
- a) a hunter
- b) a wild boar expert
- c) a geochemist
- d) a farmer
- 10) What will legacy soil pollution haunt?
- a) hunters
- b) future generations
- c) haunted houses
- d) farmers

#### **ROLE PLAY**

From https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

#### Role A - Wild Boars

You think wild boars are the best forest creatures. Tell the others three reasons why. Tell them what is wrong with their animals. Also, tell the others which is the least interesting of these (and why): bears, deer or squirrels.

#### Role B - Bears

You think bears are the best forest creatures. Tell the others three reasons why. Tell them what is wrong with their animals. Also, tell the others which is the least interesting of these (and why): wild boars, deer or squirrels.

#### Role C - Deer

You think deer are the best forest creatures. Tell the others three reasons why. Tell them what is wrong with their animals. Also, tell the others which is the least interesting of these (and why): bears, wild boars or squirrels.

### Role D - Squirrels

You think squirrels are the best forest creatures. Tell the others three reasons why. Tell them what is wrong with their animals. Also, tell the others which is the least interesting of these (and why): bears, deer or wild boars.

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# AFTER READING / LISTENING

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

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

wild	boar

- 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:

<ul><li>roaming</li><li>mystified</li></ul>	<ul><li>reason</li><li>underground</li></ul>
• over	• high
<ul><li>dubbed</li></ul>	<ul><li>hunting</li></ul>
• mid	<ul> <li>forgotten</li> </ul>
• life	• come

### RADIOACTIVITY SURVEY

From https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

Write five GOOD questions about radioactivity 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.

### RADIOACTIVITY 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 'radioactive'?
- 3. What do you know about wild boars?
- 4. What do you think of radioactive wild boars?
- 5. What do you know about the Chernobyl nuclear disaster?
- 6. What do you know about radioactive caesium?
- 7. What are the benefits of nuclear power plants?
- 8. Should the wild boars be allowed to roam the forests?
- 9. What are the forests like in your country?
- 10. Should countries continue to test nuclear weapons?

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## RADIOACTIVITY 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 'boar'?
- 13. What do you think about what you read?
- 14. What forest creatures do you like and dislike?
- 15. What do you think of truffles?
- 16. What are your favourite delicacies?
- 17. What do you think of the hunting of animals?
- 18. How can we deal with soil pollution?
- 19. What environmental problems are we leaving for future generations?
- 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**

Scier disas	ntists ster.	e wild boars h believed their However, the	radi anim	oactivity was als' radioactiv	due ity h	to the 1986 as (2)	Cher mysti	nobyl nuclear fied scientists
the y have conta cent	years, dubl amina ury. T	while levels of ra , radioactivity in ped this mystery ation of German The Chernobyl (e the caesium-135	n wild y the y's w	l boars has pe "wild boar par ild boars to nu produced ca	ersiste radox clear aesiur	ed (4) hig ". New researd weapons tests n-137, which	th lev th now from	els. Scientists  W (5) the the mid-20th
othe parti The (9) _ whic the e and how	r fore cles a high G h has effects (11) legac	believe the real st creatures is accumulate in the levels of caesium of caesium of the led to a (10) for forgotten. The led to a (10) for forgotten. The led to a contract words for the led to a contract words for forect words for the led to a contract words for the led to a c	their ese um in shas has pons He sa	love of the (8 inderground fur boars make the resulted in a resulted in a resulted in the testing on the faid: "This is or generated."	ngi, verifications of the analysis of the analysis of the artions	_ truffle mush which form par imals too dan ion the hun eochemist Jam ronment have the ultimate can to come."	room t of to gerou ting o nes Ka been ase st	s. Radioactive he boars' diet. is to be eaten of the animals, aste asks why "understudied udies showing
1.	(a)	loaming	(b)	roaming	(c)	reaming	(d)	foaming
2.	(a)	short	(b)	wrong	(c)	wrung	(d)	long
3.	(a)	under	(b)	over	(c)	above	(d)	below
4.	(a)	on	(b)	up	(c)	at	(d)	to
5.	(a)	attributes	(b)	contributes	(c)	retributes	(d)	substitutes
6.	(a)	reactor	(b)	shed	(c)	factory	(d)	workshop
7.	(a)	roamed	(b)	rammed	(c)	rummaged	(d)	remained
8.	(a)	delicacy	(b)	assortment	(c)	starter	(d)	appetizer
9.	(a)	upon	(b)	under	(c)	below	(d)	of
10.	(a)	projection	(b)	punctuation	(c)	proliferation	(d)	permeation
11.	(a)	sort	(b)	kind	(c)	largely	(d)	minimally
12.	(a)	gaunt	(b)	haunt	(c)	daunt	(d)	jaunt

#### **SPELLING**

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

## Paragraph 1

- 1. <u>imaogrn</u> the forests of Germany
- 2. idtserspe at high levels
- 3. Scientists have <u>debudb</u> this mystery
- 4. the wild boar aaxdorp
- 5. the <u>cinioatmnnato</u> of Germany's wild boars
- 6. The Chernobyl oetcarr produced caesium-137

## Paragraph 2

- 7. other forest rtcraseeu
- 8. their love of the <u>aecdilyc</u> truffle mushrooms
- 9. particles <u>ulcecamtau</u> in these underground fungi
- 10. led to a <u>Irprfoonieait</u> of their numbers
- 11. This is one of the mtletiua case studies
- 12. <a href="https://https://html/html/>html/>html/
  html/
  html/
  html/
  generations to come</a>

# **PUT THE TEXT BACK TOGETHER**

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

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

( )

`	,	radioactivity has long mystified
(	)	of Germany's wild boars to nuclear weapons tests from the mid- 20th century. The Chernobyl reactor produced
(	)	scientists because while levels of radioactive caesium in other animals has decreased over
(	)	why the effects of nuclear weapons testing on the environment have been "understudied and largely
(	)	particles accumulate in these underground fungi, which form part of the boars' diet. The high
(	)	caesium-137, which has a much shorter life than the caesium-135 created by nuclear weapons.
(	)	levels of caesium in boars make the animals too dangerous to be eaten under German law. This has resulted in a
(	)	creatures is their love of the delicacy truffle mushrooms. Radioactive
(	)	reduction in the hunting of the animals, which has led to a proliferation of their numbers. Geochemist James Kaste asks
( <b>1</b>	! )	Radioactive wild boars have been roaming the forests of Germany for decades. Scientists believed their radioactivity was due
(	)	the years, radioactivity in wild boars has persisted at high levels. Scientists have dubbed this mystery
(	)	forgotten". He said: "This is one of the ultimate case studies showing how legacy soil pollution can haunt generations to come."
(	)	the "wild boar paradox". New research now attributes the contamination
(	)	Scientists believe the reason wild boars have remained so radioactive compared to other forest

to the 1986 Chernobyl nuclear disaster. However, the animals'

### PUT THE WORDS IN THE RIGHT ORDER

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

roaming wild forests . boars been have Radioactive the mystified radioactivity long the However, has scientists . animals' other animals of Levels decreased . radioactivity has in has Radioactivity at boars persisted high levels . in life than has a shorter Caesium-137 caesium-135. wild The radioactive , remained so boars have reason fungi . underground these particles accumulate Radioactive in effects of nuclear on The the environment . weapons case is of ultimate one This studies . the generations to can soil Legacy come . haunt pollution

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

From https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

Radioactive wild boars have been *foaming / roaming* the forests of Germany for decades. Scientists believed their radioactivity was *due / dew* to the 1986 Chernobyl nuclear disaster. However, the animals' radioactivity has *long / wrong* mystified scientists because *white / while* levels of radioactive caesium in other animals has decreased *under / over* the years, radioactivity in wild boars has persisted *on / at* high levels. Scientists have *dubbed / daubed* this mystery the "wild boar paradox". New research now *attributes / contributes* the contamination of Germany's wild boars to nuclear weapons tests from the mid-20th century. The Chernobyl *reactor / distractor* produced caesium-137, which has a much shorter life than the caesium-135 created *by / at* nuclear weapons.

Scientists believe the reason wild boars have *roamed / remained* so radioactive compared to other *forestry / forest* creatures is their love of the delicacy *trifle / truffle* mushrooms. Radioactive particles accumulate in these underground *fungi / fungus*, which form part of the boars' diet. The high levels of caesium in boars make the animals too dangerous to be eaten *under / over* German law. This has resulted in a reduction in the hunting of the animals, which has led to a *proliferation / predilection* of their numbers. Geochemist James Kaste asks why the *affects / effects* of nuclear weapons testing on the environment have been "understudied and *largely / minimally* forgotten". He said: "This is one of the ultimate *case / box* studies showing how legacy soil pollution can haunt generations to *come / go*."

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

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

From https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

R\_d\_\_ct\_v\_ w\_ld b\_\_rs h\_v\_ b\_\_n r\_\_m\_ng th\_ f\_r\_sts \_f G\_rm\_ny f\_r d\_c\_d\_s. Sc\_\_nt\_sts b\_l\_\_v\_d th\_\_r r\_d\_\_ct\_v\_ty w\_s d\_\_ t\_ th\_ 1986 Ch\_rn\_byl n\_cl\_\_r d\_s\_st\_r. H\_w\_v\_r, th\_ \_n\_m\_ls' r\_d\_\_\_ct\_v\_ty h\_s l\_ng  $myst\_f\_\_d \qquad sc\_\_nt\_sts \qquad b\_c\_\_s\_ \qquad wh\_l\_ \qquad l\_v\_ls \qquad \_f$  $r_d_ct_v c_s_m - n_th_r n_m_ls h_s d_cr_s_d$ \_v\_r th\_ y\_\_rs, r\_d\_\_\_ct\_v\_ty \_n w\_ld b\_\_rs h\_s p\_rs\_st\_d \_t h\_gh l\_v\_ls. Sc\_\_nt\_sts h\_v\_ d\_bb\_d th\_s myst\_ry th\_ "w\_ld b\_\_r p\_r\_d\_x". N\_w r\_s\_\_rch n\_w \_ttr\_b\_t\_s th\_ c\_nt\_m\_n\_t\_\_n \_f G\_rm\_ny's w\_ld b\_\_rs t\_ n\_cl\_\_r w\_\_p\_ns t\_sts fr\_m th\_ m\_d-20th c\_nt\_ry. Th\_ Ch\_rn\_byl r\_\_ct\_r pr\_d\_c\_d c\_\_s\_\_m-137, wh\_ch h\_s \_ m\_ch sh\_rt\_r l\_f\_ th\_n th\_ c\_\_s\_m-135 cr\_\_t\_d by n\_cl\_\_r w\_\_p\_ns.  $r_m_n_d s_r_d_ct_v_c_mp_r_d t_t_th_r f_r_st$  $cr_t_s$  s  $th_r$   $l_v_f$  th  $d_l_c_c$   $tr_ffl_f$ m\_shr\_\_ms. R\_d\_\_ct\_v\_ p\_rt\_cl\_s \_cc\_m\_l\_t\_ \_n th\_s\_ \_nd\_rgr\_\_nd f\_ng\_, wh\_ch f\_rm p\_rt \_f th\_ b\_\_rs' d\_t. Th\_ h\_gh l\_v\_ls \_f c\_\_s\_m \_n b\_\_rs m\_k\_ th\_ \_n\_m\_ls t\_\_ d\_ng\_r\_\_s t\_ b\_ \_\_t\_n \_nd\_r G\_rm\_n l\_w.  $Th\_s \ h\_s \ r\_s\_lt\_d \ \_n \ \_ \ r\_d\_ct\_\_n \ \_n \ th\_ \ h\_nt\_ng \ \_f$  $th\_\_n\_m\_ls, \quad wh\_ch \quad h\_s \quad l\_d \quad t\_\_\_ \quad pr\_l\_f\_r\_t\_\_n \quad \_f$ th\_\_r n\_mb\_rs. G\_\_ch\_m\_st J\_m\_s K\_st\_ \_sks why th\_ \_ff\_cts \_f n\_cl\_\_r w\_\_p\_ns t\_st\_ng \_n th\_ \_nv\_r\_nm\_nt h\_v\_ b\_\_n "\_nd\_rst\_d\_\_d \_nd l\_rg\_ly f\_rg\_tt\_n". H\_  $s_d:$  "Th\_s \_s \_n\_ \_f th\_ \_lt\_m\_t\_ c\_s\_ st\_d\_\_s sh\_w\_ng h\_w l\_g\_cy s\_\_l p\_ll\_t\_\_n c\_n h\_\_nt

g\_n\_r\_t\_\_ns t\_ c\_m\_."

### PUNCTUATE THE TEXT AND ADD CAPITALS

From <a href="https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html">https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html</a>

radioactive wild boars have been roaming the forests of germany for decades scientists believed their radioactivity was due to the 1986 chernobyl nuclear disaster however the animals radioactivity has long mystified scientists because while levels of radioactive caesium in other animals has decreased over the years radioactivity in wild boars has persisted at high levels scientists have dubbed this mystery the wild boar paradox new research now attributes the contamination of germanys wild boars to nuclear weapons tests from the mid20th century the chernobyl reactor produced caesium137 which has a much shorter life than the caesium135 created by nuclear weapons

scientists believe the reason wild boars have remained so radioactive compared to other forest creatures is their love of the delicacy truffle mushrooms radioactive particles accumulate in these underground fungi which form part of the boars diet the high levels of caesium in boars make the animals too dangerous to be eaten under german law this has resulted in a reduction in the hunting of the animals which has led to a proliferation of their numbers geochemist james kaste asks why the effects of nuclear weapons testing on the environment have been understudied and largely forgotten he said this is one of the ultimate case studies showing how legacy soil pollution can haunt generations to come

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

From https://breakingnewsenglish.com/2309/230904-radioactive-wild-boars.html

RadioactivewildboarshavebeenroamingtheforestsofGermanyfordec ades. Scientists believed their radioactivity was due to the 1986 Chernob ylnucleardisaster. However, the animals' radioactivity has long mystifi edscientistsbecausewhilelevelsofradioactivecaesiuminotheranimal shasdecreasedovertheyears, radioactivity in wildboars has persisted a thighlevels. Scientists have dubbed this mystery the "wildboar paradox" ".NewresearchnowattributesthecontaminationofGermany'swildboa rstonuclearweaponstestsfromthemid-20thcentury.TheChernobylr eactorproducedcaesium-137, which has a much shorter life than the cae sium-135createdbynuclearweapons. Scientists believe there as on will dboarshaveremainedsoradioactivecomparedtootherforestcreatures istheirloveofthedelicacytrufflemushrooms.Radioactiveparticlesaccu mulateintheseundergroundfungi, which formpart of the boars' diet. Th ehighlevelsofcaesiuminboarsmaketheanimalstoodangeroustobeeat enunderGermanlaw.Thishasresultedinareductioninthehuntingofthe animals, which has led to a proliferation of their numbers. Geochemist Ja mesKasteaskswhytheeffectsofnuclearweaponstestingontheenviron menthavebeen "under-studied and largely forgotten". Hesaid: "This iso neoftheultimatecasestudiesshowinghowlegacysoilpollutioncanhaun tgenerationstocome."

# **FREE WRITING**

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

# **ACADEMIC WRITING**

Nuclear power causes too much damage to the environment. 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. WILD BOARS:** Make a poster about wild boars. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. NUCLEAR POWER STATIONS:** Write a magazine article about closing down all the world's nuclear power stations. 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 radioactivity. Ask him/her three questions about radioactivity. Give him/her three of your ideas. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

## **ANSWERS**

## **VOCABULARY (p.4)**

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

### TRUE / FALSE (p.5)

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

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

1.	g	2. c	1	3.	j	4.	b	5.	f
6.	а	7. e	•	8.	i	9.	С	10.	h

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

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

1.	Decades	1.	Radioactive wild boars have been roaming the forests.
2.	Chernobyl	2.	However, the animals' radioactivity has long mystified scientists.
3.	The "wild boar paradox"	3.	Levels of radioactivity in other animals has decreased.
4.	In the mid-20th century	4.	Radioactivity in boars has persisted at high levels.
5.	The Chernobyl reactor	5.	Caesium-137 has a shorter life than caesium-135.
6.	Truffle mushrooms	6.	The reason wild boars have remained so radioactive.
7.	German law	7.	Radioactive particles accumulate in these underground fungi.
8.	A reduction in hunting	8.	The effects of nuclear weapons on the environment.
9.	A geochemist	9.	This is one of the ultimate case studies.
10.	Generations to come	10.	Legacy soil pollution can haunt generations to come.

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

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

#### **ALL OTHER EXERCISES**

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