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## Level 6 - 3rd April 2023

## Scientists say plants 'scream' when stressed

#### FREE online quizzes, mp3 listening and more for this lesson here:

https://breakingnewsenglish.com/2304/230403-plants-scream.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/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

Plant lovers believe that talking to plants helps them grow. Scientists have discovered there could be a grain of truth in this belief. Researchers have discovered that plants emit sounds when they are stressed. The noises are akin to a human cry or scream. The scientists believe the sounds are specific enough for us to be able to interpret them and to attend to their needs. Unfortunately, plant sounds are at too high a frequency for the human ear to pick up. Humans can only hear frequencies of up to 16 kilohertz. The scientists used special AI algorithms to detect ultrasonic sounds emitted by plants that were up to 250 kilohertz. The AI also differentiated between different types of plant sounds.

The research was conducted in an acoustic chamber in an adapted greenhouse at Israel's Tel Aviv University. Scientists discovered that vibrations from stressed tobacco and tomato plants turned into sound waves. Lead researcher Professor Lilach Hadany said: "Plants usually emit sounds when they are under stress. Each plant and each type of stress is associated with a specific identifiable sound." She suggested that fields of crops could be quite noisy, saying: "While imperceptible to the human ear, the sounds emitted by plants can be heard by...bats, mice, and insects." Interpreting these sounds could help us understand when crops are dehydrated. Farmers could irrigate their crops more efficiently, and thus conserve water.

Sources: https://www.**cbsnews.com**/news/plants-emit-a-rather-noisy-cry-for-help-when-under-stress-

scientists-find/

https://www.sciencealert.com/plants-really-do-scream-out-loud-we-just-never-heard-it-until-now https://gizmodo.com/plants-make-popping-sounds-when-stressed-study-1850283774

#### **WARM-UPS**

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

plants / lovers / truth / belief / scream / frequency / human ear / ultrasonic / sounds / research / acoustic / greenhouse / stress / crops / bats / farmers / dehydrated / water

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

- **3. PLANT CHAT:** Students A **strongly** believe we should spend more money on researching how we can talk to plants; Students B **strongly** believe the opposite. Change partners again and talk about your conversations.
- **4. INTERPRETING PLANTS:** What would these plants want to say? What would you want to ask them? Complete this table with your partner(s). Change partners often and share what you wrote.

	What They Would Say	What You Would Ask Them
A tomato plant		
Bamboo		
Cactus		
Grass		
A rose		
Moss		

- **5. SCREAM:** Spend one minute writing down all of the different words you associate with the word "scream". Share your words with your partner(s) and talk about them. Together, put the words into different categories.
- **6. PLANT HELP:** Rank these with your partner. Put the best ways plants could help us if we understood them at the top. Change partners often and share your rankings.
  - Farm irrigation
  - Better medicines
  - Tastier food
  - Pest control

- Colour
- Climate change
- Mental health
- Water conservation

#### **VOCABULARY MATCHING**

#### Paragraph 1

- grain
   a. Produce and discharge something, especially gas or radiation.
- 2. emit b. The rate per second of a vibration constituting a wave, such as a sound wave.
- 3. akin to c. Clearly defined or identified.
- 4. specific d. Of similar character.
- 5. frequency e. The smallest possible quantity or amount of a quality.
- 6. algorithm f. Recognized or found out what makes someone or something unlike someone of something else.
- 7. differentiated g. A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

#### Paragraph 2

- 8. acoustic h. Having lost a large amount of water to the extent of needing some.
- 9. chamber i. Relating to sound or the sense of hearing.
- 10. vibration j. Understanding an action, mood, or way of behaving as having a particular meaning.
- 11. imperceptible k. Stop the wasteful overuse of a resource.
- 12. interpreting I. An instance of moving continuously and rapidly to and fro.
- 13. dehydrated m. So slight, gradual, or subtle as not to be sensed, understood or felt.
- 14. conserve n. A room used for a special purpose, especially in science.

### **BEFORE READING / LISTENING**

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

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

- 1. Talking to plants makes people better lovers. **T/F**
- 2. Scientists said it was true that grains emit sounds. T/F
- 3. Scientists said plant sounds are too high-pitched for us to hear. T / F
- 4. Scientists said plants make different types of sounds. **T/F**
- 5. The research was conducted in a special greenhouse. **T/F**
- 6. The scientists said farmers' fields could be quite noisy to bats and mice. T / F
- 7. Understanding plant sounds could help us to hydrate them. T / F
- 8. Understanding plant sounds could help us to save water. **T/F**

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

- 1. lovers
- 2. emit
- 3. akin to
- 4. detect
- 5. differentiated
- 6. conducted
- 7. stress
- 8. imperceptible
- 9. interpreting
- 10. irrigate

- a. unnoticeable
- b. distinguished
- c. carried out
- d. release
- e. water
- f. similar
- g. decoding
- h. fans
- i. strain
- i. notice

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

- 1. there could be a grain of
- 2. The noises are akin
- 3. plant sounds are at too high a frequency
- 4. detect ultrasonic
- 5. The AI also differentiated between
- 6. research was conducted in
- 7. Plants usually emit sounds when they
- 8. imperceptible to the
- 9. help us understand when crops
- 10. Farmers could

- a. to a human cry
- b. an acoustic chamber
- c. different types
- d. human ear
- e. are dehydrated
- f. for the human ear
- g. irrigate their crops
- h. are under stress
- i. sounds
- i. truth in this belief

## **GAP FILL**

Plant (1) believe that talking to plants helps	frequency
them grow. Scientists have discovered there could be a	akin
(2) of truth in this belief. Researchers have	lovers
discovered that plants (3) sounds when they	
are stressed. The noises are (4) to a human	grain
cry or scream. The scientists believe the sounds are	algorithms
(5) enough for us to be able to interpret them	specific
and to attend to their needs. Unfortunately, plant sounds are at	types
too high a (6) for the human ear to pick up. Humans can only hear frequencies of up to 16 kilohertz. The scientists used special AI (7) to detect	emit
ultrasonic sounds emitted by plants that were up to 250 kilohertz.	
The AI also differentiated between different	
(8) of plant sounds.	
· · · · · · · · · · · · · · · · · · ·	
The research was conducted in an (9) chamber	vibrations
in an adapted greenhouse at Israel's Tel Aviv University. Scientists	conserve
discovered that (10) from stressed tobacco and	associated
tomato plants turned into sound (11) Lead	associateu
researcher Professor Lilach Hadany said: "Plants usually emit	dehydrated
sounds when they are under stress. Each plant and each type of	acoustic
stress is (12) with a specific identifiable sound."	crops
She suggested that fields of (13) could be quite	•
noisy, saying: "While imperceptible to the human ear, the sounds	waves
emitted by plants can be heard bybats, (14),	mice
and insects." Interpreting these sounds could help us understand	
when crops are (15) Farmers could irrigate	
their crops more efficiently, and thus (16)	
water.	

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

1)	Scientists have discovered there could be a grain of truth  a. in this believe  b. in this belief  c. in his belief  d. in this relief	
2)	Researchers have discovered that  a. plant termite sounds b. plant summit sounds c. plants emit sounds d. plants omit sounds	
3)	The scientists believe the sounds are specific enough for us to be able  a. to interpret then  b. to interpreter them  c. toing turnip them  d. to interpret them	-
4)	Unfortunately, plant sounds are at too  a. high a frequency b. higher frequency c. hire frequency d. high the frequency	
5)	The AI also differentiated  a. between different tripes  b. between different tips  c. between different types  d. between different ties	
6)	The research was conducted in an acoustic chamber in  a. an adapted greenhouse  b. an adopted greenhouse  c. an redacted greenhouse  d. an alerted greenhouse	
7)	vibrations from stressed tobacco and tomato plants turned  a. unto sound weaves  b. onto sound doves  c. into sound waves  d. as to sound vapes	
8)	Each plant and each type of stress is associated with a  a. specific identi-pliable sound  b. specific identi-flyable sound  c. specific I dent fallible sound  d. specific identifiable sound	
9)	the sounds emitted by plants can be heard bybats,  a. mice, and insect  b. mouse, and insects  c. nice, and insects  d. mice, and insects	
10)	help us understand when crops are dehydrated. Farmers could	
	a. irrigate their crops	
	<ul><li>b. irrigate their crocs</li><li>c. irrigate their claps</li></ul>	
	d. irrigate their clops	

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

Plant lovers believe that (1)	helps them grow.
Scientists have discovered there could be a (2)	in
this belief. Researchers have discovered that plants emi	t sounds when they
are stressed. The noises (3)	_ a human cry or
scream. The scientists believe the sounds are specific e	enough for us to be
able to interpret them and (4)	their needs.
Unfortunately, plant sounds are at too high a frequency f	or the human ear to
pick up. Humans can only hear (5)	to 16 kilohertz.
The scientists used special AI algorithms (6)	sounds
emitted by plants that were up to 250 kilohertz. The A	I also differentiated
between different types of plant sounds.	
The research was conducted in (7)	in an adapted
greenhouse at Israel's Tel Aviv University. Sc	ientists discovered
(8) stressed tobacco and tomat	o plants turned into
sound waves. Lead researcher Professor Lilach Ha	dany said: "Plants
(9) when they are under stre	ess. Each plant and
each type of stress (10) a	specific identifiable
sound." She suggested that fields of crops could be	quite noisy, saying:
"While (11) human ear, the	sounds emitted by
plants can be heard bybats, mice, and insects." Interp	reting these sounds
could help us understand when crops are dehydra	ted. Farmers could
more efficiently, and thus c	onserve water.

## **COMPREHENSION QUESTIONS**

1.	What do plant lovers believe plants do when they talk to them?
2.	What do scientists believe there is a grain of in a belief about plants?
3.	When do researchers say plants emit sound?
4.	At what frequency can humans hear?
5.	What's the highest frequency that plants make a sound at?
6.	In what kind of place was the researcher conducted?
7.	What turned into sound waves?
8.	What did the researcher suggest could be quite noisy?
9.	What does the article say can hear plants?
10.	What could farmers do to their crops if we understood plants more?

## **MULTIPLE CHOICE - QUIZ**

- 1) What do plant lovers believe plants do when they talk to them?
- a) They smile.
- b) They cry.
- c) They grow.
- d) They flower sooner.
- 2) What do scientists believe there is a grain of in a belief about plants?
- a) truth
- b) rice
- c) wheat
- d) sand
- 3) When do researchers say plants emit sound?
- a) in the early morning
- b) When they're stressed.
- c) when people talk to them
- d) when they've had no water
- 4) At what frequency can humans hear?
- a) at 160 kilohertz
- b) exactly 16 kilohertz
- c) over 16 kilohertz
- d) up to 16 kilohertz
- 5) What's the highest frequency that plants make a sound at?
- a) 260 kilohertz
- b) 280 kilohertz
- c) 250 kilohertz
- d) 270 kilohertz

- 6) In what kind of place was the researcher conducted?
- a) a desert
- b) an acoustic chamber
- c) a rainforest
- d) a sterile laboratory
- 7) What turned into sound waves?
- a) water
- b) the roots of plants
- c) photosynthesis
- d) vibrations from plants
- 8) What did the researcher suggest could be quite noisy?
- a) the research
- b) fields of crops
- c) plant lovers
- d) plants growing
- 9) What does the article say can hear plants?
- a) children
- b) bats, mice, and insects
- c) farmers
- d) birds and worms
- 10) What could farmers do to their crops if we understood plants more?
- a) irrigate them
- b) grow them
- c) create hybrids
- d) make them bigger

#### **ROLE PLAY**

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

#### Role A - Farm Irrigation

You think farm irrigation will be the biggest benefit from communicating with plants. Tell the others three reasons why. Tell them why their things won't be as beneficial. Also, tell the others which is the least beneficial of these (and why): tastier food, better medicines or mental health.

#### Role B - Tastier Food

You think tastier food will be the biggest benefit from communicating with plants. Tell the others three reasons why. Tell them why their things won't be as beneficial. Also, tell the others which is the least beneficial of these (and why): farm irrigation, better medicines or mental health.

#### Role C - Better Medicines

You think better medicines will be the biggest benefit from communicating with plants. Tell the others three reasons why. Tell them why their things won't be as beneficial. Also, tell the others which is the least beneficial of these (and why): tastier food, farm irrigation or mental health.

#### Role D - Mental Health

You think mental health will be the biggest benefit from communicating with plants. Tell the others three reasons why. Tell them why their things won't be as beneficial. Also, tell the others which is the least beneficial of these (and why): tastier food, better medicines or farm irrigation.

## AFTER READING / LISTENING

From https://breakingnewsenglish.com/2304/230403-plants-scream.html

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

plant	scream

- 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:

• lovers	<ul> <li>adapted</li> </ul>
<ul><li>belief</li></ul>	<ul><li>usually</li></ul>
• akin	<ul> <li>identifiable</li> </ul>
<ul><li>attend</li></ul>	• noisy
• pick	• mice
• 250	• water

#### **PLANTS SURVEY**

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

Write five GOOD questions about plants 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.

#### PLANTS 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 'plant'?
- 3. What do you think of plants?
- 4. Do you think plants have feelings?
- 5. What would you do if you heard a plant scream?
- 6. How much of a plant lover are you?
- 7. What do you think plants might communicate?
- 8. What would you like to ask plants?
- 9. How will life change if we can understand plants?
- 10. What advice do you have for plants?

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#### **PLANTS 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 'scream'?
- 13. What do you think about what you read?
- 14. Would you like to hear plants screaming?
- 15. What's your favourite plant?
- 16. What would plants say about climate change?
- 17. What might plants say to each other?
- 18. Would we get tastier food if we could understand plants' feelings?
- 19. Could plants help us to conserve water?
- 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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•		
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## **LANGUAGE - CLOZE**

 $From \ \ \, \underline{https://breakingnewsenglish.com/2304/230403\text{-}plants\text{-}scream.html}$ 

disco disco to a us to plant only algor	overed huma be a sour hear rithms	believe to there could be there could be the the the the the the the the the th	oe a nit sound the sound t	(2) of to unds when the excientists belief and to attended frequency for to 16 kilotic sounds emi	ruth y are eve t d (4) the h ohert tted	in this belief. stressed. The che sounds are their ne uman ear to piz. The scientis by plants that	Reservation Reserv	earchers have es are (3) ific enough for Unfortunately, b. Humans can sed special AI re up to 250
Israe toba Lilac plant She impe byl unde	el's To cco a h Had t and suggercept pats, erstan ently,	rch was conducted Aviv University of tomato plandany said: "Plandany said: "Pl	sity. Sits ture to use the control of the control o	Scientists disconned into soun ually emit soun is associated (of crops coulear, the sour sects." Interprehydrated. Farravater.	overed (8)  ds who where the description of the des	ed that vibration of the control of the control of the control of the control of the could (12)	eseard identi y, sa ants d ds c	from stressed cher Professor stress. Each ifiable sound." aying: "While can be heard ould help us eir crops more
1.	(a)	loves	(b)	lovelies	(c)	lovers	(d)	love-ins
2.	(a)	grain	(b)	husk	(c)	ear	(d)	chaff
3.	(a)	akin	(b)	skin	(c)	aching	(d)	eking
4.	(a)	to	(b)	of	(c)	at	(d)	in
5.	(a)	as	(b)	up	(c)	on	(d)	down
6.	(a)	differential	(b)	diffident	(c)	differed	(d)	differentiated
7.	(a)	accoutrement	(b)	actuarial	(c)	acoustic	(d)	acolyte
8.	(a)	tides	(b)	currents	(c)	surfs	(d)	waves
9.	(a)	under	(b)	above	(c)	about	(d)	around
10.	(a)	on	(b)	with	(c)	at	(d)	by
11.	(a)	moose	(b)	mice	(c)	mouse	(d)	moussaka
12.	(a)	congregate	(b)	irradiate	(c)	irrigate	(d)	aggregate

## **SPELLING**

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

#### Paragraph 1

- 1. noises are kani to a human cry
- 2. be able to <u>tetinprer</u> them
- 3. sounds are at too high a <u>ycrnfeeuq</u>
- 4. scientists used special AI gamoitIrhs
- 5. detect laosunictr sounds
- 6. <u>dttiardfineeef</u> between different types

#### Paragraph 2

- 7. conducted in an <u>asuccoit</u> chamber
- 8. viitrnboas from stressed tobacco
- 9. specific <u>inebdtieafil</u> sound
- 10. eptprimeeiblc to the human ear
- 11. etepgtrnrnii these sounds
- 12. Farmers could  $\underline{\text{tragriie}}$  their crops

## **PUT THE TEXT BACK TOGETHER**

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

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

(	1 )	Plant lovers believe that talking to plants helps them grow Scientists have discovered there could be a grain
(	)	to 16 kilohertz. The scientists used special AI algorithms to detect ultrasonic sounds emitted
(	)	us understand when crops are dehydrated. Farmers could irrigate their crops more efficiently, and thus conserve water.
(	)	The research was conducted in an acoustic chamber in an adapted greenhouse
(	)	sound." She suggested that fields of crops could be quite noisy, saying: "While imperceptible to the human
(	)	a frequency for the human ear to pick up. Humans can only hear frequencies of up
(	)	by plants that were up to 250 kilohertz. The AI also differentiated between different types of plant sounds.
(	)	of truth in this belief. Researchers have discovered that plants emit sounds when they are
(	)	enough for us to be able to interpret them and to attend to their needs. Unfortunately, plant sounds are at too high
(	)	ear, the sounds emitted by plants can be heard bybats, mice, and insects." Interpreting these sounds could help
(	)	at Israel's Tel Aviv University. Scientists discovered that vibrations from stressed tobacco and tomato
(	)	stressed. The noises are akin to a human cry or scream. The scientists believe the sounds are specific
(	)	plants turned into sound waves. Lead researcher Professor Lilach Hadany said: "Plants usually emit sounds
(	)	when they are under stress. Each plant and each type of stress is associated with a specific identifiable

#### PUT THE WORDS IN THE RIGHT ORDER

From https://breakingnewsenglish.com/2304/230403-plants-scream.html

- 1. talking Plant to helps lovers them . believe plants
- 2. in grain There truth of a this is .
- 3. Plants when stressed . are sounds emit they
- 4. at high Plant sounds frequency . a too are
- 5. sounds . types differentiated AI of different The between
- 6. acoustic The research was conducted in an chamber .
- 7. when they Plants sounds usually are stressed . emit
- 8. could of quite be crops Fields noisy .
- 9. us Help crops understand are when dehydrated .
- 10. irrigate their efficiently . Farmers could more crops

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

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

Plant *lovers / loves* believe that talking to plants helps them grow. Scientists have discovered there could be a *grin / grain* of truth in this belief. Researchers have discovered that plants *omit / emit* sounds when they are stressed. The noises are *akin / skin* to a human cry or scream. The scientists believe the sounds are specific enough *for / from* us to be able to interpret them and to attend *of / to* their needs. Unfortunately, plant sounds are at too *high / height* a frequency for the human ear to pick up. Humans can only hear frequencies of *over / up* to 16 kilohertz. The scientists used special AI algorithms to *detect / defect* ultrasonic sounds emitted by plants that were up to 250 kilohertz. The AI also differentiated between different *type / types* of plant sounds.

The research was conducted in an *acoustic / accoutrement* chamber in an adapted greenhouse at Israel's Tel Aviv University. Scientists discovered that *vibrations / vibes* from stressed tobacco and tomato plants turned *onto / into* sound waves. Lead researcher Professor Lilach Hadany said: "Plants usually emit sounds when they are *over / under* stress. Each plant and each type of stress is *associate / associated* with a specific identifiable sound." She suggested that *fields / field* of crops could be quite noisy, saying: "While imperceptible *to / at* the human ear, the sounds emitted by plants can be heard by...bats, *mice / mouse*, and insects." Interpreting these sounds could help *us / them* understand when crops are dehydrated. Farmers could irrigate their crops more efficiently, and thus *reserve / conserve* water.

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/2304/230403-plants-scream.html

Pl\_nt l\_v\_rs b\_l\_\_v\_ th\_t t\_lk\_ng t\_ pl\_nts h\_lps th\_m gr\_w. Sc\_\_nt\_sts h\_v\_ d\_sc\_v\_r\_d th\_r\_ c\_\_ld b\_ \_ gr\_\_n \_f tr\_th \_n th\_s b\_l\_\_f. R\_s\_\_rch\_rs h\_v\_ d\_sc\_v\_r\_d th\_t pl\_nts \_m\_t s\_\_nds wh\_n th\_y \_r\_ str\_ss\_d. Th\_ n\_\_s\_s \_r\_ \_k\_n t\_ \_ h\_m\_n cry \_r scr\_\_m. Th\_ sc\_\_nt\_sts b\_l\_\_v\_ th\_ s\_\_nds \_r\_  $sp\_c\_f\_c\_n\_gh$   $f\_r\_s$   $t\_b\_bl\_t\_nt\_rpr\_t$   $th\_m$ \_nd t\_ \_tt\_nd t\_ th\_\_r n\_\_ds. \_nf\_rt\_n\_t\_ly, pl\_nt s\_\_nds \_r\_ \_t t\_\_ h\_gh \_ fr\_q\_\_ncy f\_r th\_ h\_m\_n \_\_r t\_ p\_ck \_p. H\_m\_ns c\_n \_nly h\_\_r fr\_q\_\_nc\_\_s \_f \_p t\_ 16 k\_l\_h\_rtz. Th\_ sc\_\_nt\_sts \_s\_d sp\_c\_\_l \_\_ \_lg\_r\_thms t\_ d\_t\_ct \_ltr\_s\_n\_c s\_\_nds \_m\_tt\_d by pl\_nts th\_t w\_r\_  $_p$  t\_ 250 k\_l\_h\_rtz. Th\_  $_ _ls_$ d\_ff\_r\_nt\_\_t\_d b\_tw\_\_n d\_ff\_r\_nt typ\_s \_f pl\_nt s\_\_nds. Th\_ r\_s\_\_rch w\_s c\_nd\_ct\_d \_n \_n \_c\_\_st\_c ch\_mb\_r \_n \_n \_d\_pt\_d gr\_\_nh\_\_s\_ \_t \_sr\_\_l's T\_l \_v\_v \_n\_v\_rs\_ty. Sc\_\_nt\_sts d\_sc\_v\_r\_d th\_t v\_br\_t\_\_ns fr\_m str\_ss\_d t\_b\_cc\_ \_nd t\_m\_t\_ pl\_nts t\_rn\_d \_nt\_ s\_\_nd w\_v\_s. L\_\_d r\_s\_\_rch\_r Pr\_f\_ss\_r L\_l\_ch H\_d\_ny s\_\_d: "PI\_nts \_s\_\_IIy \_m\_t s\_\_nds wh\_n th\_y \_r\_ \_nd\_r str\_ss. \_\_ch pl\_nt \_nd \_\_ch typ\_ \_f str\_ss \_s \_ss\_c\_\_t\_d w\_th \_ sp\_c\_f\_c \_d\_nt\_f\_\_bl\_ s\_\_nd." Sh\_  $s_gg_st_d$  th\_t f\_\_lds \_f cr\_ps c\_\_ld b\_ q\_\_t\_ n\_\_sy, s\_y\_ng: "Wh\_I\_ \_mp\_rc\_pt\_bl\_ t\_ th\_ h\_m\_n \_\_r, th\_ s\_\_nds \_m\_tt\_d by pl\_nts c\_n b\_ h\_\_rd by...b\_ts, m\_c\_, \_nd \_ns\_cts." \_nt\_rpr\_t\_ng th\_s\_ s\_\_nds c\_\_ld h\_lp \_s \_nd\_rst\_nd wh\_n cr\_ps \_r\_ d\_hydr\_t\_d. F\_rm\_rs c\_\_ld \_rr\_g\_t\_ th\_\_r cr\_ps m\_r\_ \_ff\_c\_\_ntly, \_nd th\_s c\_ns\_rv\_ w\_t\_r.

PUNCTUATE THE TEXT AND ADD CAPITALS

From <a href="https://breakingnewsenglish.com/2304/230403-plants-scream.html">https://breakingnewsenglish.com/2304/230403-plants-scream.html</a>

plant lovers believe that talking to plants helps them grow scientists have

discovered there could be a grain of truth in this belief researchers have

discovered that plants emit sounds when they are stressed the noises are

akin to a human cry or scream the scientists believe the sounds are specific

enough for us to be able to interpret them and to attend to their needs

unfortunately plant sounds are at too high a frequency for the human ear to

pick up humans can only hear frequencies of up to 16 kilohertz the scientists

used special ai algorithms to detect ultrasonic sounds emitted by plants that

were up to 250 kilohertz the ai also differentiated between different types of

plant sounds

the research was conducted in an acoustic chamber in an adapted

greenhouse at israels tel aviv university scientists discovered that vibrations

from stressed tobacco and tomato plants turned into sound waves lead

researcher professor lilach hadany said plants usually emit sounds when

they are under stress each plant and each type of stress is associated with a

specific identifiable sound she suggested that fields of crops could be quite

noisy saying while imperceptible to the human ear the sounds emitted by

plants can be heard bybats mice and insects interpreting these sounds could

help us understand when crops are dehydrated farmers could irrigate their

crops more efficiently and thus conserve water

Level 6 Scientists say plants 'scream' when stressed – *3rd April 2023*More free lessons at breakingnewsenglish.com - Copyright Sean Banville 2023

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

From https://breakingnewsenglish.com/2304/230403-plants-scream.html

Plantloversbelievethattalkingtoplantshelpsthemgrow. Scientistshav ediscoveredtherecouldbeagrainoftruthinthisbelief.Researchershav ediscoveredthatplantsemitsoundswhentheyarestressed. Thenoises areakintoahumancryorscream. The scientists believe the sounds are spin areakintoahumancryorscream. ecificenoughforustobeabletointerpretthemandtoattendtotheirneed s. Unfortunately, plantsounds are attoohigh a frequency for the humane artopickup. Humanscanonlyhearfrequencies of upto 16 kilohertz. Thes cientistsusedspecialAIalgorithmstodetectultrasonicsoundsemittedb yplantsthatwereupto250kilohertz.TheAIalsodifferentiatedbetween differenttypesofplantsounds. Theresearchwas conducted in an acousti cchamber in an adapted green house at Israel's Tel Aviv University. Scientistsdiscoveredthatvibrationsfromstressedtobaccoandtomatoplants turnedintosoundwaves.LeadresearcherProfessorLilachHadanysaid: "Plantsusuallyemitsoundswhentheyareunderstress. Eachplantande achtypeofstressisassociatedwithaspecificidentifiablesound."Shesug gestedthatfieldsofcropscouldbequitenoisy, saying: "Whileimpercepti bletothehumanear, the sound semitted by plants can be heard by ... bats, mice, and in sects. "Interpreting these sounds could help us understand whencropsaredehydrated. Farmers could irrigate their crops more efficient iently, and thus conserve water.

## **FREE WRITING**

omment on your partner's paper.

## **ACADEMIC WRITING**

We need to understand plants so we can create a better planet. 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. PLANTS:** Make a poster about plants. Show your work to your classmates in the next lesson. Did you all have similar things?
- **4. PLANT TALK:** Write a magazine article about communicating with plants. 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 plants. Ask him/her three questions about plants. 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)**

2. 3. 1. d 4. c 5. 7. 8. i 9. n 10. l 11. m 12. i 13. h 14. k

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

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

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

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

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

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

1.	They grow	1.	Plant lovers believe talking to plants helps them.
2.	Truth	2.	There's a grain of truth in this.
3.	When they're stressed	3.	Plants emit sounds when they are stressed.
4.	Up to 16 kilohertz	4.	Plant sounds are at too high a frequency.
5.	250 kilohertz	5.	The AI differentiated between different types of sounds.
6.	An acoustic chamber	6.	The research was conducted in an acoustic chamber.
7.	Vibrations from plants	7.	Plants usually emit sounds when they are stressed.
8.	Fields of crops	8.	Fields of crops could be quite noisy.
9.	Bats, mice, and insects	9.	Help us understand when crops are dehydrated.
10.	Irrigate them	10.	Farmers could irrigate their crops more

efficiently.

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

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

#### **ALL OTHER EXERCISES**

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