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Scientists regrow 30,000-year-old plant

22nd February, 2012

http://www.breakingnewsenglish.com/1202/120222-back_to_life.html

Contents

THE ARTICLE

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

Russian scientists have recreated a plant from cell tissue that had been frozen for 30,000 years. The research team from Russia's Institute of Cell Biophysics team regenerated the plant from tissue found in the Siberian permafrost. It was a pioneering project that paves the way for other plant species to be revived. The plant the scientists brought back to life is called the Silene stenophylla. It is the oldest plant ever to be regenerated, beating the previous record for date palm seeds that were stored for 2,000 years in Israel. The plant had been stored away by squirrels during their hibernation 30 millennia ago, during the age of woolly mammoths. It froze and never thawed.

The scientists believe that the regeneration of the Silene stenophylla plant means the permafrost is a natural store of ancient life forms, many of which could be recreated. Lead researcher Svetlana Yashina said: "We consider it essential to continue permafrost studies in search of an ancient genetic pool, that of pre-existing life, which hypothetically has long since vanished from the earth's surface." Dr Robin Probert, head of conservation and technology at the UK's Millennium Seed Bank, said: "There is an opportunity to resurrect flowering plants that have gone extinct in the same way that we talk about bringing mammoths back to life, the Jurassic Park kind of idea."

WARM-UPS

1. JURASSIC PARK: Walk around the class and talk to other students about Jurassic Park. Change partners often. Sit with your first partner(s) and share your findings.

2. CHAT: In pairs / groups, decide which of these topics or words from the article are most interesting and which are most boring.

> *scientists / cell tissue / research team / pioneering / species / seeds / squirrels / froze / regeneration / ancient life / essential / vanished / conservation / back to life*

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

3. REVIVED: Complete this table with your partner(s). Change partners and share what you wrote. Change and share again.

Who/What?	Good/bad?	Why?
ancient fruit		
stone age man		
woolly mammoth		
a famous person		
a dinosaur		
recently extinct species		

4. PLAYING GOD: Students A **strongly** believe scientists who bring things back to life are playing God, and that's bad; Students B **strongly** believe it's good. Change partners again and talk about your conversations.

5. BACK TO LIFE: Spend one minute writing down all of the different words you associate with the phrase 'back to life'. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

BEFORE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

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

a. Scientists regrew a 30-millennia-old plant from seeds found in a cave. T / F
b. It is unlikely the scientists will be able to recreate other plant species. T / F
c. The plant is the oldest ever to be regenerated. T / F
d. The old record for reviving plants was from seeds kept for 2,000 years. T / F
e. The scientists say it is vital they keep exploring the permafrost. T / F
f. Scientists do not believe they will find tissue from long-extinct species. T / F
g. Robin Probert does not work at Russia's Institute of Cell Biophysics. T / F
h. Dr Probert said Hollywood should make a new Jurassic Park movie. T / F

2. SYNONYM MATCH: Match the following synonyms from the article.

1.	recreated	a.	ex-
2	pioneering	b.	early
3.	paves the way for	c.	unfroze
4.	previous	d.	cutting-edge
5.	thawed	e.	theoretically
6.	store	f.	chance
7.	ancient	g.	remade
8.	hypothetically	h.	disappeared
9.	vanished	i.	stock
10.	opportunity	j.	lays the foundations for

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

1.	recreated a plant from	a.	way for …
2	the Siberian	b.	essential
3.	paves the	c.	forms
4.	stored away by squirrels during	d.	permafrost
5.	It froze and never	e.	extinct
6.	a natural store of ancient life	f.	cell tissue
7.	We consider it	g.	surface
8.	pre-existing	h.	thawed
9.	vanished from the earth's	i.	their hibernation
10.	flowering plants that have gone	j.	life

WHILE READING / LISTENING

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

GAP FILL: Put the words into the gaps in the text.

Russian scientists have recreated a plant from (1) _____ tissue that had been frozen for 30,000 years. The research team from Russia's Institute of Cell Biophysics team regenerated the plant from tissue found in the Siberian permafrost. It was a (2) _____ project that (3) _____ the way for other plant species to be revived. The plant the scientists brought back to (4) _____ is called the Silene stenophylla. It is the oldest plant ever to be regenerated, (5) _____ the previous record for date palm seeds that were (6) _____ for 2,000 years in Israel. The plant had been stored away by squirrels (7) _____ their hibernation 30 millennia ago, during the (8) _____ of woolly mammoths. It froze and never thawed.

stored
life
pioneering
age
beating
cell
during
paves

The scientists (9) _____ that the regeneration of the Silene stenophylla plant means the permafrost is a (10) _____ store of ancient life (11) _____, many of which could be recreated. Lead researcher Svetlana Yashina said: "We consider it (12) _____ to continue permafrost studies in search of an ancient genetic (13) _____, that of pre-existing life, which hypothetically has long since vanished from the earth's (14) _____." Dr Robin Probert, head of conservation and technology at the UK's Millennium Seed Bank, said: "There is an opportunity to resurrect flowering plants that have gone (15) _____ in the same way that we talk about bringing mammoths back to life, the Jurassic Park (16) _____ of idea."

essential
surface
natural
extinct
pool
believe
kind
forms

LISTENING – Listen and fill in the gaps

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

Russian scientists _____ plant from cell tissue that had been frozen for 30,000 years. The research team from Russia's Institute of Cell Biophysics team _____ from tissue found in the Siberian permafrost. It was a pioneering project that _____ other plant species to be revived. The plant the scientists brought back to life is called the Silene stenophylla. It is the oldest plant ever to be regenerated, _____ record for date palm seeds that were stored for 2,000 years in Israel. The plant had been _____ squirrels during their hibernation 30 millennia ago, during the age of woolly mammoths. It _____.

The scientists believe that the regeneration of the Silene stenophylla plant means the permafrost is _____ ancient life forms, many of which could be recreated. Lead researcher Svetlana Yashina said: "We _____ to continue permafrost studies in search of an _____, that of pre-existing life, which hypothetically has long since vanished from _____." Dr Robin Probert, head of conservation and technology at the UK's Millennium Seed Bank, said: "There is _____ resurrect flowering plants that have gone extinct _____ we talk about bringing mammoths back to life, the Jurassic Park kind of idea."

AFTER READING / LISTENING

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

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

cell	**tissue**

- 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:

• 30,000 • project • back • previous • 2,000 • age	• natural • consider • search • since • gone • life

JURASSIC PARK SURVEY

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

Write five GOOD questions about Jurassic Park 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.

JURASSIC PARK DISCUSSION

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

a) What did you think when you read the headline?

b) What springs to mind when you hear the word 'frozen'?

c) What do you think about what you read?

d) Do you think it's a good idea to regrow ancient plants?

e) Why was the project so pioneering?

f) What other species do you think should be regenerated?

g) What are the benefits of regenerating extinct plant or animal species?

h) Could bringing extinct life forms back be bad for the Earth?

i) Would you like to work on this project?

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JURASSIC PARK DISCUSSION

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

a) Did you like reading this article?

b) Do you think it's possible to recreate ancient humans?

c) How important is the ancient genetic pool to science?

d) Do you think it would be a good idea to regenerate people who have dies, like Gandhi or Walt Disney?

e) Are the scientists playing God by bringing back ancient life forms?

f) What could scientists learn from bringing back ancient life forms?

g) What do you think the scientists will do with the regenerated plant?

h) What do you think of the Jurassic Park idea coming true?

i) What questions would you like to ask researcher Svetlana Yashina?

LANGUAGE – MULTIPLE CHOICE

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

Russian scientists have recreated a plant from cell tissue that had been (1) _____ for 30,000 years. The research team from Russia's Institute of Cell Biophysics team regenerated the plant from tissue found in the Siberian permafrost. It was a pioneering project that (2) _____ the way for other plant species to be (3) _____. The plant the scientists brought (4) _____ to life is called the Silene stenophylla. It is the oldest plant ever to be regenerated, beating the (5) _____ record for date palm seeds that were stored for 2,000 years in Israel. The plant had been stored away by squirrels during their hibernation 30 millennia ago, during the (6) _____ of woolly mammoths. It froze and never thawed.

The scientists believe that the regeneration of the Silene stenophylla plant means the permafrost is a natural store (7) _____ ancient life forms, many of which could be recreated. Lead researcher Svetlana Yashina said: "We consider (8) _____ essential to continue permafrost studies in search of an ancient genetic pool, that of (9) _____ -existing life, which hypothetically has (10) _____ since vanished from the earth's surface." Dr Robin Probert, head of conservation and technology at the UK's Millennium Seed Bank, said: "There is an opportunity (11) _____ resurrect flowering plants that have gone extinct in the same way that we talk about bringing mammoths back to life, the Jurassic Park (12) _____ of idea."

Put the correct words from the table below in the above article.

1.	(a)	freeze	(b)	freezing	(c)	freezer	(d)	frozen
2.	(a)	pavements	(b)	steps	(c)	paves	(d)	walks
3.	(a)	revival	(b)	revived	(c)	reviving	(d)	revives
4.	(a)	back	(b)	forward	(c)	side	(d)	front
5.	(a)	direct	(b)	harmonious	(c)	previous	(d)	disciplined
6.	(a)	generation	(b)	longevity	(c)	old	(d)	age
7.	(a)	at	(b)	of	(c)	by	(d)	to
8.	(a)	it	(b)	them	(c)	all	(d)	every
9.	(a)	per	(b)	pre	(c)	post	(d)	par
10.	(a)	tall	(b)	wide	(c)	long	(d)	deep
11.	(a)	to	(b)	as	(c)	for	(d)	by
12.	(a)	same	(b)	alias	(c)	meaning	(d)	kind

WRITING

From http://www.BreakingNewsEnglish.com/1202/120222-back_to_life.html

Write about **Jurassic Park** for 10 minutes. Correct your partner's paper.

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 Silene stenophylla. Share what you discover with your partner(s) in the next lesson.

3. JURASSIC PARK: Make a poster about Jurassic Park. Show your work to your classmates in the next lesson. Did you all have similar things?

4. REGENERATION: Write a magazine article about regenerating ancient life forms. Include imaginary interviews with people who are for and against it.

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. LETTER: Write a letter to an expert on regenerating ancient life forms. Ask him/her three questions about the Jurassic Park idea. Give him/her three of your opinions. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

TRUE / FALSE:

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

SYNONYM MATCH:

1.	recreated	a.	remade
2	pioneering	b.	cutting-edge
3.	paves the way for	c.	lays the foundations for
4.	previous	d.	ex-
5.	thawed	e.	unfroze
6.	store	f.	stock
7.	ancient	g.	early
8.	hypothetically	h.	theoretically
9.	vanished	i.	disappeared
10.	opportunity	j.	chance

PHRASE MATCH:

1.	recreated a plant from	a.	cell tissue
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4.	stored away by squirrels during	d.	their hibernation
5.	It froze and never	e.	thawed
6.	a natural store of ancient life	f.	forms
7.	We consider it	g.	essential
8.	pre-existing	h.	life
9.	vanished from the earth's	i.	surface
10.	flowering plants that have gone	j.	extinct

GAP FILL:

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LANGUAGE WORK

1 - d 2 - c 3 - b 4 - a 5 - c 6 - d 7 - b 8 - a 9 - b 10 - c 11 - a 12 - d