

Scientific advances could bring back the dodo & mammoth

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The woolly mammoth died around 5,000 years ago. Last year its genetic code was unlocked. A modern day elephant could be its surrogate mother. The sabre-toothed tiger that has been extinct for 10,000 years could have an African lion as its surrogate mother. There are many woolly rhinoceros specimens preserved in permafrost. Modern rhinos which are themselves under threat could assist here. The Tasmanian tiger has only been extinct 70 years. The Tasmanian devil could be used as a surrogate mother for it.

Category: Science / DNA / Extinct animals

Level: Upper intermediate

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The glyptodont used to roam the South American countryside. The species might prove difficult to bring back as there are no frozen glyptodonts. DNA remains would only be possible from well preserved remains in cool, dry conditions such as a cave. Then there is the Dodo. The flightless bird has been extinct since the 17th century. DNA is in short supply. The humble pigeon could provide the means to bring it back. The phrase 'dead as a dodo' has meant it lives on in people's imagination.

Other species include the Irish elk, which sported antlers 13 feet wide. It used to roam across Europe 7,700 years ago. The closest living relative is the much smaller fallow deer. The moa, a 10-foot tall antipodean bird disappeared 508 years ago. A distant relative is the ostrich from New Zealand. However, as yet no bird has been cloned. The short-faced bear also disappeared some 11,000 years ago. It dwarfed today's polar bear. It could be brought back to life using a spectacled bear from South America. DNA samples could be taken from permafrost specimens.

The giant ground sloth stood nearly six metres tall and is believed to have weighed four tonnes. It disappeared 8,000 years ago. Finding a surrogate mother would be a challenge, as its nearest relative is a three-toed tree sloth that is tiny in comparison. Finally, bringing back the Neanderthal who disappeared 25,000 years ago could be done by using humans as egg donors. *New Scientist* magazine does say however that it is hard to imagine even the most crazed of mad scientists entering such taboo territory.

The magazine concludes: 'Of course, bringing extinct creatures back to life raises a whole host of practical problems, such as where they will live, but let's not spoil the fun!'

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EXERCISES

1. The Dodo and Mammoth: Have you heard of the dodo and mammoth? What are they? Are they alive today? Where *do they/did they* live? Can you describe them? Go round the room swapping details.

2. Dictation: The teacher will read four to six lines of the article slowly and clearly. Students will write down what they hear. The teacher will repeat the passage slowly again. Self-correct your work from page one - filling in spaces and correcting mistakes. Be honest with yourself on the number of errors. Advise the teacher of your total number of errors. Less than five is very good. Ten is acceptable. Any more is room for improvement! More than twenty - we need to do some work!

3. Reading: The students should now read the article aloud, swapping readers every paragraph.

4. Vocabulary: Students should now look through the article and underline any vocabulary they do not know. Look in dictionaries. Discuss and help each other out. The teacher will go through and explain any unknown words or phrases.

5. The article: Students should look through the article with the teacher. (You might like to use the internet try to find some drawings or photos of these extinct species.)

- What is the article about?
- What do you think about the article?
- Had you heard of the phrase 'dead as a dodo before today's lesson'?

6. Extinct species 1: Using DNA samples to recreate - think of three species you might like to bring back to life. This can include dinosaurs! Show them in your 'thrill' list below. Compare lists with your partner. Discuss together.

1
2
3

The teacher will choose some pairs to discuss their findings in front of the class.

7. Extinct species 2: In pairs. Answer the following...

- Which is your favourite extinct *species/dinosaur* and why?
- Which is the most dangerous extinct *species/dinosaur*?
- Which creature/animal looks the most frightening?
- Where would they all live?

8. Let's think! Swap partners. With your new partner on the board write as many words to do with '**Science advances**' as you can. *One-two minutes*. Compare with other teams. Using your words compile a short dialogue together.

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9. Quick debate: In pairs. Students A think it's a good idea to bring back extinct animals. Students B think otherwise. Explain why.

10. Pros and cons of DNA: With your partner think of three advantages and disadvantages of using DNA samples. List them below. Discuss together.

	Advantages		Disadvantages
1		1	
2		2	
3		3	

The teacher will choose some pairs to discuss their findings in front of the class.

11. Let's do 'The Article Quiz': Have the students quiz each other in pairs. They score a point for each correct answer and half a point each time they have to look at the article for help. See who can get the highest score!

Student A

- 1) What was a dodo?
- 2) Name the science magazine.
- 3) Briefly, what has to be done to bring an extinct animal back to life?
- 4) Who could be the surrogate mother for a mammoth?
- 5) What is a glyptodont?

Student B

- 1) What did the Irish elk have?
- 2) How tall was the moa?
- 3) When did the short faced bear disappear?
- 4) Who disappeared 70 years ago?
- 5) Who is Dolly?

12. Practical problems: In pairs think of two practical problems that might occur if these extinct species were brought back to life. Discuss together.

13. Future extinct species: In pairs think of two living species that could become extinct. Why these? Discuss together.

14. Let's write an e-mail: Write and send a 200 word e-mail to your teacher about: **Bringing back extinct animals**. Your e-mail can be read out in class.

15. Sentence starters: Finish these sentence starters. Correct your mistakes. Compare what other people have written.

- a) DNA _____
- b) The Dodo _____
- c) Scientific advances _____

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DISCUSSION

STUDENT A's QUESTIONS

- 1) Did the headline make you want to read the article?
- 2) What *is/was* your favourite science?
- 3) What *is/was* your least favourite science?
- 4) *Did/Have* you ever considered becoming a scientist?
- 5) How have computers assisted science?
- 6) Have you seen any of the species in the article in a museum?
- 7) Have you ever visited a natural history museum? If so, where? When?
- 8) Where do you think these species lived?
- 9) What type of environment do you think three of the species in the article lived in?
- 10) What do you think made the species in the article become extinct?

STUDENT B's QUESTIONS

- 1) What do you think about what you read?
- 2) Would you like to be cloned?
- 3) Is it dangerous to play with nature?
- 4) *Were/Are* you good at biology at school?
- 5) What do you think about Dolly the sheep?
- 6) Do you think science will make many more advances?
- 7) What should be done to protect species from dying out?
- 8) What do you think the animals in the article ate?
- 9) Would you like to have your DNA taken from you?
- 10) Did you like this discussion?

SPEAKING

Let's guess! Animal quiz

Allow 10-15 minutes – As a class / small groups / pairs / 1 to 1

Divide the class into two teams. In each team every person has to come to the front of the class and describe to the other team a living animal. You can do this by either:-

- a) drawing it on the board
- b) mimic/impersonate it
- c) describe it

Score ten points for each correct answer. The winner is the first team to get 50 points. Teams may wish to prepare by writing down their animal choices first.

The teacher can moderate the session.

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GAP FILL: READING:

Put the words into the gaps in the text.

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Long-_____ creatures like the dodo and the woolly mammoth could be brought back to life again thanks to the _____ of science. Other such _____ could live again such as the _____ sabre-toothed tiger, the Tasmanian tiger and the woolly rhinoceros. We could even see the lumbering Neanderthal return, not too mention a glyptodont, which was a VW Beetle sized armadillo which last roamed the earth 11,000 years ago. A recent edition of the *New Scientist* said that while such _____ were well beyond the means of today's best _____, advances in science could lead to a day when they are brought back from the dead. After all, who would have believed 50 years ago that we would now be able to _____ animals such as Dolly the _____ or be capable of reading the instructions for making humans (DNA).

fearsome

extinct

sheep

clone

feats

advancement

brains

creatures

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surrogate

life

dinosaurs

thrill

lastly

womb

project

analysis

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GRAMMAR

Put the words into the gaps in the text.

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SPELLING TEST

The teacher will ask the class individually to spell the following words that are in the article. Afterwards, check your answers with your teacher, using the following ratings: **Pass = 12, Good = 15, Very good = 18, Excellent = 20**

1	extinct	11	pigeon
2	magazine	12	permafrost
3	rhinoceros	13	specimens
4	mammoth	14	practical
5	advancement	15	flightless
6	clone	16	humble
7	colossal	17	dinosaurs
8	challenge	18	resurrection
9	comparison	19	surrogate
10	taboo	20	analysis

LINKS

<http://www.dailymail.co.uk/sciencetech/article-1108642/The-beasts-raise-dead-Return-mammoth-matter-time.html>

<http://www.cbsnews.com/stories/2010/05/26/60minutes/main6521265.shtml>

<http://animals.howstuffworks.com/extinct-animals/dodo.htm/printable>

<http://socioecohistory.wordpress.com/2009/06/19/extinct-animals-could-be-brought-back-to-life-thanks-to-advances-in-dna-technology/>

<http://news.medill.northwestern.edu/chicago/news.aspx?id=166295>

ANSWERS

GAP FILL: Scientific advances could bring back the dodo & mammoth: Long-**extinct** creatures like the dodo and the woolly mammoth could be brought back to life again thanks to the **advancement** of science. Other such **creatures** could live again such as the **fearsome** sabre-toothed tiger, the Tasmanian tiger and the woolly rhinoceros. We could even see the lumbering Neanderthal return, not to mention a glyptodont, which was a VW Beetle sized armadillo which last roamed the earth 11,000 years ago. A recent edition of the *New Scientist* said that while such **feats** were well beyond the means of today's best **brains**, advances in science could lead to a day when they are brought back from the dead. After all, who would have believed 50 years ago that we would now be able to **clone** animals such as Dolly the **sheep** or be capable of reading the instructions for making humans (DNA).

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