

Reading

- 1 You are going to read an article about a zoo in the United States. Read the article quickly to get an idea of what it is about and then answer these questions. Don't worry too much about any words that you don't know.

- Where do northern white rhinos normally live?
- Where is the Scripps Research Institute?
- Which animal has the research team had a success with?
- How many deep-freeze tanks are at the Frozen Zoo?
- How many northern white rhinos are still living?

Guessing unknown words

- 2 In lines 14–17 of the article it says:

They would be living specimens of one of the most endangered species on Earth, who after a few months would be trotting into wildlife parks ...

You might never have seen *trotting* before, but you can probably make a guess as to its meaning if you think about what other words might also fit there – for example, *walking, moving, going, running, etc.*

These exercises correspond to the skills discussed in chapter 4.

Write the answers to #1 here.

- _____
- _____
- _____
- _____
- _____



The Frozen Zoo

San Diego Zoo began collecting skin samples from rare animals in 1972 in the hope they might be used to protect these endangered species in the future. Paul Harris reports.

The inside of a metal box filled with liquid nitrogen and frozen to -173°C (-280°F) is hardly the ideal habitat for a large African mammal. But, as a test tube is taken out of the container amid a cloud of white gas, a note written on its side can be seen. 'This is a northern white rhino,' says research scientist Inbar Ben-Nun as she reads out the label.

Ben-Nun is holding no ordinary scientific sample. For the frozen cells in that test tube could one day give rise to baby northern

white rhinos and help save the species. They would be living specimens of one of the most endangered species on Earth, who after a few months would be trotting into wildlife parks, and maybe, just maybe, helping repopulate their kind on the African grasslands. No wonder that the place where the sample came from is called the Frozen Zoo.

The Frozen Zoo was founded in 1972 at San Diego Zoo's Institute for Conservation Research as a place to keep samples of skin from rare and endangered species. At the time that the first samples were collected and put into deep freeze it was not really known how they would be used and genetic technology was in its infancy. But there was a sense that one day some unknown scientific advance might make use of them. Now, thanks to a team at the nearby Scripps Research Institute, that day has come a lot closer.

Genetic scientists at Scripps, working from a business park in San Diego's northern suburbs, have succeeded in taking samples of skin cells from the Frozen Zoo and turning them into a culture of special cells known as stem cells and these could be used to bring to life long-dead animals whose species are almost extinct. The breakthrough, so far, has come with creating stem cells for the silver-maned drill monkey, Africa's most endangered monkey.

'The Frozen Zoo was a wonderful idea,' says Dr Jeanne Loring, who is leading the

Scripps team of which Ben-Nun is a part. 'This is the first time that there has been something that we can do. If we could use animals that were already dead to generate sperm and eggs, then we can use those individuals to create greater genetic diversity,' Loring says.

Loring's lab at Scripps holds samples from the northern white rhino and the drill monkey, but the real Frozen Zoo, headed by Dr Oliver Ryder, just a few miles away, is on a much larger scale. Housed in a building

inside San Diego Zoo, its freezers contain samples from 8,400 animals, representing more than 800 species. They include Gobi bears, endangered cattle breeds such as gaurs and bantengs, mountain gorillas, pandas, a California grey whale and condors. The entire gigantic collection is in four deep-freeze tanks.

When it comes to species still on the brink, Ryder is insistent that we have a duty to save them and that the Frozen Zoo can play an important role. Especially close to Ryder's heart is one of the species that Loring is working on: the northern white rhino. There are just eight of the animals left alive on Earth. To put it bluntly: the northern white rhino's gene pool is more accurately a rapidly drying-up gene puddle. But, if Loring's work succeeds in creating northern white rhino stem cells and then turning them into sperm and eggs, that gene pool can be deepened again.

Ryder makes no secret of how emotionally attached he is to saving the northern white rhino while there are still living animals, rather than just reviving some later entirely from a test tube. He recalls witnessing the birth of a female northern white rhino more than 20 years ago and watching it being introduced to its herd. 'I saw her meet the rest of the rhino herd. There was a clear sense of how to meet the baby. If we wait until there are no white rhinos and then one is created from a test tube, to whom are we going to introduce it?' he says.

Grammar

as and like

5 Decide whether to use *as* or *like* in the following sentences.

- a He can't ride a horse well
..... I can.
- b Susanna prefers activity holidays
..... sailing or walking.
- c Your sister looks you.
- d I came to school the same way today
..... I did last week.
- e He dressed up a policeman for the party.
- f She used to work at the university
..... a zoology lecturer.
- g I enjoy going camping when it's warm, in July.

Listening

4 **103** You will hear a zoo keeper called Helena Tomkins, talking about her work. For questions 1–10, complete the sentences with a word or short phrase.

Working in a zoo

Helena was always keen on looking at (1) when she was young.

The subject Helena studied at university was (2)

Helena currently looks after the (3) at her zoo.

Helena doesn't enjoy working in the (4)

Helena's job in the morning is to prepare the (5) for the animals.

In summer, Helena gives (6) to the visitors twice a week.

Helena once had her (7) bitten by an animal.

Helena says that keepers need to carry a (8) with them at work.

Helena sometimes finds that some (9) who visit the zoo can be quite annoying.

Helena is hoping to visit (10) in the near future.

Compound adjectives

6 Match the adjectives in the first column with those in the second column.

- | | |
|-----------|----------|
| a duty- | catering |
| b cross- | free |
| c long- | handed |
| d absent- | minded |
| e hand- | distance |
| f first- | made |
| g second- | hand |
| h self- | class |
| i right- | eyed |

7 Which of the compound adjectives above collocate with the following nouns?

- a a/an leather bag
- b a/an journey
- c a/an car
- d a/an person
- e a/an bottle of perfume
- f a/an ticket
- g a/an holiday