Part 6

You are going to read an article about the discovery of new species of penguins. Six sentences have been removed from the article. Choose from the sentences **A–G** the one which fits each gap (**37–42**). There is one extra sentence which you do not need to use.

Mark your answers on the separate answer sheet.

The discovery of three new species of penguins

When you think of scientists discovering new species, you probably imagine them searching the Amazon rainforest or the depths of the oceans. However, these days, most new species are discovered by comparing genes in a science laboratory. New species can look so similar to their relatives that it is only the study of their DNA that reveals their differences.

Thanks to the abundance of genetic data that's now available, we're in the middle of a second era of biodiversity discovery. **37** And now, penguins can be added too. Following analysis of what was thought to be one species of penguin called the gentoo, it's become clear that it's not one single species at all.

In their study of gentoo penguins, scientists analysed genetic differences among colonies of gentoo across the Southern Ocean, including groups from the Falkland Islands (*Islas Malvinas*), South Georgia Island, the Antarctic Peninsula and Kerguelen Island. They discovered that gentoo penguins from these various regions don't interbreed. **38** King penguins, for example, are known to breed between colonies, even when separated by as much as 7,500km of ocean.

At first glance, the four groups of gentoo penguins appear very alike. **39** In fact, the physical and genetic distinctions are sufficient for the gentoo penguin to have been reclassified as four penguin species: *P. papua* from the Falkland Islands, *P. ellsworthi* from Antarctica, *P. poncetii* from South Georgia, and *P. taeniata* from Kerguelen Island.

The four species live in distinct environmental conditions across a large range of latitudes. *P. ellsworthi*, for example, is found on the cold, icy Antarctic Peninsula. This contrasts with the milder conditions experienced by *P. taeniata*, which lives much further from the South Pole. **40** The more southerly species eat more krill – small, shrimp-like crustaceans – and fewer fish. Scientists say that they now need to understand how the four gentoo species have each adapted to their conditions and how they are likely to respond to future environmental changes.

The division of gentoo penguins also has important implications for conservation. Gentoo penguins have been categorised as 'of least concern' on the international list of endangered species. **41** However, the increase was recorded before the discovery of the four separate gentoo species. In fact, of these four reclassified species only *P. ellsworthi* was found to be thriving. The conservation status of the other three species remains unclear, but given their location on isolated islands far north of the Antarctic Peninsula, they're almost certainly being affected by climate change. Consequently, the conservation status of all four species will need to be urgently assessed.

42 However, the discovery of the four new species highlights how little we still understand about the amazing diversity of life around us. That's why scientists say it's clear that we must continue to seek out new species. This is our best chance of preserving biodiversity. Without such efforts, we face losing species that we never even knew existed.

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A This was unexpected, because it contrasted sharply with the behaviour of other species.

B And it's not just their habitat which is different.

C It therefore brings the total number of penguin species to twenty-one.

D When their skulls, beaks and legs are measured, though, significant differences become clear.

E Penguins are among the best-loved and most easily-recognised creatures on Earth.

F In the past ten years, scientists have identified new species of giraffes, dolphins, birds and orangutans.

G This is because the total number of these penguins has risen over the past decade.

→ p. 145

LIVEWORKSHEETS