

3 It's natural

Reading

reading for general understanding; multiple choice with one text

- 1 Read the Exam Reminder. What do you need to find the first time you read?

Exam REMINDER

Reading for general understanding

- Try to get a general idea of what the text is about before you try to answer any questions.
- When you read the text for the first time, don't worry about vocabulary you don't know. Just try to find the main ideas.
- Read the first question. Look carefully at all the options. Find the part of the text that mentions this point. Read that part again and then choose the best option.

Warmer Earth: BIGGER spiders

- 1 The Arctic is well-known for its ice and glaciers. The area also contains a variety of different ecosystems with complex food webs. You might think it is extremely difficult for any animal to stay alive in temperatures of up to -50°C in the winter months, but many do thanks to their special adaptations to deal with extreme conditions.

Greenhouse gases – gases that stop heat from escaping out of the Earth's atmosphere – have played a large part in warming the planet for the last few decades.

- 10 Greenhouse gases are released through some human activities such as driving cars, but they are also released through natural processes like decomposition. Because the Arctic is so cold for much of the year, decomposition happens slowly there, and thus there is a large build-up of this decaying matter in the ground. In fact, across much of the Arctic, the ground is permanently frozen as 'permafrost'. This permafrost begins to thaw when temperatures become warmer, which is happening now. This means that there is more decaying matter that can

- 20 now be decomposed by fungus and bacteria. Through this increased decomposition, even more greenhouse gases are released to the atmosphere, which of course makes climate change happen even faster.
- Like in most places, spiders are common predators in arctic ecosystems. Although spiders resemble insects in some ways, they actually belong to a group of animals called 'arachnids'. Amanda Koltz, an arctic ecologist at Washington University in St. Louis, has been studying one common type of arctic spider, the wolf spider, and

- 30 how it deals with a changing climate. Koltz's main goal is to understand how animals like wolf spiders respond to



An arctic wolf spider

increasing temperatures in the Arctic and in turn, what the consequences are for the food web and ecosystem.

The wolf spider is important in the region because it is one of the top predators in many areas, at least among the smaller animals. Wolf spiders eat a lot of *springtails*, which are tiny animals that feed on the fungus responsible for decomposition. Koltz and others have also found out that as the Arctic warms, wolf spiders are becoming bigger and reproducing more because they have more time to eat during the summer! This suggests that there might be more wolf spiders in the Arctic as the region becomes warmer and warmer. More spiders also might mean that they eat more springtails. Fewer springtails could lead to more uneaten fungus and more decomposition, thereby increasing the release of greenhouse gases from arctic soils. However, to her surprise, quite the opposite happens.

- 50 In warmer conditions, and when they found themselves in a crowd, the spiders actually ate less than usual. Koltz does not know the reason for this yet but she thinks it could be that the combination of the crowding and warmer temperatures makes spiders change their eating habits. In fact, it appears as though the spiders tend to eat each other and other spiders more often when they are crowded. The result of this change in feeding habits is that when it is warm and when there are more spiders, more springtail prey are left uneaten. The springtail prey are then left to eat a lot of the fungus, which leads to less decomposition happening. Having more spiders could actually mean that fewer greenhouse gases are released to the atmosphere!

Although larger animals receive a lot of attention in the Arctic and elsewhere, Koltz wants to change this. As she has shown in the case of wolf spiders, even tiny animals can have important effects on ecosystems.

2 Read and complete the Exam Task.

Exam TASK

Multiple choice with one text

For each question, choose the correct answer.

- We learn from the article that
 - there are hardly any animals in the Arctic region.
 - it is too cold in the winter for most animals to survive in the Arctic.
 - climate change is also affecting the Arctic region.
 - the winters in the Arctic are getting colder.
- 'Permafrost'
 - creates greenhouse gases.
 - is a type of fungus.
 - is decreasing in the Arctic region.
 - is dangerous for the soil.
- According to the article, Amanda Koltz
 - believes most people do not know that spiders are animals.
 - is an expert in studying different kinds of spiders.
 - is investigating the reason behind climate change.
 - wants to know why there are fewer springtails in the Arctic.
- The article says that wolf spiders
 - are growing in number because of climate change.
 - are harmful for the environment.
 - only eat springtails.
 - are dying because of hotter temperatures.
- The main thing that Koltz discovered from her research was that
 - wolf spiders eat more when there are a lot of other spiders around.
 - wolf spiders' size and eating habits are changing.
 - wolf spiders are eating each other more often than in the past.
 - large animals receive more attention than small ones like spiders.



Two springtails eating fungus

LIVEWORKSHEETS