

**Lesson 7: Reference**

Texts are meaningful communicative units of language. Meaning of texts is accomplished by formal links. It is important to identify these links in order to fully understand a text. The most frequent formal links present in academic texts are referring expressions, transitional devices and lexical chains.

Referring expressions are pronouns (he, it, those, which, etc.) that point to something mentioned in the text. Transitional devices are linking words (also, however, first, etc.) that connect ideas and provide unity to the text. Lexical chains refer to synonyms / near synonyms (power/energy), antonyms (renewable/non-renewable) and general words or phrases (global warming/climate change/temperature increase) that help create elegant repetition in a text.

**Nitrous oxide, a greenhouse gas, is on the rise**

**Circle the letter that corresponds to the best option to complete each exercise in sections 1 – 5**

**1. Predicting (5)**

According to the cues provided, what is the text about?

- a. N<sub>2</sub>O is the third most important long-lived greenhouse gas.
- b. We have learnt how to produce more food with less nitrous oxide emission.
- c. Increasing use of nitrogen fertilizers is leading to higher N<sub>2</sub>O levels in the atmosphere.
- d. N<sub>2</sub>O in the atmosphere has been found to decrease steadily since the mid-20<sup>th</sup> century.



November 18, 2019

Nitrous oxide (N<sub>2</sub>O) is the third most important long-lived greenhouse gas, after carbon dioxide and methane. Nitrous oxide is also one of the main stratospheric ozone depleting substances -- and we are releasing more of it into the atmosphere than previously thought. This conclusion was published in a new study this week in *Nature Climate Change*.

- 5 "We see that the N<sub>2</sub>O emissions have increased considerably during the past two decades, but especially from 2009 onwards," said lead scientist Rona L. Thompson from NILU-Norwegian Institute for Air Research. "Our estimates show that the emission of N<sub>2</sub>O has increased faster over the last decade than estimated by the Intergovernmental Panel on Climate Change (IPCC) emission factor approach." Increasing use of nitrogen fertilizers is leading to higher N<sub>2</sub>O levels
- 10 in the atmosphere.

In the study, scientists found that nitrous oxide in the atmosphere has risen steadily since the mid-20th century. This rise is strongly linked to an increase in nitrogen substrates released to the environment. Since the mid-20th century, the production of nitrogen fertilizers, widespread cultivation of nitrogen-fixing crops (such as clover, soybeans, alfalfa, lupins, and peanuts), and

15 the combustion of fossil and biofuels have increased enormously the availability of nitrogen substrates in the environment. "The increased nitrogen availability has made it possible to produce a lot more food," Thompson said. "The downside is of course the environmental problems associated with it, such as rising N<sub>2</sub>O levels in the atmosphere."

- 20 "This new publication demonstrates both how we can solve a problem of growing greenhouse gas emissions and how current efforts are falling short in some regions of the world," said co-author Eric Davidson of the University of Maryland Center for Environmental Science. "These

## Reading Comprehension Strategies

emissions come primarily from using fertilizers to grow food and increasing livestock herds, but we have learned how to produce more food with less nitrous oxide emission."

25 "In Europe and North America, we have succeeded in decreasing growth in nitrous oxide emissions, an important contributor to climate change and stratospheric ozone depletion," he added. "Unfortunately, the same cannot be said for Asia and South America, where fertilizer use, intensification of livestock production, and the resulting nitrous oxide emissions are growing rapidly. "The good news is that this problem can be solved, but the less good news is that it will take a global effort, and we are far from there yet," he said.

30

Adapted from: <https://www.sciencedaily.com>

### 2. Skimming (30)

Choose from the list **A-F** the main idea for paragraphs **1-5**. There is one extra letter that you do not need to use.

- A. Developing countries have succeeded in reducing N<sub>2</sub>O emissions; whereas the others have not yet.
- B. The increased nitrogen availability has made it possible to produce a lot more food.
- C. More N<sub>2</sub>O is being released into the atmosphere than previously estimated.
- D. We are now being told that N<sub>2</sub>O emissions pose no threat to the environment.
- E. Increasing use of nitrogen fertilizers is leading to higher N<sub>2</sub>O levels in the atmosphere.
- F. People have learned how to produce more food with less N<sub>2</sub>O emission.

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4

Paragraph 5