

Lesson 4: Scanning

Scanning is a specific speed reading technique to look for detailed information in a text. It allows you to find a **specific fact** or **piece of information** quickly.

Scanning is carried out after understanding the general idea of the text (skimming) in order to spot the specific answer which is being asked for. For this reason, it is important to know what information is required so as to focus on the answer in a text.

Pre-Tasks

Fewer biofuels, more green space: Climate action researcher calls for urgent shift

Circle the letter that corresponds to the best option.

1. Predicting (5)

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

- a. The U-M Energy Institute is conducting research on bioenergy.
- b. The use of the biosphere jeopardizes biodiversity.
- c. Carbon management will reduce anthropogenic contributions to the environment.
- d. Terrestrial Carbon Management is essential for controlling CO₂ in the atmosphere.



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Untampered green areas like forests and grasslands naturally sequester carbon dioxide, and they are one of society's best hopes for quickly reducing the greenhouse gas in the atmosphere, says John DeCicco, research professor at the U-M Energy Institute. Researchers from Michigan University call for a shift of focus from bioenergy to what they call "terrestrial carbon management," or TCM. This strategy emphasizes planting more

5 trees and conserving more wild areas that feed on carbon dioxide.

"The world needs to rethink its priorities about how to use the biosphere given the urgency of the climate problem and the risks to biodiversity," DeCicco said. The biosphere encompasses all life on Earth, and for climate protection, it particularly refers to trees, plants and the living carbon - microorganisms - in soils."Current policies advancing bioenergy contribute to the pressure to convert natural land into harvested

10 forest or cropland," he said. "But high quality land is a limited resource. For reducing atmospheric CO₂, the most efficient use of ecologically productive land is to leave it alone, or reforest it. Let it act as a natural, long-term carbon sink."

The assumption that bioenergy simply recycles carbon is built into the lifecycle assessments used for energy policy as well as the protocols for international carbon accounting. The core of this is the idea that producing

15 a biofuel and then burning it for energy moves a given amount of carbon from the biosphere to the atmosphere, and back again in an unending and stable cycle. That is in contrast to the current one-way flow of fossil-fuel carbon from the Earth to the atmosphere.

However, for bioenergy to be actually carbon neutral, harvesting the biomass to produce it would have to greatly speed up the net flow of carbon from the atmosphere back into vegetation. Otherwise, many decades

20 can pass before the "carbon debt" of excess carbon dioxide in the air is repaid by future plant growth. In 2016, a study found that just 37 percent of the carbon dioxide released from burning biofuels was balanced out by increased carbon uptake in crops over the first eight years of the U.S. biofuel mandate.

To reduce the concentration of carbon dioxide in the atmosphere, it requires increasing the rate at which trees and other plants remove it from the air. Researchers say that for now the best biologically based carbon dioxide reduction strategy is to protect and restore carbon-rich natural ecosystems. "By avoiding deforestation and by reforesting harvested areas, up to one-third of current carbon dioxide emissions from fossil fuels could be sequestered in the biosphere," the researchers write. "Terrestrial carbon management can keep carbon out of the atmosphere for many decades."

<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. The efficient use of the biosphere will contribute to reduce CO₂.
- B. To be carbon neutral, bioenergy should accelerate CO₂ from the atmosphere back into plants.
- C. Terrestrial Carbon Management focuses on planting more trees and preserving wild areas.
- D. Producing and burning a biofuel moves CO₂ from the biosphere to the atmosphere.
- E. Researchers from U-M Energy Institute expect to replace existing forests with artificial crops.
- F. The best biologically based CO₂ policy is to conserve and recover carbon-rich natural ecosystems.

Paragraph 1

Paragraph 2

Paragraph 3

Paragraph 4

Paragraph 5

3. Scanning (10)

1. What does TCM mean?

- a. Terrestrial Carbon Manager
- b. Terrestrial Carbon Management
- c. Total Carbon Management
- d. Terrestrial CO₂ Mandate

2. What does TCM consist of?

- a. Planting more trees and preserving wild areas
- b. Absorbing CO₂ from nearby forests
- c. Moving fossil-fuel carbon from the Earth to the atmosphere
- d. Increasing carbon uptake in crops

3. Where was the current study carried out?

- a. The University of Manchester
- b. The University of Michigan

- c. The University of Mexico
- d. The University of Minnesota

4. What do researchers suggest for reducing CO₂?

- a. To increase untampered green areas
- b. To harvest biomass
- c. To encourage reforestation
- d. To leave ecologically productive land alone or reforest it

5. What happens when biofuels are burnt?

- a. Carbon dioxide emissions are sequestered in the biosphere
- b. Carbon dioxide is absorbed by forests
- c. An amount of carbon is moved from the biosphere to the atmosphere and back again
- d. Carbon is recycled by croplands

6. How long can it take before the "carbon debt" is repaid by future plant growth?

- a. Less than 10 years
- b. About 10 years
- c. More than 10 years
- d. Not long enough

7. How much CO₂ from biofuels was compensated for by croplands in the US in 2016?

- a. None
- b. 16%
- c. 20%
- d. 37%

8. What can be done to reduce CO₂ in the atmosphere?

- a. Reduce energy consumption
- b. Shut factories down
- c. Protect and restore carbon-rich natural ecosystems
- d. All the above

9. How much CO₂ emissions from fossil fuels could be sequestered in the atmosphere with TCM ?

- a. 0
- b. 1/2
- c. 1/3
- d. 1/4

10. The text does NOT mention:

- a. What the strategy consists in
- b. Who is conducting the research
- c. What policies will be implemented to execute TCM
- d. What percentage of CO₂ was balanced out in 2016