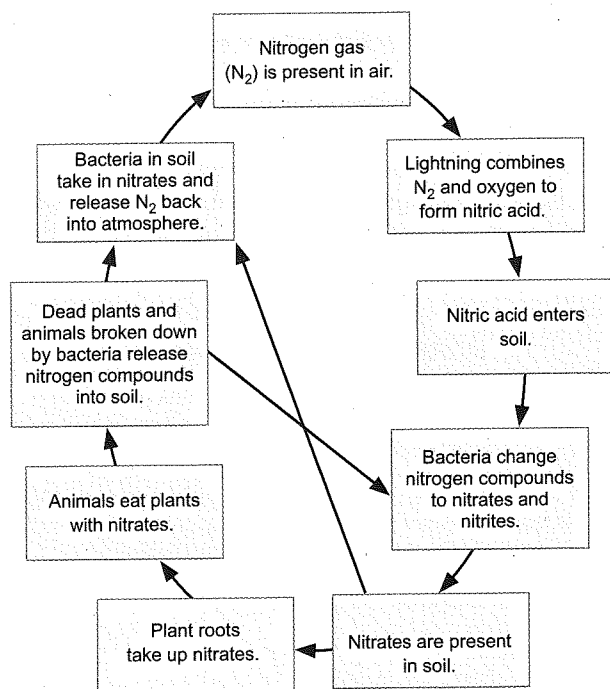


### 3 Master the Skill

**DIRECTIONS:** Study the information and diagram, read each question, and choose the **best** answer.

#### NITROGEN CYCLE

All plants and animals need nitrogen. Essential proteins in living cells cannot form without it. Given that most of Earth's atmosphere is composed of nitrogen, it might seem that living things have no problem getting it. But plants and animals cannot use nitrogen from the air in its elemental form. The flowchart below shows the way the nitrogen cycle solves this problem as it rotates nitrogen through Earth's living and nonliving environment.



7. What is the basic problem related to the use of nitrogen by plants and animals?
- They cannot use nitrogen in any form.
  - The atmosphere has only limited amounts of nitrogen.
  - They cannot use nitrogen in the elemental form found in the atmosphere.
  - The use of nitrogen breaks down needed proteins in plants and animals.

8. What problem would lack of nitrogen cause for plants and animals?
- Their systems would have too much protein.
  - They would be infected by harmful bacteria.
  - There would be no beneficial bacteria in soil.
  - Their systems would have no protein.
9. Based on the diagram, how does the nitrogen cycle provide nitrogen for plants?
- Plants' roots take up nitrogen from the air.
  - Bacteria turn into nitrogen inside plants.
  - Bacteria break down a nitrogen compound into forms of nitrogen plants can use.
  - Plant-eating animals break down nitrogen compounds into forms of nitrogen plants can use.

**DIRECTIONS:** Read the passage. Then read each question, and choose the **best** answer.

Most energy used in the United States for producing electricity and fueling motor vehicles comes from fossil fuel sources, such as coal, oil, and natural gas. Very little comes from cleaner alternative sources such as wind, solar power, and geothermal power. Unlike these alternative sources, combustion of fossil fuels produces waste gases, such as carbon dioxide. Carbon dioxide is naturally present in the atmosphere as part of the carbon cycle. For example, decomposition of plant material releases carbon dioxide to the air. But the combustion of fossil fuels has increased dramatically since the start of the Industrial Revolution in the late 1700s—along with the concentration of carbon dioxide in the air. Data suggest that this increase is responsible for changes in climate that could have negative effects on Earth's plant and animal life.

26. What is the basic problem identified in the passage?
- People have used fossil fuels since the Industrial Revolution.
  - Excess carbon dioxide is entering Earth's atmosphere.
  - Too much energy is being used to run electric power plants and motor vehicles.
  - Carbon dioxide enters the atmosphere from several natural sources.
27. Based on information in the passage, what is a possible solution?
- slowing decomposition of plant material
  - changing the atmosphere to absorb more carbon dioxide
  - using cleaner alternative energy sources instead of fossil fuels
  - using more natural gas instead of coal and oil