

GETTING THE MAIN IDEAS

Choose the best phrase to complete the overall main idea of the reading passage.

_____ may solve the problem of providing enough food for the world and reduce environmental stress at the same time.

1. Prosperity and a growing population
2. Changing diets and the way we approach agriculture
3. Investing in advanced technology for meat production.

UNDERSTANDING PROBLEMS

A. Paragraph 1 explores some of the problems associated with agriculture. Complete the concept map below.

1 polluter.

2 global warming/greenhouse gas emissions

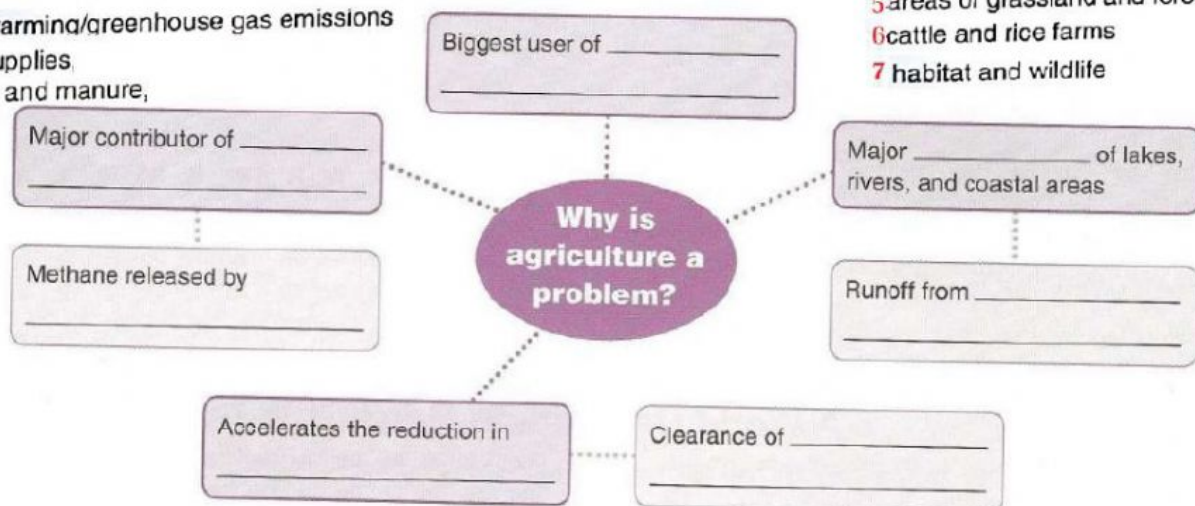
3 water supplies.

4 fertilizer and manure,

5 areas of grassland and forest

6 cattle and rice farms

7 habitat and wildlife



B. Use information from paragraph 2 and the infographic "A World Demanding More" on page 109 to summarize the environmental challenges posed by agriculture.

1. We'll need to feed an additional _____ people by 2050.
 - a. 2 billion
 - b. 7 billion
 - c. 9 billion
2. Rises in global wealth will _____ by 2050.
 - a. mean higher demand for meat, which requires more agricultural resources
 - b. cause prices for crops to rise, which will result in much higher food prices
 - c. lead to people worldwide eating more soybeans and corn products
3. Increased wealth and higher population mean we will need to _____ by 2050.
 - a. double the number of farms
 - b. eat twice as much food
 - c. grow twice as many crops

IDENTIFYING SOLUTIONS

Complete the chart about each of Foley's proposed solutions. Use the ideas below.

- | | |
|---------------------------------|--------------------------------|
| a. crops | f. meat-based diets |
| b. efficient | g. rain forests and grasslands |
| c. existing farms | h. storage and transportation |
| d. expansion of farmland | i. waste |
| e. limited resources like water | j. yields |

Step	Benefit
1. Stop _____	Prevents destruction of _____
2. Use new technologies to grow more on _____	Increases _____ on farms that are currently not very productive
3. Reduce use of _____	Makes farms more _____
4. Move away from _____	Increases proportion of _____ that feed people rather than animals
5. Improve food _____	Reduces _____

PARAPHRASING INFORMATION

Paraphrasing information—by restating, condensing, or clarifying an author's ideas—can help you to understand it better.

Use the information from the "Understanding Solutions" activity above to paraphrase each of Foley's steps.

Step 1: The first step is to stop creating new farmland and instead use existing agricultural areas. This will prevent the destruction of rain forests and grasslands.

Step 2: _____ **Step 2:** The second step is to _____ from farms that are currently not producing enough. This will help make better use of _____ existing agricultural land.

Step 3: _____ **Step 3:** The third step is to look toward organic farming to learn how to better use resources. This will help cut down _____

Step 4: _____ **Step 4:** The fourth step requires us to eat less meat and more vegetables as well as find more environmentally friendly ways to raise cattle for meat. This will help cut down on the amount of food required _____

Step 5: to grow _____ **Step 5:** The fifth step is to cut down on the amount of food that gets thrown out in homes and restaurants, as well as food that goes bad due to _____. This would help decrease the food being wasted to less than 50 percent.

transportation issues.
to feed cattle for meat
increase output
on overuse of water

UNDERSTANDING INFOGRAPHICS

Complete the following summary of the infographic "Agriculture's Footprint" on page 109.

The infographic shows that there is (less / more) developed land than undeveloped land on the Earth's ice-free surface. In fact, only (38.6% / 46.5%) of ice-free land has not been altered by humans. The majority of developed land is used for (agriculture / urban areas). The land needed for pasture and crops is more than (double / half) the size of other human-modified land. The next largest impact on the land is (erosion / logging) caused by a variety of industries. While development of urban areas has had a significant impact on the world's surface, its impact on land use is (less / greater) than that of rural housing and businesses.

BUILDING VOCABULARY

- A. Complete the paragraph with the words below. You may need to change the forms of the words.

emit pose prosper simultaneously yield

In "Feeding Nine Billion," Jonathan Foley points out that the appetite for meat is growing as the developing world enjoys greater ₁. While increased wealth benefits everyone, eating more meat ₂ certain problems. For example, beef production, which ₃ about 18 percent of all greenhouse gases worldwide, is a significant contributor to climate change. Currently, global agreements to reduce greenhouse gases do not require countries to count emissions from agriculture in their emission-reduction plans. This is a benefit to nations that are just emerging from poverty. However, as Foley explains, all nations must take a hard look at the way they produce food. The reason is that increasing agricultural ₄ to feed a growing population could have a serious impact on the environment. The good news, though, is that there are several steps we can take right now to make food production more sustainable. Eating less meat is one way to accomplish this, while ₅ adopting farming methods that are less stressful on the environment.

B. Complete the sentences with the correct definitions of the words in bold.

1. If you are in a **dilemma** about something, you are faced with a ____ between two alternatives.
a. risk of choosing b. difficult choice
2. If a method is more **precise**, it's ____.
a. more common b. more accurate
3. If a delivery system is **unreliable**, it's ____.
a. not dependable b. not healthy
4. If wealth **accelerates** meat consumption, it ____.
a. causes it b. speeds it up
5. If an agricultural system is **inefficient**, it does not ____.
a. use resources in the best way b. cost a lot of money to use

C. Choose the word that best collocates with each of the words in bold.

1. **emit** ____
a. production b. light c. benefits
2. **pose** ____
a. a danger b. a plan c. an impact
3. **unreliable** ____
a. meat b. population c. service
4. **Inefficient** ____
a. use b. cause c. benefit

GETTING MEANING FROM CONTEXT

A. Find the phrases in bold in the passage. Then choose the meaning below that is the closest to the meaning in the passage.

1. Paragraph 1: **a major driver** (of something)
a. a main result
b. a significant cause
c. a source of competition
2. Paragraph 4: **a big shift in thinking**
a. a large improvement in understanding
b. a great deal of hard work
c. a major change in the way of viewing something

B. Complete the sentence with the correct phrase from Exercise A.

The food processing industry now accounts for 9 to 10 percent of India's GDP (Gross Domestic Product) and has become _____ of India's economic growth.

CRITICAL THINKING

Evaluating. Discuss these questions with a partner: Which of Foley's five steps do you think would be the hardest to achieve? Which would be the easiest? Why?

EXPLORE MORE

Read more about the future of food at nationalgeographic.com. Share what you learn with the class.