



Lesson Plan

What Will You Do?

Created: 02/2017 by the National FFA Organization

STUDENT LEARNING OBJECTIVES:

After completing these activities, students will...

1. Describe the major issues facing global agriculture.
2. Identify potential solutions to issues facing global agriculture.

TIME REQUIRED: 45 minutes

RESOURCES:

1. FFA.org
2. Website – Feeding Nine Billion: The Issues Facing Global Agriculture, https://croplife.org/wp-content/uploads/pdf_files/Feeding-Nine-Billion-The-Issues-Facing-Global-Agriculture.pdf

EQUIPMENT AND SUPPLIES NEEDED:

1. A copy of the "What Will You Do?" worksheet for each student.
2. Internet and computer access to the website for each student.

THIS QUICK LESSON PLAN WOULD WORK WELL AS:

1. Part of a unit about agricultural advances.
2. Part of a unit about agricultural business or marketing.

THESE ACTIVITIES ARE ALIGNED TO THE FOLLOWING STANDARDS:

FFA Precept

- FFA.PL-A.Action: Assume responsibility and take the necessary steps to achieve the desired results, no matter what the goal or task at hand.
- FFA.PG-I.Professional Growth: Assume responsibility for attaining and improving upon the skills needed for career success.
- FFA.PG-J.Mental Growth: Embrace cognitive and intellectual development relative to reasoning, thinking and coping.
- FFA.CS-M.Communication: Effectively interact with others in personal and professional settings.

AFNR Cluster Skills

- CS.01. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.

Common Core - Writing

- CCSS.ELA-LITERACY.W.9-10.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
- CCSS.ELA-LITERACY.W.9-10.4 Produce clear and coherent writing the development, organization, and style are appropriate to task, purpose, and audience.

Common Core - Speaking and Listening

- CCSS.ELA-LITERACY.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
- CCSS.ELA-LITERACY.SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Common Core - Language

- CCSS.ELA-LITERACY.L.9-10.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Common Core - Math Practices

- CCSS.MP3: Construct viable arguments and critique the reasoning of others.
- CCSS.MP6: Attend to precision.
- CCSS.MP7: Look for and make use of structure.

AFNR Career Ready Practices

- CRP.02. Apply appropriate academic and technical skills. Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive.
- CRP.04. Communicate clearly, effectively, and with reason. Career-ready individuals communicate thoughts, ideas and action plans with clarity, whether using written, verbal and/or visual methods.
- CRP.05. Consider the environmental, social and economic impact of decisions. Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organizations and the environment.
- CRP.06. Demonstrate creativity and innovation. Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization.
- CRP.08. Utilize critical thinking to make sense of problems and persevere in solving them. Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem.

Partnership for 21st Century Skills

- Civic Literacy
- Communication
- Critical Thinking and Problem Solving
- Information Literacy
- Information, Communications, and Technology Literacy
- Initiative and Self-direction
- Media Literacy
- Productivity and Accountability

LESSON PLAN:

- 1. Introduction:** American agriculture is part of a bigger picture of the global economy. While agricultural companies continue to expand production and sales around the country, there are many policies and regulations that need to be abided by. Furthermore, there are many issues facing global agricultural production. Through this lesson, we will explore the major issues facing global agriculture and identify potential solutions.
- 2. Activity:** Each student should have access to a computer and the PDF, "Feeding Nine Billion: Issues Facing Global Agriculture," or have the PDF printed out for students to share in their groups. The PDF can be found here, https://croplife.org/wp-content/uploads/pdf_files/Feeding-Nine-Billion-The-Issues-Facing-Global-Agriculture.pdf.
 - a. Divide the class into five groups.
 - b. Assign each group a different issue area:
 - i. Fighting Poor Nutrition
 - ii. Conserving Water
 - iii. Preserving Soil
 - iv. Protecting Biodiversity
 - v. Responding to Climate Change
 - c. As a group, have students work through the worksheet.
 - d. After students research their specific area and develop their solutions, share as an entire class, with each group reporting out. They should fill in information for each of the other areas.
- 3. Follow Up:** Have a class discussion expanding on the solutions presented by each group. Are the solutions sustainable? What resources would it take to make the solutions realistic?
- 4. Leveling Up:** To dive deeper into these issues, have students research solutions that have already been developed to solve these issues. How do they compare to the solutions they developed?

NAME: _____

Aligned to the following standards:
FFA.PL-A; FFA.PG-I; FFA.PG-J; FFA.CS-M; CS.01; CCSS.W.9-10.1; CCSS.W.9-10.2;
CCSS.W.9-10.4; CCSS.SL.9-10.1; CCSS.SL.9-10.4; CCSS.L.9-10.6; CCSS.MP3;
CCSS.MP6; CCSS.MP7; CRP.02; CRP.04; CRP.05; CRP.06; CRP.08

What Will You Do?

DIRECTIONS:

Using the PDF, "Feeding Nine Billion: Issues Facing Global Agriculture," answer the questions below as a group. The PDF can be found here, https://croplife.org/wp-content/uploads/pdf_files/Feeding-Nine-Billion-The-Issues-Facing-Global-Agriculture.pdf.

PART I

1. Briefly describe what "Feeding Nine Billion" means and how it impacts agriculture.
2. Write down an interesting fact for each of the following, based on the Feeding the Nine page:
 - a. Better Yields:
 - b. Reducing Losses:
 - c. More Food:

PART II

As a group, describe the issue area you were assigned below. Once every group is completed, we will discuss as a class and you will have the opportunity to fill in a description for the other issue areas.

Fighting Poor Nutrition:

Conserving Water:

Preserving Soil:

Protecting Biodiversity:

Responding to Climate Change:

PART III

As a group, develop a solution to the global issue you were assigned.

What Will You Do? – KEY

DIRECTIONS:

Using the PDF, "Feeding Nine Billion: Issues Facing Global Agriculture," answer the questions below as a group. The PDF can be found here, https://croplife.org/wp-content/uploads/pdf_files/Feeding-Nine-Billion-The-Issues-Facing-Global-Agriculture.pdf.

PART I

1. Briefly describe what "Feeding Nine Billion" means and how it impacts agriculture.

In 2011, the world's population reached 7 billion people, and by 2050 it will surpass 9 billion. This means farmers will need to produce 70 percent more food on less land than ever before. Crop protection products and plant biotechnology can improve yields to help farmers meet this goal.

2. Write down an interesting fact for each of the following, based on the Feeding the Nine page:
 - a. Better Yields: Since 1961, yields for rice have more than doubled.
 - b. Reducing Losses: Crop protection practices prevent nearly half of these crop losses.
 - c. More Food: Biotech crops help farmers grow more food per acre.

PART II

As a group, describe the issue area you were assigned below. Once every group is completed, we will discuss as a class and you will have the opportunity to fill in a description for the other issue areas.

Answers will vary.

Fighting Poor Nutrition:

Conserving Water:

Preserving Soil:

Protecting Biodiversity:

Responding to Climate Change:

PART III

As a group, develop a solution to the global issue you were assigned.

Answers will vary.