



FFA Blue 365: Lesson 7

Improving Lives — Part 1

Created: 06/2019 by the National FFA Organization

The FFA Blue 365 lesson series is intended to bring innovative technology, science, research and entrepreneurship to the classroom. These lessons are designed to highlight the innovations and technologies transforming agriculture.

STUDENT LEARNING OBJECTIVES:

After completing these activities, students will ...

1. Identify ways the agriculture industry improves lives through the food, fiber and natural resources systems.
2. Summarize common challenges facing food security in the United States.
3. Illustrate food groups that make up the United States Department of Agriculture's MyPlate initiative.
4. Analyze strategies to gain access to an adequate food supply and nutritional plan.
5. Determine steps for food product safety.
6. Evaluate factors influencing the food environment.

TIME REQUIRED: 90 minutes

RESOURCES:

1. Video: "How Can Agriculture and Food System Policies Improve Nutrition" by the Global Panel on Agriculture and Food Systems for Nutrition (2019), <https://youtu.be/B2FmQgFJY6A>
2. Video: "Start Simple" by the United States Department of Agriculture (2019), https://youtu.be/W7_i5tY-5BY
3. Video: "FFA Blue 365: A Day in the Life of a Digital Farmer" by Julie DiNatale (2018), <https://vimeo.com/315702285>
4. Video: "FFA Blue 365: Myths and Misconceptions of Pesticide Safety" by Reza Rasoulpour (2018), <https://vimeo.com/314344941>
5. Video: "FFA Blue 365: Saving Water, Fuel, Labor and Time" by Rick Ekins" (2018), <https://vimeo.com/314082126>
6. Website: "Nutrition" (Global Panel on Agriculture and Food Systems for Nutrition, 2019), <http://glopan.org/nutrition>
7. Website: "Start Simple with MyPlate" (United States Department of Agriculture, 2019), <https://www.choosemyplate.gov>
8. Website: "Nutrition for Teens" (United States Department of Agriculture, 2019), <https://www.choosemyplate.gov/teens>
9. Website: "4 Steps to Food Safety" (FoodSafety.gov, 2019), <https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety>
10. Website: "Take Charge of Your Health: A Guide for Teenagers" (U.S. Department of Health and Human Services, 2016), <https://www.niddk.nih.gov/health-information/weight-management/take-charge-health-guide-teenagers?dkrd=lqlgc1334>
11. Website: "Agriscience Fair," (National FFA Organization, 2018), FFA.org/participate/awards/agriscience-fair/
12. Website: AgExplorer (AgExplorer, 2018), AgExplorer.ffa.org
13. Website: "Living to Serve Grants" (National FFA Organization, 2019), FFA.org/livingtoserve/grants/
14. Website: "Service Planning Guide" (National FFA Organization, 2019) <https://FFA.app.box.com/s/9969na39x2qdv70olfadu3dj1uxae6m>
15. Infographic generation tools:
 - a. Piktochart (2018), <https://piktochart.com/formats/infographics/>
 - b. Canva (2018), <https://www.canva.com>

EQUIPMENT AND SUPPLIES NEEDED:

1. Internet access to play the videos in real time or embed them in a PowerPoint
2. A copy of the "How Does Agriculture Improve Lives" worksheet for each student
3. A copy of the "Challenges to Food Security" worksheet for each student
4. A copy of the "Improving Lives Through the Diversity of Food Products" worksheet for each student
5. A copy of the "Improving Lives Through an Adequate Diet and Lifestyle" worksheet for each student

6. A copy of the "Improving Lives Through the Safety of Food Products" worksheet for each student
7. Colored pens or markers
8. Blank paper

THIS QUICK LESSON PLAN WOULD WORK WELL AS AN INTRODUCTION TO:

1. Food security and feeding the world.
2. Critical issues in agriculture.
3. Innovations in agriculture.
4. Technology in agriculture.

STUDENT ACTIVITY SHEETS

<https://ffa.box.com/s/1tb8pwrccff6y42w68qyvq4jrtldlj1vu2> (Word)

<https://ffa.box.com/s/sxf6gsqi5xhyttaysve1nyxn4xp7pr22> (PDF)

THESE ACTIVITIES ARE ALIGNED TO THE FOLLOWING STANDARDS:

AFNR Performance Element

- CS.01. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.
- CS.02. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role of agriculture, food and natural resources (AFNR) in society and the economy.
- CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources career pathways.

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.PL-E.Awareness. Understand personal vision, mission and goals.
- FFA.PL-C.Vision. Visualize the future and how to get there.
- FFA.CS-M.Communication. Effectively interact with others in personal and professional settings.
- FFA.CS-N.Decision Making. Analyze a situation and execute an appropriate course of action.

Common Career Technical Core

- AG1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.
- AG2. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role of agriculture, food, and natural resources (AFNR) in society and the economy.
- AG3. Examine and summarize the importance of health, safety, and environmental management systems in AFNR businesses.
- AG5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.

NASDCTEc

- AGC02.02. Employ the use of technical information effectively to maintain and communicate records and reporting procedures commonly used in the AFNR cluster.
- AGC10.03. Compare and contrast issues affecting the AFNR industry including biotechnology, employment, safety, environmental and animal welfare to demonstrate an understanding of the trends and issues important to careers in this industry.

Common Core – Reading: Informational Text

- CCSS.ELA-Literacy.RI.9-10.1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Common Core – Writing

- 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.

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.9-10.2. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
- 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 – Science & Technical Subjects

- CCSS.ELA-Literacy.RST.9-10.1. Cite specific textual evidence to support analysis of science and technical texts,

attending to the precise details of explanations or descriptions.

- CCSS.ELA-Literacy.RST.9-10.8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

Common Core – Literacy in Science & Technical Subjects: Writing

- CCSS.ELA-Literacy.WHST.9.10.6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Next Generation Science

- HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

Green/Sustainability Knowledge and Skill Statements

- AFNR Career Cluster, Statement 2. Analyze community practice or policy development related to sustainability in AFNR.

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.07. Employ valid and reliable research strategies. Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies.
- 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

- Communication
- Critical Thinking and Problem Solving
- Global Awareness
- Information, Communications, and Technology Literacy
- Initiative and Self-Direction
- Leadership and Responsibility
- Think Creatively

LESSON PLAN:

1. ***Bell Ringer:*** Agriculture exists to sustain life. Efficient and effective agricultural systems can improve lives by providing access to food, fiber and natural resources. The agriculture industry can also improve lives by providing sustainable solutions to critical challenges.
 - a. To understand how the agriculture industry can improve lives, it is important to investigate the roles agriculture plays in our lives.
 - i. Hand out the "How Does Agriculture Improve Lives" worksheet, and encourage students to brainstorm the different ways agriculture can improve lives through the food, fiber and natural resource industries.
 1. Questions/activities included in the worksheet:
 - a. Think creatively. Brainstorm different ways agriculture can improve lives through food, fiber and natural resources. Consider this question: Do certain agriculture careers exist to improve lives?
 - b. What elements do each sector have in common with the ways they can improve lives? What differences do they have?
 - c. How can each agriculture sector—food, fiber and natural resources—improve lives in your school? In your community?
 - d. Think critically. What steps can your agricultural education classroom specifically take to help improve lives in your school and community?
 - ii. As a class, discuss the various ways the agriculture industry can improve lives.
2. ***Introduction:*** Agriculture improves lives by providing solutions to handling the biggest food and nutrition demands. One of the biggest challenges society faces across the globe is access to, quantity of, quality of, and sustainability of food products and systems. The [Global Panel on Agriculture and Food Systems for Nutrition](#) (2019) identified three elements within the food sector of agriculture that impact the quality of a diet: diversity of food types, adequacy of

food sources and safety of food products.

- a. Agriculture improves lives by providing solutions to handling the biggest food and nutrition demands.
 - i. Watch the Global Panel on Agriculture and Food Systems for Nutrition's (2019) video "How can Agriculture and Food System Policies Improve Nutrition." The video can be accessed at <https://youtu.be/B2FmQgFJY6A>.
 1. *Optional:* If YouTube is not available, have students go directly to the Global Panel on Agriculture and Food Systems for Nutrition's (2019) website, available at <http://glopan.org/nutrition>.
 - ii. Within the food sector of agriculture, the [Global Panel on Agriculture and Food Systems for Nutrition](http://glopan.org/nutrition) (2019) identified three elements that impact the quality of a diet—diversity of food types, adequacy of food sources and safety of food products.
 - iii. Have students complete the "Challenges to Food Security" worksheet and then discuss their answers.
 1. Questions/activities included in the worksheet:
 - a. Use data from the video and/or website to fill in statistic information.
 - b. List and define the three "food environment" components that affect the quality of a person's diet.
 - c. The [Global Panel on Agriculture and Food Systems for Nutrition](http://glopan.org/nutrition) (2019) listed four categories of policies that influence the "food environment." Choose one of the four policy categories. Research elements that influence that category and answer the questions below.
 - d. What is the background of the policy category? Explain the significance of the policy category to the "food environment."
 - e. What are the strengths of this policy category?
 - f. What are the weaknesses of this policy category?
 - g. How could this policy category influence global agriculture?
 - h. How could this policy category influence American agriculture?
 - i. What careers may exist to work with the chosen policy category?

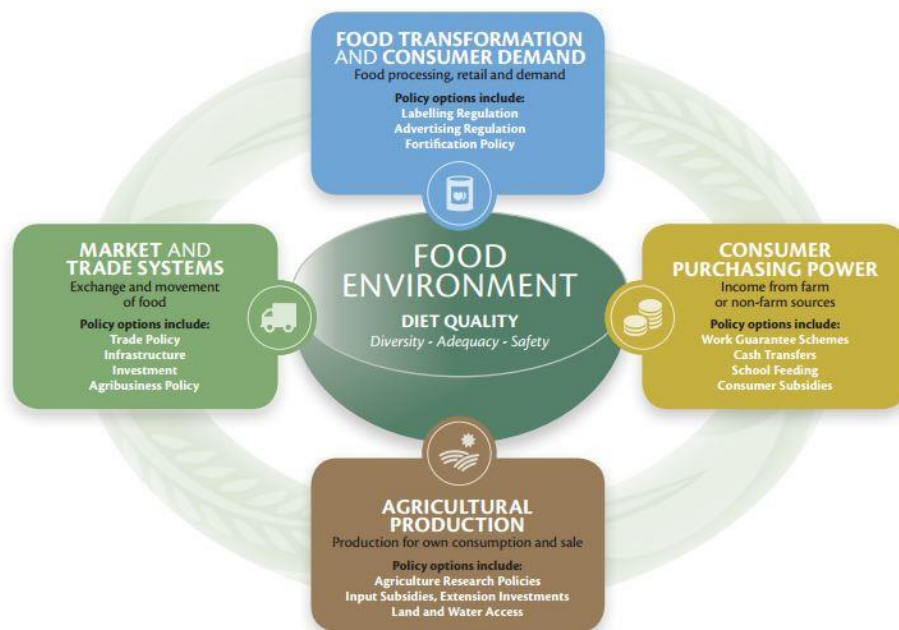


Figure 1. Reprinted from the Global Panel on Agriculture and Food Systems for Nutrition (2019) "Food Systems and Nutrition" website. The website can be accessed at <http://glopan.org/nutrition>.

3. Part 1: Food Environment—Improving Lives Through the Diversity of Food Products

- a. The first step to improving lives through the food industry is to increase the diversity of nutrient-dense food products.
- b. Most Americans have access to an abundant and affordable food supply. However, what to eat and how much to eat can create a challenge for some consumers.
 - i. The United States Department of Agriculture (2019) has several resources available to help increase the diversity of the nutrient-dense food choices available in a diet through the "MyPlate" initiative.
 1. Watch the USDA (2019) "Start Simple" video, available at https://youtu.be/W7_i5tY-5BY.
 - a. *Optional:* If YouTube is not available, have students go directly to the MyPlate.gov

- (2019) website, available at <https://www.choosemyplate.gov>.
2. Have students complete the "Improving Lives Through the Diversity of Food Products" worksheet.
 - a. Questions/activities included in the worksheet:
 - i. Draw and label the MyPlate diagram with the five food group components.
 - ii. Visit the MyPlate.gov (2019) website (<https://www.choosemyplate.gov/>). Click on each food group icon and list three "tips" for each food group.
Note: Tip Sheets are available for food group types after you click on the food group's icon and then click on the attachment titled "Tips for [name of food group]."
 - iii. What food group do you need to balance more in your life to increase the diversity of food products in your diet?
 3. Discuss strategies to balance a diet using MyPlate.gov resources.
4. *Part 2: Food Environment—Improving Lives Through an Adequate Diet and Lifestyle*
- a. Healthy lifestyles require more than meeting the necessary caloric intake for the day. Consumers must also consider the types of food they are eating and how adequate nutritional value can help people live a healthy and balanced life.
 - i. After analyzing what types of food make up a healthy and balanced diet, it is important to understand what lifestyle changes can be made to live a healthier lifestyle and understand what quantities of different food types should be consumed based on age, gender and physical fitness levels.
 1. Using the MyPlate.gov resources for teen audiences (ages 13 to 19), analyze the steps for improving lifestyles through developing and using adequate nutrition plans. The website can be accessed at <https://www.choosemyplate.gov/teens>.
 2. Visit the "Take Charge of Your Health: A Guide for Teenagers" webpage at <https://www.niddk.nih.gov/health-information/weight-management/take-charge-health-guide-teenagers?dkrd=lgqc1334>.
 3. Have students complete the "Improving Lives Through an Adequate Diet and Lifestyle" worksheet.
 - a. Questions/activities included in the worksheet:
 - i. Building a healthy lifestyle as a teenager is vital in helping to develop strong habits as an adult. Using the Teen Guide online, define what each section means below. List techniques or tips for how to practice each healthy habit.
 - ii. What role does agriculture play in developing these strong lifestyle habits? What careers exist to help with these lifestyles?
 - iii. What can agriculturists do to ensure there is an abundance of healthy options for teenagers in school?
 4. Discuss strategies to gain access to an adequate food supply and nutritional plan using MyPlate.gov resources.
5. *Part 3: Food Environment—Improving Lives Through the Safety of Food Products*
- a. Not only is access to diverse and adequate food supplies central to improving lives through agriculture, but the food products must also be safe to consume.
 - i. American agriculture is one of the safest and most secure food systems in the world; however, on average, one in six Americans will experience food poisoning each year (FoodSafety.gov, 2019).
 - ii. Food safety at home can be accomplished by four simple steps—clean, separate, cook and chill.
 1. Using the FoodSafety.gov (2019) resources, available at <https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety>, analyze the steps to ensure food products are safe to consume.
 2. Have students complete the "Improving Lives Through the Safety of Food Products" worksheet.
 - a. Questions/activities included in the worksheet:
 - i. List strategies households can use to accomplish each of the four food safety steps.
 - ii. How can proper food safety precautions improve lives?
 - iii. What can your agricultural education classroom do to help promote food safety in your school? In your community?
 3. Discuss food safety tips and strategies to incorporate in homes and schools.
6. *Follow-up:* In groups of two to three, have students select one of the four policy categories—agricultural production, consumer purchasing power, food transformation and consumer demand, and market and trade systems—outlined by the Global Panel on Agriculture and Food Systems for Nutrition (2019) in its "Food Environment" graphic. The website can be accessed at <http://glopan.org/nutrition>.

- a. Have students share their responses from the "Challenges to Food Security" worksheet completed at the beginning of the lesson with a partner. As a class, discuss possibilities for connecting policies in your agricultural education classroom.

7. Leveling Up:

- a. "Agriscience Fair Project":
 - i. Read the overview and rules for the National FFA Agriscience Fair at FFA.org/participate/awards/agriscience-fair/.
 - ii. Identify a need within one of the six agriscience fair categories: animal systems; environmental service/natural resource systems; food products and processing systems; plant systems; power, structural and technical systems; and social science.
 - iii. Using the key elements of improving lives as a framework, the National FFA Agriscience Fair handbook and online resources, prepare an agriscience fair project to investigate the identified need.
- b. "Art Gallery" or "Public Campaign Display":
 - i. Invite other teachers or community members to share ideas for how agriculture can improve lives in schools and communities.
 - ii. Connect with existing school events to get others involved. For example, post art projects in the lobby of the school during sporting events or invite presentations on each campaign during FFA chapter or alumni meetings.
- c. "Careers Guest Speaker":
 - i. Identify what types of careers can relate to improving lives. What types of careers support the mission of bettering lives through agriculture?
 1. Visit AgExplorer (AgExplorer.ffa.org) and review the career focus areas for ideas of types of careers to choose from.
 - ii. As a class, select someone from the community who has a career that contributes to improving lives through agriculture. Ask the individual to speak to the class to share details about his or her career.
 1. It might be helpful to refer this task to a class committee to select a speaker.
 - iii. Encourage students to research the speaker's bio and business/company/school and prepare two to three questions for the speaker prior to his or her arrival.
- d. "Healthy Teen Options" Presentation:
 - i. Visit the "Take Charge of Your Health: A Guide for Teenagers" (U.S. Department of Health and Human Services, 2016) website (<https://www.niddk.nih.gov/health-information/weight-management/take-charge-health-guide-teenagers?dkrd=lqlgc1334>).
 - ii. Using the resources available for improving teen lives through better nutrition, prepare a five- to eight-minute presentation discussing steps students can take to improve their nutrition.
- e. "Four Stages of Innovation" Model:
 - i. Using the "Blue 365: Four Stages of Innovation" lesson plan, have students apply the four stages of innovation model to one strategy for agriculture to improve lives.
 - ii. In what ways could the four stages help raise awareness of the issue?
- f. "Living to Serve" platform:
 - i. Encourage students to look through available grants for service plans related to hunger, health and nutrition. See links below:
 1. Hunger, Health and Nutrition: Living to Serve Grants from National FFA (FFA.org/livingtoserve/grants/)
 2. Planning Guide: <https://FFA.app.box.com/s/9969na39x2qdv70olfadu3dj1uxae6m>
- g. "School or Community Service" Project:
 - i. Identify a need on the school campus or in the community related to improving lives.
 - ii. Organize a community or school drive to help address that need in the local community.
- h. "Ted Talk" Oral Presentations:
 - i. Watch the "Blue 365" (2018) video from Julie DiNatale, Director of Marketing for Granular, "A Day in the Life of a Digital Farmer," available at <https://vimeo.com/315702285>.
 - ii. Watch the "Blue 365" (2018) video from Reza Rasoulpour, Leader of Global Regulatory for Corteva, on "Myths and Misconceptions of Pesticide Safety," available at <https://vimeo.com/314344941>.
 - iii. Watch the "Blue 365" (2018) video from Rick Ekins with FMC on "Saving Water, Fuel, Labor and Time," available at <https://vimeo.com/314082126>.
 1. Select one video to watch.
 2. Using techniques and points from the selected speaker, develop a 12- to 15-minute Ted Talk-style oral presentation to deliver to the class about an issue related to improving lives.
 - a. If possible, set the classroom up around a center stage to allow students to speak as if they were giving a real Ted Talk.
- i. "Written Report":
 - i. Watch the "Blue 365" (2018) video from Julie DiNatale, Director of Marketing for Granular, "A Day in the Life of a Digital Farmer," available at <https://vimeo.com/315702285>.
 - ii. Watch the "Blue 365" (2018) video from Reza Rasoulpour, Leader of Global Regulatory for Corteva,

- on "Myths and Misconceptions of Pesticide Safety," available at <https://vimeo.com/314344941>.
- iii. Watch the "Blue 365" (2018) video from Rick Ekins with FMC on "Saving Water, Fuel, Labor and Time," available at <https://vimeo.com/314082126>.
1. Select one video to watch.
 2. Using techniques and points from the selected speaker, prepare an eight- to 10-page written report analyzing opportunities to improve lives through agriculture. Students should be sure to highlight the following:
 - a. What elements does the speaker discuss in his or her presentation that highlights how the agriculture industry is improving lives?
 - b. What challenges does agriculture face in terms of improving lives?
 - c. What can be done to help improve lives in the future using the agriculture industry?
8. **Exit Ticket:** With a partner, have students identify two to three strategies the local agricultural education program or FFA chapter can do to improve lives in the community or school. Incorporate ways to increase the diversity, adequacy and safety of food products.
- a. As a class, discuss one to two options to use during the school year or summer to promote nutritional literacy and improve lives within the school or community.

NAME: _____

Aligned to the following standards:
CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1;
AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2;
CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-
10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career
Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

How Does Agriculture Improve Lives?

DIRECTIONS:

Agriculture exists to sustain life. Efficient and effective agricultural systems can improve lives by providing access to food, fiber and natural resources. The agriculture industry can also improve lives by providing sustainable solutions to critical challenges. To understand how the agriculture industry can improve lives, it is important to investigate the roles agriculture plays in our lives.

Complete the following:

- Think critically about what “improving lives” means for agriculture.
- Brainstorm different ways agriculture can improve lives through food, fiber and natural resources.
- Record your responses below.

Think creatively. Brainstorm different ways agriculture can improve lives through food, fiber and natural resources. Consider this question as you brainstorm: Do certain agriculture careers exist to improve lives? List all possible options below.

Food

Fiber

Natural Resources

What elements do each sector have in common with the ways they can improve lives? What differences do they have?

How can each agriculture sector—food, fiber and natural resources—improve lives in your school? In your community?

Think critically. What steps can your agricultural education classroom specifically do to help improve lives in your school and community?

NAME: _____

Aligned to the following standards:
CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1;
AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2;
CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

Challenges to Food Security

DIRECTIONS:

Agriculture improves lives by providing solutions to handling the biggest food and nutrition demands. One of the biggest challenges society faces across the globe is access to, quantity of, quality of, and sustainability of food products and systems. The [Global Panel on Agriculture and Food Systems for Nutrition](http://glopan.org/nutrition) (2019) identified three elements within the food sector of agriculture that impact the quality of a diet: diversity of food types, adequacy of food sources and safety of food products.

Complete the following:

- Watch the Global Panel on Agriculture and Food Systems for Nutrition's video "How can Agriculture and Food System Policies Improve Nutrition," available at <https://youtu.be/B2FmQgFJY6A>.
 - a. *Optional:* If YouTube is not available, visit the Global Panel on Agriculture and Food Systems for Nutrition website and Technical Report, available at <http://glopan.org/nutrition>.
- Use the video or the Global Panel on Agriculture and Food Systems for Nutrition website and Technical Report to complete the worksheet.
- Record your responses below.

Complete the following statements:

_____ children under the age of 5 are stunted or wasted due to undernutrition.

_____ people suffer physical and cognitive effects resulting from a lack of essential vitamins and minerals in their diets.

_____ people are overweight or obese.



Figure 1. Reprinted from the Global Panel on Agriculture and Food Systems for Nutrition (2019) "Food Systems and Nutrition" website. The website can be accessed at <http://glopan.org/nutrition>.

List and define the three “food environment” components that affect the quality of a person’s diet.

1.

2.

3.

The [Global Panel on Agriculture and Food Systems for Nutrition](#) listed four categories of policies that influence the “food environment”: agricultural production, market and trade systems, food transportation and consumer demand, and consumer purchasing power. Choose one of the four policy categories. Research elements that influence that category and answer the questions below.

Note. Pages 8 to 14 in the Global Panel on Agriculture and Food Systems for Nutrition [Technical Report](#) may be particularly helpful. Scroll to the bottom of the webpage to find the link for the Technical Report.

Policy Category: _____

What is the background of the policy category? Explain the significance of the policy category to the “food environment.”

What are the strengths of this policy category?

What are the weaknesses of this policy category?

How could this policy category influence global agriculture?

How could this policy category influence American agriculture?

What careers may exist to work with the chosen policy category?

NAME: _____

Aligned to the following standards:

CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1; AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

Improving Lives Through the Diversity of Food Products

DIRECTIONS:

The first step to improving lives through the food industry is to increase the diversity of nutrient-dense food products. Most Americans have access to an abundant and affordable food supply. However, what to eat and how much to eat creates a challenge for some consumers. A high-quality diet involves food sources that are diverse, adequate and safe.

The United States Department of Agriculture has several resources available to help increase the diversity of the nutrient-dense, food choices available in a diet through the "MyPlate" initiative.

Complete the following:

- Watch the USDA's "Start Simple" video, available at https://youtu.be/W7_i5tY-5BY.
 - a. *Optional:* If YouTube is not available, go directly to the MyPlate.gov website, available at <https://www.choosemyplate.gov/>.
- Visit the MyPlate.gov website, available at <https://www.choosemyplate.gov/>.
- Record your responses below.

Draw and label the MyPlate diagram with the five food group components.

Visit the MyPlate.gov website (available at <https://www.choosemyplate.gov/>). Click on each food group icon and list three "tips" for each food group. *Note:* Tip Sheets are available for food group type after you click on the food group's icon and then click on the attachments titled "Tips for [name of food group]."



Grains:

1)

2)

3)



Fruit:

1)

2)

3)



Dairy:

1)

2)

3)



Protein:

1)

2)

3)



Vegetables:

1)

2)

3)

What food group do you need to balance more in your life? How can you increase the diversity of food products in your diet?

NAME: _____

Aligned to the following standards:

CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1; AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

Improving Lives Through an Adequate Diet and Lifestyle

DIRECTIONS:

Healthy lifestyles require more than meeting the necessary caloric intake for the day. Consumers must also consider the types of food they are eating and how adequate nutritional value can help people live a healthy and balanced life. After analyzing what types of food make up a healthy and balanced diet, it is important to understand what lifestyle changes can be made to live a healthier lifestyle and understand what quantities of different food types should be consumed based on age, gender and physical fitness levels.

Complete the following:

- Using the MyPlate.gov resources for teen audiences (ages 13 to 19), analyze the steps for improving lifestyles through developing and using adequate nutrition plans.
- Visit the "Take Charge of Your Health: A Guide for Teenagers" webpage at <https://www.niddk.nih.gov/health-information/weight-management/take-charge-health-guide-teenagers?dkrd=lgc1334>.
- Record your responses below.

Building a healthy lifestyle as a teenager is vital in helping to develop strong habits as an adult. Using the Teen Guide online, define what each section means below. List techniques or tips for how to practice each healthy habit.

How your body works:

How to choose healthy food and drinks:

How to get moving:

How to get enough sleep:

How to ease into healthy habits:

How to plan healthy meals and physical activities:

What role does agriculture play in developing these strong lifestyle habits? What careers exist to help with these lifestyles?

What can agriculturists do to ensure there is an abundance of healthy options for teenagers in school?

NAME: _____

Aligned to the following standards:
CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1;
AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2;
CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-
10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career
Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

Improving Lives Through the Safety of Food Products

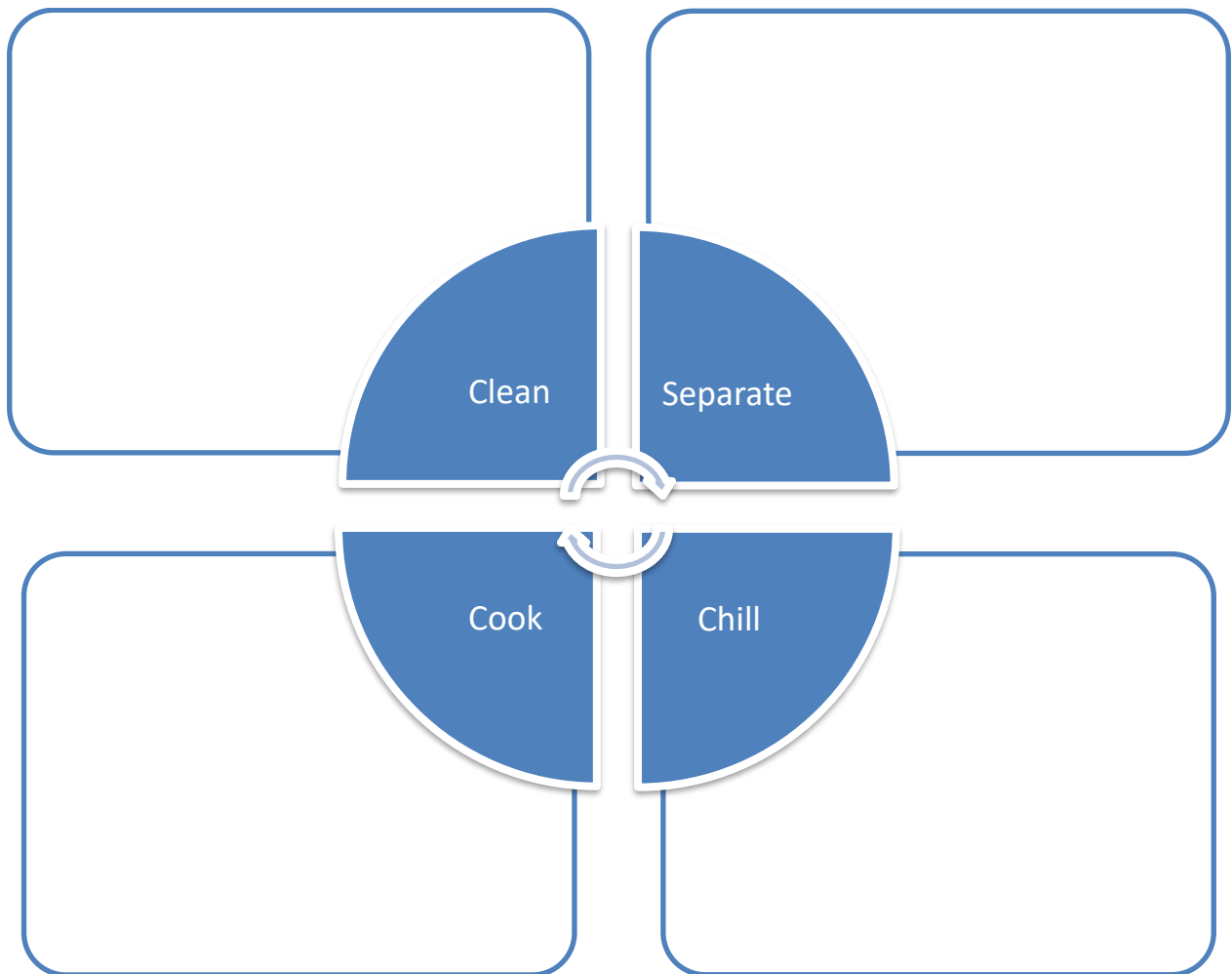
DIRECTIONS:

Not only is access to diverse and adequate food supplies central to improving lives through agriculture, but the food products must also be safe to consume. American agriculture is one of the safest and most secure food systems in the world; however, on average, one in six Americans will experience food poisoning each year (FoodSafety.gov, 2019). Food safety at home can be accomplished by four simple steps—clean, separate, cook and chill.

Complete the following:

- Using the FoodSafety.gov resources, available at <https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety>, analyze the steps we should take to ensure food products are safe to consume.
- Record your responses below.

List strategies households can use to accomplish each of the four food safety steps:



How can proper food safety precautions improve lives?

What can your agricultural education classroom do to help promote food safety in your school? In your community?

NAME: _____

KEY: Challenges to Food Security

Aligned to the following standards:

CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1; AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

DIRECTIONS:

Agriculture improves lives by providing solutions to handling the biggest food and nutrition demands. One of the biggest challenges society faces across the globe is access to, quantity of, quality of, and sustainability of food products and systems. The [Global Panel on Agriculture and Food Systems for Nutrition](http://glopan.org/nutrition) (2019) identified three elements within the food sector of agriculture that impact the quality of a diet: diversity of food types, adequacy of food sources and safety of food products.

Complete the following:

- Watch the Global Panel on Agriculture and Food Systems for Nutrition's video "How can Agriculture and Food System Policies Improve Nutrition," available at <https://youtu.be/B2FmQqFJY6A>.
 - a. *Optional:* If YouTube is not available, visit the Global Panel on Agriculture and Food Systems for Nutrition website and Technical Report, available at <http://glopan.org/nutrition>.
- Use the video or the Global Panel on Agriculture and Food Systems for Nutrition website and Technical Report to complete the worksheet.
- Record your responses below.

Complete the following statements:

200 million
children under the age of 5 are
stunted or wasted due to
undernutrition.

2 billion
people suffer physical and cognitive
effects resulting from a lack of
essential vitamins and minerals in
their diets.

1.4 billion
people are overweight or obese.

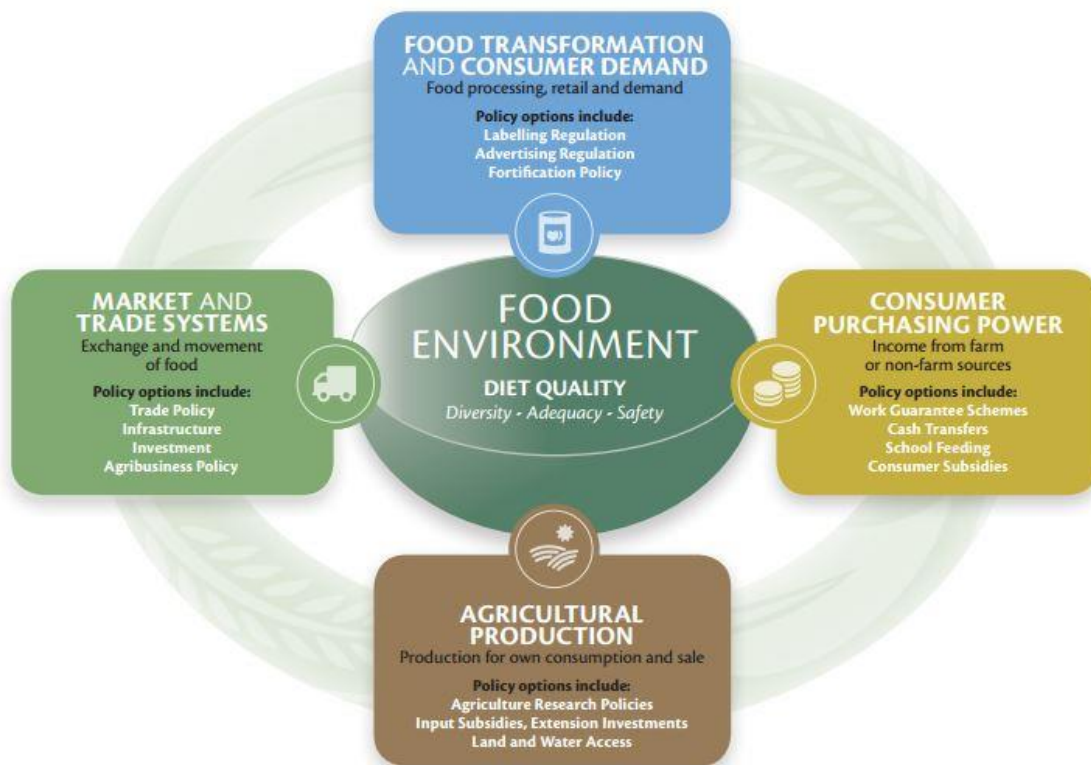


Figure 1. Reprinted from the Global Panel on Agriculture and Food Systems for Nutrition (2019) "Food Systems and Nutrition" website. The website can be accessed at <http://glopan.org/nutrition>.

NAME: _____

List and define the three “food environment” components that affect the quality of a person’s diet.

1. **Diversity of food types: Having a variety of nutritious foods to select from**
2. **Adequacy of food sources: Having access to food sources**
3. **Safety of food products: Having food that is safe for consumption**

The [Global Panel on Agriculture and Food Systems for Nutrition](#) listed four categories of policies that influence the “food environment”: agricultural production, market and trade systems, food transportation and consumer demand, and consumer purchasing power. Choose one of the four policy categories. Research elements that influence that category and answer the questions below.

Note. Pages 8 to 14 in the Global Panel on Agriculture and Food Systems for Nutrition [Technical Report](#) may be particularly helpful. Scroll to the bottom of the webpage to find the link for the Technical Report.

Answers will vary.

Policy Category: _____

What is the background of the policy category? Explain the significance of the policy category to the “food environment.”

What are the strengths of this policy category?

What are the weaknesses of this policy category?

How could this policy category influence global agriculture?

How could this policy category influence American agriculture?

What careers may exist to work with the chosen policy category?

NAME: _____

Aligned to the following standards:

CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1; AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

KEY: Improving Lives Through the Diversity of Food Products

DIRECTIONS:

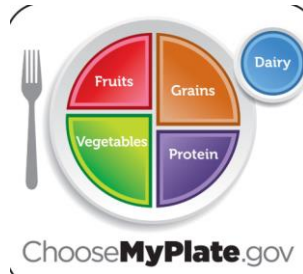
The first step to improving lives through the food industry is to increase the diversity of nutrient-dense food products. Most Americans have access to an abundant and affordable food supply. However, what to eat and how much to eat can create a challenge for some consumers. A high-quality diet involves food sources that are diverse, adequate and safe.

The United States Department of Agriculture has several resources available to help increase the diversity of the nutrient-dense, food choices available in a diet through the "MyPlate" initiative.

Complete the following:

- Watch the USDA's "Start Simple" video, available at https://youtu.be/W7_i5tY-5BY.
 - a. *Optional:* If YouTube is not available, go directly to the MyPlate.gov website, available at <https://www.choosemyplate.gov/>.
- Visit the MyPlate.gov website, available at <https://www.choosemyplate.gov/>.
- Record your responses below.

Draw and label the MyPlate diagram with the five food group components.



Visit the MyPlate.gov website (available at <https://www.choosemyplate.gov/>). Click on each food group icon and list three "tips" for each food group. *Note:* Tip Sheets are available for food group type after you click on the food group's icon and then click on the attachments titled "Tips for [name of food group]." **Answers will vary.**



Grains:

1)

2)

3)



Fruit:

1)

2)

3)



Dairy:

1)

2)

3)



Protein:

1)

2)

3)



Vegetables:

1)

2)

3)

What food group do you need to balance more in your life? How can you increase the diversity of food products in your diet?
Answers will vary.

NAME: _____

Aligned to the following standards:
CS.01; CS.02; CS.05; FFA.PL-A; FFA.PL-E; FFA.PL-C; FFA.CS-M; FFA.CS-N; AG1;
AG2; AG3; AG5; AGC02.02; AGC10.03; CCSS.ELA.RI.9-10.1; CCSS.ELA.W.9-10.2;
CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; CCSS.ELA.RST.9-
10.1; CCSS.ELA.RST.9-10.8; CCSS.ELA.WHST.9.10.6; HS-ETS1-3; AFNR Career
Cluster, Statement 2; CRP.02; CRP.04; CRP.05; CRP.06; CRP.07; CRP.08

KEY: Improving Lives Through the Safety of Food Products

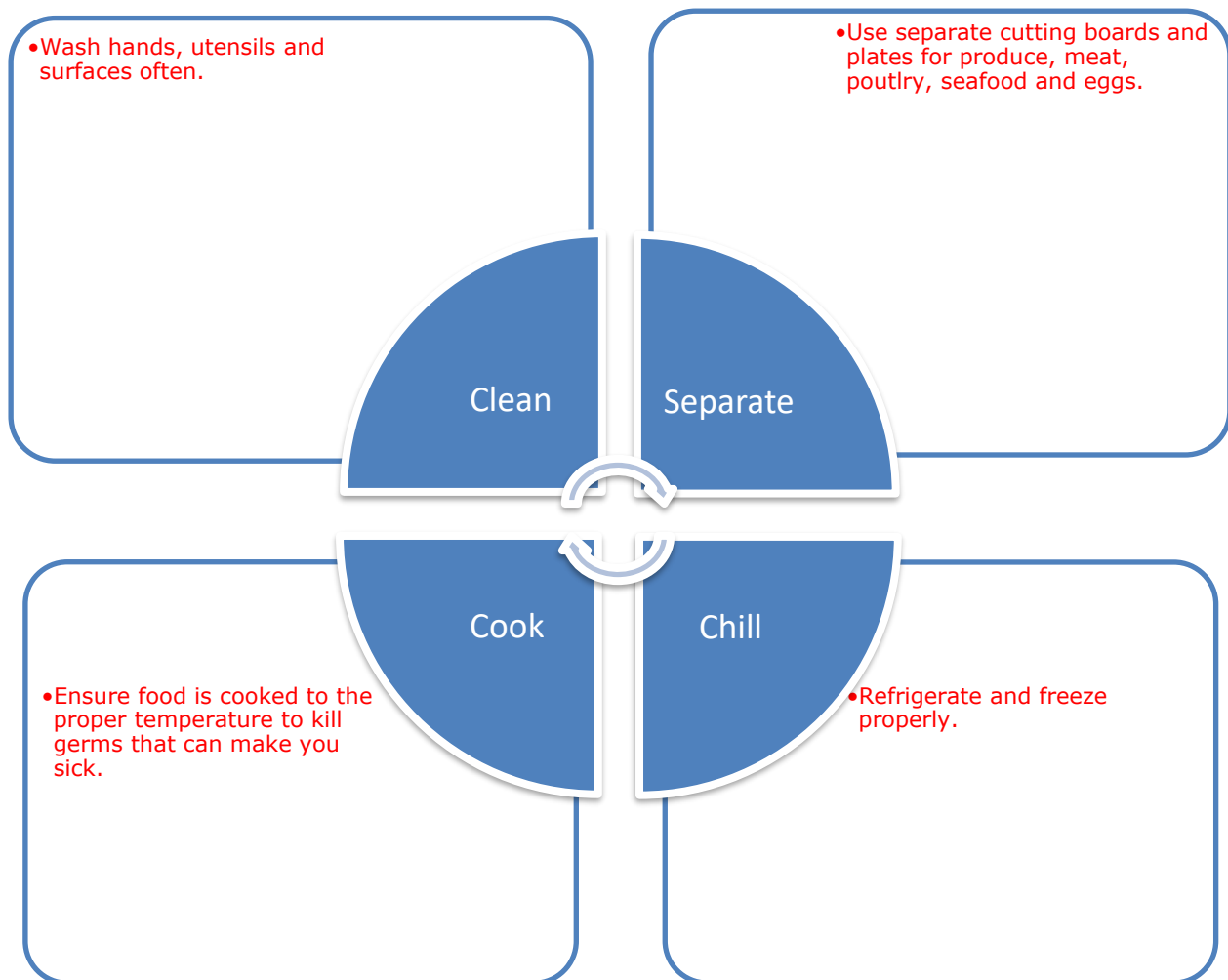
DIRECTIONS:

Not only is access to diverse and adequate food supplies central to improving lives through agriculture, but the food products must also be safe to consume. American agriculture is one of the safest and most secure food systems in the world; however, on average, one in six Americans will experience food poisoning each year (FoodSafety.gov, 2019). Food safety at home can be accomplished by four simple steps—clean, separate, cook and chill.

Complete the following:

- Using the FoodSafety.gov resources, available at <https://www.foodsafety.gov/keep-food-safe/4-steps-to-food-safety>, analyze the steps we should take to ensure food products are safe to consume.
- Record your responses below.

List strategies households can use to accomplish each of the four food safety steps:



How can proper food safety precautions improve lives?

Answers will vary.

What can your agricultural education classroom do to help promote food safety in your school? In your community?

Answers will vary.