

CAREER CLUSTER(S): Agriculture, Food & Natural Resources; and Hospitality and Tourism	DURATION: 14 Sessions (Session = 45 to 50 minutes)	TEACHER:	UN SUSTAINABLE DEVELOPMENT GOAL: #2 - Zero Hunger
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GLOBAL ISSUE OVERVIEW

Statistics show that one in nine people in the world today are undernourished. In addition, one in four children in the world suffer stunted growth due to a lack of access to the nutritious food they need. The problem of accessibility to nutritious feed also exists in neighborhoods across the United States. In 2009, a Tulane University study found that 2.3 million individuals live more than a mile from a grocery store and do not have a car. Individuals in this situation often face the following difficulties:

- Unsatisfied need for culturally appropriate foods
- Unmet dietary needs for conditions like lactose intolerance and gluten allergies
- Decreased access to fresh fruits and vegetables.

These difficulties result in a life where these individuals are 55% less likely to have a good-quality diet than people living with greater food availability.

The [United Nations Sustainable Development Goal #2 – Zero Hunger](#) challenges individuals, communities and nations to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

The UN goal statement continues to say:

Right now, our soils, freshwater, oceans, forests, and biodiversity are being rapidly degraded. Climate change is putting even more pressure on the resources we depend on, increasing risks associated with disasters such as droughts and floods. Many rural women and men can no longer make ends meet on their land, forcing them to migrate to cities in search of opportunities.

Three of this goal's targets are:

- 2.1: By 2030, end hunger and ensure universal access, particularly for the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.
- 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen the capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters and progressively improves land and soil quality.
- 2.C: Adopt measures to safeguard the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including food reserves, to limit extreme food price volatility.

Global Competencies:

Investigate the World: Initiate investigations of the world by framing questions, analyzing and synthesizing relevant evidence, and drawing reasonable conclusions about global issues.

Recognize Perspectives: Recognize, articulate, and apply an understanding of different perspectives.

Communicate Ideas: Select and apply appropriate tools and strategies to communicate and collaborate effectively, meeting the needs and expectations of diverse individuals and groups.

Take Action: Translate ideas, concerns, and findings into appropriate and responsible individual or collaborative actions to improve conditions.

STANDARDS ADDRESSED

Career/Technical Knowledge and Skills	Academic Knowledge and Skills	21 st Century Skills
<p>Common Career Technical Core</p> <p>Career Ready Practices:</p> <ol style="list-style-type: none"> 1. Act as a responsible and contributing citizen and employee. 5. Consider the environmental, social, and economic impacts of decisions. 12. Work productively in teams while using cultural/global competence. <p>Agriculture, Food & Natural Resources Career Cluster:</p> <ul style="list-style-type: none"> • AGC03.01. Access and utilize suitable resources to identify and study public policies, issues and regulations impacting AFNR management. 	<p>Next Generation Science Standards:</p> <ul style="list-style-type: none"> • HS-ESS3-2. Create a computational simulation to illustrate the relationships between the management of natural resources, the sustainability of human populations and biodiversity. <p>Common Core Academic Standards:</p> <p>ELA/Literacy</p> <ul style="list-style-type: none"> • RST.11-12.7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) to address a question or solve a problem. <p>Math</p> <ul style="list-style-type: none"> • MG.A.2. Apply concepts of density based on area and volume in modeling situations 	<p>Learning and Innovation Skills:</p> <p>Creativity and Innovation, Critical Thinking and Problem Solving, Communication and Collaboration</p> <p>Life and Career Skills:</p> <p>Flexibility and Adaptability, Initiative and Self-Direction, Productivity and Accountability</p>

<p>Hospitality and Tourism Career Cluster:</p> <ul style="list-style-type: none"> • HTC01.02. Apply information from cultural diversity and geographical studies to develop products and services for the hospitality and tourism industry. 	<p>(e.g. persons per square mile, BTUs per cubic foot).</p>	
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PROJECT DEFINITION & GOALS/OBJECTIVES

Students investigate global food production, market access, and factors that contribute to food insecurity using internet research; field trips to farms, markets, food companies, or restaurants; and interviews with guest speakers and community members. Students compare and contrast local food access and hunger issues in their own community and another region of the world (invite students to look at a region connected to their own ancestry or background). Students map local food deserts and research and weigh possible solutions to address the issue and then share their research and proposed solutions for food production and market access (e.g., PowerPoints, charts and graphs, persuasive letters, public service announcement, etc.). Using their research, youth work with community partners to design a plan for increasing local food-insecure populations' access to nutritious foods, e.g., hydroponic gardens, community gardens, garden-based school lunches, food pantries, green markets, etc. Students host an advocacy event for community members and urban planners to share their research, garden designs, and food distribution ideas.

SCENARIO OR PROBLEM: What scenario or problem will you use to engage students in this project?

In order to give back, a global restaurant chain would like to source local fresh food at its locations around the world. You are working as part of a team hired to create and present a plan of action to the restaurant chain's CEO. Your research and solutions will first be provided to your local community, where the company is headquartered, and then to its worldwide locations. Therefore, your team must also adapt your solution to an international setting. You are encouraged to work with community partners in researching and crafting solutions. Once approved by the CEO, you will present your ideas at a community event where different groups will listen and provide input on the project.

ESSENTIAL QUESTIONS

- How can the hospitality or agriculture industry be of service to a community regarding food accessibility and security?
- What are ways to decrease food insecurity in a variety of environments and locations?
- What actions can be taken to increase access to nutritious food on a global scale?

GRADE LEVEL ADAPTATIONS

Younger grades: Before starting the project, the teacher would research the geographic regions that students will pick from so that students have basic resource information (especially about cultural and economic realities of the region) available to them as they begin the project. The teacher could also prepare an outline of food delivery system components (field to table) for students to consider

	<p>as they identify the strengths, weaknesses, and possible new approaches to the food delivery system.</p> <p>More advanced students: Students can work individually on the project.</p>
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ASSESSMENT: How will you determine what students have learned? (Check all that apply)

FORMATIVE		SUMMATIVE	
Quizzes/Tests	X	Multiple Choice/Short Answer Test	
Notes/Graphic Representations		Essay Test	X
Rough Draft		Written Product with Rubric	X
Practice Presentation	X	Oral Presentation with Rubric	X
Preliminary Plans/Goals/Checklists of Progress	X	Other Product or Performance with Rubric	X
Journal/Learning Log	X	Self-Evaluation or Reflection	X
Other:		Evaluation by Authentic Audience	X
		Other: 3D model	

MATERIALS, RESOURCES, or CONSTRAINTS: What materials and resources will be needed? Are there any perceived challenges?

Materials:

- Computers with internet access
- Student journals
- Project rubric

Internet Resources:

- United Nations Sustainable Development Goals: <https://www.globalgoals.org/>
- Sustainable Development Goals Explained: Zero Hunger: Why it Matters PDF
- Links to additional resources from International Fund for Agricultural Development, World Food Programme and the Zero Hunger Challenge
- IFPRI, Food Security and Climate Change: http://www.fao.org/fileadmin/user_upload/rome2007/docs/IFPRI%20Food%20Security%20and%20Climate%20Change.pdf
- The Hunger Project: <https://thp.org>
- Pulitzer Center Food Insecurity resources: <https://pulitzercenter.org/food-insecurity>

SUPPORT, MODIFICATIONS, AND EXTENSIONS: What is needed to provide support for students who have difficulty learning the content or require special needs modifications, including enrichment for advanced students?

Support & Modifications:

- Provide additional time and assistance for those students having difficulty.

- Offer group reading instead of individual reading.

Extensions:

- Prepare enrichment activities for advanced students.

CALENDAR OF MAJOR LEARNING ACTIVITIES: What are the learning activities or tasks for each day? Are there any project milestones? When will formal assessment activities occur?

Week 1				
Monday	Tuesday	Wednesday	Thursday	Friday
Initiating: Form project team, research local and global issue, establish goals, identify resources, constraints, and assumptions.	Initiating: Create scope statement, identify deliverables, name stakeholders, and assign project managers.	Planning: Plan success measures and develop task sequence and schedule.	Planning: Identify resources and create a plan for monitoring and controlling progress.	Executing: Conduct research, a field trip or other activity.
Week 2				
Executing: Connect with a global student partner (optional).	Executing: Create a food desert map and brainstorm potential solutions.	Executing: Continue to research and zero in on a solution.	Executing: Determine final solution.	Executing: Build solution items.
Week 3				
Executing: Continue to build solution items.	Executing: Finalize and rehearse solutions presentation.	Executing: Presentations, quiz on key concepts.	Closing: Individual reflection, community solution sharing session.	Closing: Project review and evaluation, team member effectiveness evaluation.

STUDENT REFLECTION ACTIVITIES: How will students reflect on their work? Add reflection questions and/or activities here.

- Allow time at the end of each day for students to journal on their progress with the project and list at least two insights learned.
- Require each student to complete an “Exit Ticket” where, at the end of each day, students provide a quick answer to a prompt you provide.
- Using the daily notes from the journaling or “Exit Tickets” have the students write a narrative of how they would approach the project and issue in a different way in the future.