

# Resilient Food Systems Immersion Curriculum Pilot: Impact of Immersive Education on Young Leaders

## Abstract

This project focuses on developing resilient food systems through a food systems curricula for young leaders. To further investigate this opportunity, 15 participants across the nation worked collectively to develop a food systems curricula for Juniors and Seniors in High School as well as beginning years of college. The goal for this curriculum will be to introduce a new generation to food and farm systems work. The curricula included an intensive, immersive experience and exchange program that highlighted various types of food value-chain processes and aspects of support and research entities like the U.S. Department of Agriculture (USDA).

Following completion of curricula, the second year incorporated three pilots in unique communities, where individuals utilized the curricula template to incorporate education across all areas of the food system ranging from crop production to value-added product development, business and finances, to governance and policy. Program participants will increase their knowledgebase in all necessary target areas through learning objectives taught using various methods. Lectures, case studies, professional guest speakers, as well as site visits are all encouraged to maximize student engagement. Three pilots were completed between March 2025-June 2025 with student evaluations requested as part of the program.

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## Acknowledgement

### Project Partners

#### Pilot Partner Organizations

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Homegrown Hillsborough Florida – Monica Petrella  
Texas Local Food – Barbie Reyes

#### Curriculum Partner Organizations

NC A&T – Kathleen Liang  
Colorado State University  
Homegrown Hillsborough Florida/University of Florida Extension  
Alaska Food Policy Council  
Basil Harvest  
American Indian Alaska Native Tourism Association  
Wisconsin State University  
University of Kentucky Extension  
Texas Local Food  
North Carolina State University  
Iowa State Extension and Outreach  
University of Northern Iowa  
Johns Hopkins University  
Florida Food Policy Council  
USDA Center for Faith Based Environmental Partnerships  
Virgin Islands Good Food

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## Contents

Acknowledgement .....	1
Project Partners .....	1
Executive Summary .....	3
Issue Statement.....	3
Project Methodology and Process .....	3
Project Methodology .....	4
Process.....	4
Pilot Partners.....	6
Pilot 1: Colorado Department of Agriculture.....	6
Pilot 2: Homegrown Hillsborough.....	6
Pilot 3: Farm to Kids.....	7
Conclusions and Next Steps.....	7

# Executive Summary

## Issue Statement

In 2020-2022, a pilot study for COVID and natural disaster impact was conducted in five different place-based communities across the Nation. Each community participated in a mixed-methods research process, action planning, and implementation of a priority project, with \$10,000 in support funds. [Reports for each community are published on the AgMRC website.](#)

Based on the findings from this first pilot, a second intensive process occurred in 2023-2025 in three new communities, with an abbreviated process and increase in funds for \$22,500 for implementation. Throughout the process, findings were incorporated into a revised curricula on resilient community food systems developed by Iowa State University Extension and Outreach. Similarly, the team identified a third need for educating and creating a food systems curricula for young leaders. In each of the pilot communities for resilient food systems, partners described their desire for youth to engage in various aspects of food systems from production, processing, distribution, business management, supply and value-chain planning, etc.

Anecdotally, individuals shared their desire for student engagement in K-12 and college level programs to receive comprehensive education on the food system and how it functions in modern day society. Improving awareness of job prospects for the younger generations is vital in maintaining the stability and ingenuity of all industries that make up our food system. Funding for elective curricula and available time in classrooms are important variables to take into consideration when requesting districts and teachers implement new learning objectives into their already full schedules. The main targets for this program were junior and senior high school students as well as freshman and sophomore college students. A top priority within the team was ensuring that potential careers within the food system would be discussed, as students of this age group are in the phase of life when determining a career is a major focus.

## Project Methodology and Process

The main objective for the curriculum was to determine the core competencies and learning objectives that the development group decided are crucial for an immersive and comprehensive knowledgebase of the food system for students.

A collaborative national team worked to develop a comprehensive and immersive curricula to increase engagement and understanding of food systems for students in high school and early college. A series of three meetings occurred in the first phase, where the team developed a comprehensive overview of food system themes, and fifteen competencies were agreed upon, each with their own learning objectives. Following the development of competencies, learning methods, and template curricula, partners could apply for funding to implement the curricula. Three partners received \$5,000 to implement their curricula.

## Project Methodology

To ensure all voices were heard and respected, a collective impact virtual facilitation approach was utilized that included facilitated large and small-group discussions. Small group breakout rooms were utilized for time efficiency and to maximize the number of voices and opinions being shared. Virtual meetings allowed participation from organizations on a more consistent basis, and all notes were documented and distributed via a shared drive.

### Meeting Materials

A shared drive was set up by the leading partners for all meeting participants to access all meeting materials. Materials uploaded to the shared box included prepared presentation slides, meeting recordings, interactive worksheets, a list of finalized topic areas and learning objectives, curriculum examples (Appendix B), and the pilot application form. Meetings were held virtually via Zoom.

## Process

**Meeting 1:** Explored existing curricula and competencies necessary for food system engagement. The first meeting was held on September 18, 2024. The meeting began with introductions, followed by discussion questions about existing programs, education standards, and community engagement along with what motivated the development of this project. The large group then divided into small groups to discuss potential topics and competencies necessary for participants. The session ended with a large group discussion and resources were shared via a notes document in the shared drive.

After the first meeting, Iowa State University Extension and Outreach developed a spreadsheet format for the food system competencies covered during the small group discussions.

**Meeting 2:** The second meeting occurred on October 30, 2024. Partners reviewed the food system competency spreadsheet and broke into small groups to discuss methods for educating students. This included how to encourage a systems-lens for students and proper teaching methods for educating students, such as case studies, guest speakers, classroom activities, and site visits.

Following the second meeting, Iowa State University Extension and Outreach updated the competency spreadsheet to include specific learning objectives (Table 1). The internal team also developed curricula examples (Appendix A) to showcase to project partners in order to visualize different ways a class may incorporate a curriculum. Additionally, the internal team developed an application process for partners that participated in curricula development to apply for funding to implement a place-based curriculum.

**Table 1: Competency and Learning Objectives**

Core Competency	Learning Objectives
<b>Food Systems Overview</b>	<ul style="list-style-type: none"> <li>- Understand key components/sectors of the food system</li> <li>- Identify intersections and impacts across the food system</li> </ul>
<b>Economics</b>	<ul style="list-style-type: none"> <li>- Understand financial considerations and constraints for agriculture-based businesses</li> <li>- Assess potential economic impacts of the food system</li> </ul>

<b>Agriculture</b>	<ul style="list-style-type: none"> <li>- Listen, observe, and understand key components of processing businesses</li> <li>- Understand key business decisions – cost and revenue</li> <li>- Discuss opportunities for market diversification</li> </ul>
<b>History</b>	<ul style="list-style-type: none"> <li>- Understand history of agriculture and food systems</li> </ul>
<b>Environment and Ecosystem</b>	<ul style="list-style-type: none"> <li>- Acknowledge different intersections between the ecosystem, climate and agriculture</li> <li>- Assess and trial environmental impact assessment</li> </ul>
<b>Processing and Value-Added Agriculture</b>	<ul style="list-style-type: none"> <li>- Listen, review, and understand key components of processing business</li> <li>- Identify needs for food safety</li> <li>- Assess opportunities for brand development</li> </ul>
<b>Value Chain Development</b>	<ul style="list-style-type: none"> <li>- Understand and reflect on commonalities and differences between value chain and supply chain</li> <li>- Discuss differences in scale</li> </ul>
<b>Aggregation and Distribution</b>	<ul style="list-style-type: none"> <li>- Listen, review, and understand key components of aggregation and distribution</li> <li>- Assess scale of business and impacts across the community</li> </ul>
<b>Consumption</b>	<ul style="list-style-type: none"> <li>- Listen, review, and understand key components of processing business</li> <li>- Assess scale of business and impacts across the community</li> </ul>
<b>Health</b>	<ul style="list-style-type: none"> <li>- Analyze critical aspects to food shopping that impact purchasing choices</li> <li>- Identify potential barriers of making the “healthy choice”</li> </ul>
<b>Resources and Food Waste</b>	<ul style="list-style-type: none"> <li>- Listen, review, and understand key components of processing business</li> <li>- Assess scale of business and impacts across the community</li> </ul>
<b>Policy</b>	<ul style="list-style-type: none"> <li>- Build awareness of different policies that impact farm and food business and food system at large</li> <li>- Identify engagement practices for changing policy</li> </ul>
<b>Personal Why/Leadership</b>	<ul style="list-style-type: none"> <li>- Reflect on personal “why” and motivation for careers</li> <li>- Determine goals for the future</li> </ul>
<b>Resilience</b>	<ul style="list-style-type: none"> <li>- Showcase the intersections across systems, people, and practices</li> <li>- Acknowledge change that needs to occur for our future</li> <li>- Develop personal vision and purpose</li> </ul>
<b>Education and Career Development</b>	<ul style="list-style-type: none"> <li>- Identify potential career paths across food system</li> <li>- Connect with businesses and organizations working in the food system</li> </ul>

**Meeting 3:** The third and final meeting took place on November 25, 2024. The curriculum examples were presented along with an application process for program pilot participants.

### Application Process

At the end of the curriculum development process, interested parties were asked to apply for pilot funding via a competitive application process (See Appendix B and C for application and rubric). All competencies and learning objectives were required to be met throughout the pilot curricula. The leading partners reviewed the pilot applications and awarded funds to three developing partner organizations. Three pilot

host sites were chosen by the leading partners to receive \$5,000 in funding to support curricula implementation. Upon approval, each partner site then developed and implemented their curricula throughout the spring and summer 2025. Half of the funds would be distributed prior to the pilot site's execution of the curriculum and the remaining funds would be distributed after the program's completion. All funds were required to be spent prior to September 2025.

Following implementation, reports of the curricula, evaluation, and photos, were submitted. The reports showcased the effectiveness of the individualized curricula developed by each pilot host site.

## Pilot Partners

The intent of the pilot program was to evaluate the effectiveness of curriculum and to understand different ways the competencies and learning objectives could be transferred into different types of learning opportunities and individual curriculum. As the application process began, the team learned that there was interest in promoting this food systems program beyond high school and college level courses, and many applications proposed opportunities for incorporating the curricula template in K-12 settings. This included developing the food system competencies and learning objectives to fit the contexts of different class sizes, clubs schedules, and school break schedules allowed educators to maximize the number of students able to participate in and learn from the curriculum. Regional differences were also able to be addressed through the pilot program, as pilot sites participated in different areas around the continental United States.

### Pilot 1: Colorado Department of Agriculture

Yampa Valley High School in Northwestern Colorado ran their pilot program from March 18 to May 15, 2025. Twenty students attended the program as part of an immersive capstone course in the Spring semester. The end of their program concluded with an educational food event dinner open to the public where the students presented a menu that reflected priorities for food consumption, price, individual, and environmental health. [A news release was published on the Soda Creek Elementary School website to promote the event.](#) Students prepared the food for the dinner with support from a local chef and catering company. Students presented key findings from their course before the meal. Evaluations from the students showed a significant jump in knowledge about Food System Scales, Complexity of Food Systems, Food System Sectors, and Local and Regional Food in My Community. Smaller increases in knowledge were shown in Awareness of USDA Programs, Food Access Constraints, but there was virtually no difference in knowledge in Farm and Food Policies. Appendix D shares a final report for Colorado, including curriculum and evaluation.

### Pilot 2: Homegrown Hillsborough

Homegrown Hillsborough, based in Florida, executed a pilot consisting of 17 students with ten from The University of South Florida, six students from Middleton High School and one student from the local community college who attended Middleton High School the year prior. The pilot consisted of lectures as well as hands-on exposure to local food system speakers, organizations and farms. Spring break was utilized for a weeklong program from March 17-21, 2025. This pilot reported a 375% knowledge gain

throughout the week-long program between their pre- and post-evaluations. They plan on utilizing this curriculum and program breakdown in their future work and utilize their 4-day immersion program to launch their internship program in the fall of 2025. This will provide a method to tie all the sectors together as well as adding a few topics they think would be helpful and interesting to students. Appendix E shares a final report for Florida, including curriculum and evaluation.

### Pilot 3: Farm to Kids

Farm to Kids: Fresh Futures Summer Program, based in Texas, consisted of 66 students over a six-day pilot program. Their classes averaged 11 students per class between June 6-20, 2025, at the Elgin High School campus. This pilot utilized hands-on cooking activities along with collaborative projects, each day focusing on a different aspect of the food system. Seasonal produce, meat, and cheese were purchased from farmers selling at the Texas Farmers' Market in Mueller, Texas. Due to different students attending each class, none of the students were able to learn about each core competency. This was clear in their post-evaluation with students ranking their knowledge on a scale of 1-10, with one being no knowledge and ten being complete knowledge. Twelve total students were evaluated; among them, none reported above two for USDA Programs or Farm and Food Policies, and only one student reported as high as five on Food System Scales. Appendix F shares a final report for Texas, including curriculum and evaluation.

## Conclusions and Next Steps

This process highlighted the needs and opportunities around curricula offerings for students across age ranges. The team identified opportunities for utilizing a comprehensive framework that could then transition into place-based and age-appropriate design. As additional curricula is created, it is suggested to share best practices and examples through digital depositories that individuals and educators across the Nation can utilize. As educators create their own syllabus and curricula, it is important to ensure creative pathways for student engagement and knowledge gain retention. Additionally, we identified that funding to host activities such as transportation and site visits can be challenging and partnering with organizations to help support travel and interactive activities.

# Appendix A

The following highlight examples of curricula developed by Iowa State University Extension and Outreach staff based on feedback during cohort discussions. The outline describes the example application responses, and Tables 2-8 reflect the curricula. The curriculum is categorized into four areas: systems, personal, practices, and intersections.

## Example Three-day Program

**Target Audience:** all junior, senior high school

**Number of Participants:** 24

**Format of Program:**

- Classroom: reflection and teaching units
- Fieldtrip: site visit to locations that teach specific food system components

**Timeframe:** five months, 12 components, 2-4 hours each

Meet every other week - first in classroom, then field trip

- April: classroom; site visit - farm planting
- May: classroom; site visit - garden planting (on school site)
- June: classroom; site visit - food hub
- July: classroom; site visit - processor and grocery
- August: classroom; site visit - composting facility

**Primary Host:** Collaboration: Farm, Food and Enterprise Development (FFED) / High school group -- World Food Prize/ Orbis

**Identified Partners:** Fieldtrip Partners

Production site: tomato / diversified farmer - spring trip

Distribution site: Farmers Market -- late June trip

Processor: Capital City Fruit -- July trip

Consumer site: grocery store -- July trip

Food donation/ waste-- food pantry/ food bank -- August trip

**Outline of Anticipated Costs (\$5,000 stipend):**

Classroom Fee: Free

Fieldtrip Site Stipend: 5 sites at \$500 each/\$2,500 total

Fieldtrip Transportation Fee (ISU Transportation Services Rental, 15-Passenger Van): \$54 per day/\$162 + fuel (estimated at \$100): \$262 x 2: ~500

Meals - \$15/ trip for snacks \* 24: \$1800

Classroom materials: \$180 (flip charts, markers, garden materials, etc.)

**Additional Eval Metrics** (beyond base evaluation provided by ISU): None

Table 2: Unit 1 Curriculum Plan

Time and Lesson Style	Category	Topic	Learning Objectives	Activities	Pre-Activities
8:00am – breakfast discussion	Systems	Food Systems Overview	<ol style="list-style-type: none"> <li>1. Understand key components/ sectors of the food system</li> <li>2. Identify intersections and impacts across the food system</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. "Toss the string activity"</li> </ol>	N/A
9:30am	Systems	Economics	<ol style="list-style-type: none"> <li>1. Understand financial considerations and constraints for agriculture-based businesses</li> <li>2. Assess potential economic impacts of the food system</li> </ol>	<ol style="list-style-type: none"> <li>1. Case Study</li> </ol>	Read case study
11:00am - travel to farm; farm visit and lunch	Practices	Agriculture	<ol style="list-style-type: none"> <li>1. Listen, observe, and understand key components of processing business</li> <li>2. Understand key business decisions - costs and revenue</li> <li>3. Discuss opportunities for market diversification</li> </ol>	<ol style="list-style-type: none"> <li>1. Farm Site Visit</li> <li>2. Review infographics on types of systems</li> </ol>	N/A
1:30pm – discussion on site	Systems	History	<ol style="list-style-type: none"> <li>1. Understand history of Agriculture and Food Systems</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture/ Oral History</li> <li>2. Group Discussion</li> </ol>	N/A
3:00pm - discussion on site-- potential review of other agriculture site constraints to discuss ecosystem	Systems	Environment and Ecosystem	<ol style="list-style-type: none"> <li>1. Acknowledge different intersections between the ecosystem, climate and agriculture</li> <li>2. Assess and trial environmental impact assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture</li> <li>2. Discuss environmental impact assessment</li> </ol>	N/A
4:00pm - travel to processing facility/	Practices	Processing and Value-Added Agriculture	<ol style="list-style-type: none"> <li>1. Listen, review, and understand key components of processing business</li> </ol>	<ol style="list-style-type: none"> <li>1. Processing Site Visit</li> <li>2. Review different</li> </ol>	N/A

teaching kitchen			2. Identify needs for food safety 3. Assess opportunities for brand development	branding and marketing approaches	
- 6:00pm - dinner together and debrief of day	Intersections	Intersections	N/A	3. Tabletop Discussion Cards	N/A

**Table 3: Unit 2 Curriculum Plan**

Time and Lesson Style	Category	Topic	Learning Objectives	Activities
8:30am - breakfast discussion and reflection	Personal	Personal Why / Leadership	1. Reflect on personal "why" and motivation for careers 2. Determine goals for the future	1. Activity for personal reflection on career goal 2. Think/ Pair/Share
10:00am - Site visit and discussion	Systems	Resilience	1. Showcase the intersections across systems, people, and practices 2. Acknowledge change that needs to occur for our future 3. Develop personal vision and purpose	1. Site walk at location that brings together key aspects from sessions 2. Lecture / facilitated discussion 3. Individual activity on personal vision and purpose
12:00pm - lunch and personal presentation	Intersections	Intersections	1. Listen and learn from each other	1. Participants share their story of lived experience and interaction with agriculture and food
2:00pm	Personal	Education - Career Development	1. Identify potential career paths across food system 2. Connect with businesses and organizations working in the food system	1. Panel discussion - careers in food systems: business, government, non-profits
4:30pm – Happy hour	Intersections	Intersections	N/A	N/A

**Table 4: Unit 3 Curriculum Plan**

Time and Lesson Style	Category	Topic	Learning Objectives	Activities
8:30am – breakfast discussion	Systems	Value Chain Development	<ol style="list-style-type: none"> <li>1. Understand and reflect on commonalities and differences between value chain and supply chain</li> <li>2. Discuss differences in scale</li> </ol>	<ol style="list-style-type: none"> <li>1. Review video or case study of the supply and value chain</li> </ol>
10:00am – travel to food hub	Practices	Aggregation and Distribution	<ol style="list-style-type: none"> <li>1. Listen, review, and understand key components of aggregation and distribution</li> <li>2. Assess scale of business and impacts across the community</li> </ol>	<ol style="list-style-type: none"> <li>1. Food Hub/ Farmers Market Site Visit</li> </ol>
11:30am - travel to grocery/ public market	Practices	Consumption	<ol style="list-style-type: none"> <li>1. Listen, review, and understand key components of processing business</li> <li>2. Assess scale of business and impacts across the community</li> </ol>	<ol style="list-style-type: none"> <li>1. Grocery Site Visit: activity sheet to assess different price points between local/ regional/ global</li> </ol>
1:00pm – discussion on site	Systems	Health	<ol style="list-style-type: none"> <li>1. Analyze critical aspects to grocery shopping that impact food choices</li> <li>2. Identify potential barriers of making the "healthy choice"</li> </ol>	<ol style="list-style-type: none"> <li>1. Facilitated Group Discussion</li> <li>2. Lecture/ small group activities</li> </ol>
2:30pm – travel to site	Practices	Resources/ Food Waste	<ol style="list-style-type: none"> <li>1. Listen, review, and understand key components of processing business</li> <li>2. Assess scale of business and impacts across the community</li> </ol>	<ol style="list-style-type: none"> <li>1. Landfill or compost site visit</li> </ol>
4:00pm – on-site discussion	Systems	Policy	<ol style="list-style-type: none"> <li>1. Build awareness of different policies that impact farm and</li> </ol>	<ol style="list-style-type: none"> <li>1. Panel discussion from experts at local, state, and federal</li> </ol>

			food business and food system at large 2. Identify engagement practices for changing policy	2. Work time- study a policy and share with the group/ small group
5:30pm – dinner together and debrief of day	Intersections	Intersections	N/A	N/A

## Example Six-week Program

**Table 5:** Example 6-week Plan

Category	Details
Target Audience	College students (freshman/sophomore)
Number of Participants	10
Format of Program	Summer semester club (5 weeks; meeting 1 day a week)
Timeframe	6-week timeframe (has to have end date of Sept. 2025)
Program delivery	(5 weeks)
Evaluation	(1 week)
Primary Host	ISU Farm, Food and Enterprise Development Unit
Identified Partners	Fieldtrip Partners
Production site	Specialty Crop Farm
Processing site	Processing Center
Distribution site	Food Hub
Consumer site	Grocery Store
Waste sit	Composting Site/Waste Center
Outline of Anticipated Costs (\$5000 stipend)	Classroom Fee: Free
N/A	Fieldtrip Site Stipend: 5 sites at \$500 each/\$2500 total
N/A	Fieldtrip Transportation Fee (ISU Transportation Services Rental, 15-Passenger Van): \$54 per day/\$270 total
N/A	Dinner for 1st and 5th Classroom Day: \$900
N/A	Teacher Stipend: \$1200
N/A	Classroom materials: \$130 (flip charts, markers, etc.)

<b>Additional Eval Metrics (beyond base evaluation provided by ISU)</b>	None
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**Table 6:** Unit 4 Curriculum Plan, Six-Week Program

Time and Lesson Style	Category	Topic	Learning Objectives	Activities	Pre-Activities
<b>8:00am - discussion on site</b>	Systems	Dignity	1. Understand history of Agriculture and Food Systems	1. Lecture/ Oral History 2. Group Discussion	Read review of Dignity in Food Systems
<b>10:00am - on-site discussion</b>	Systems	Policy	1. Build awareness of different policies that impact farm and food business and food system at large 2. Identify engagement practices for changing policy	1. Panel discussion from experts at local, state, and federal 2. Work time-study a policy and share with the group/ small group	
<b>12:00pm – lunch</b>	N/A	N/A	N/A	N/A	N/A
<b>2:00pm – travel to site</b>	Practices	Resources/ Food Waste	1. Listen, review, and understand key components of processing business 2. Assess scale of business and impacts across the community	1. Landfill or compost site visit	
<b>4:00pm</b>	Intersections	Intersections	N/A	1. Tabletop Discussion Cards	N/A

**Table 7:** Unit 5 Curriculum Plan (Six-week Program)

Time and Lesson Style	Category	Topic	Learning Objectives	Activities
<b>8:30am - breakfast discussion and reflection</b>	Personal	Personal Why / Leadership	1. Reflect on personal "why" and motivation for careers 2. Determine goals for the future	1. Activity for personal reflection on career goal 2. Think/ Pair/Share

10:00am - <b>Site visit and discussion</b>	Systems	Resilience	<ol style="list-style-type: none"> <li>1. Showcase the intersections across systems, people, and practices</li> <li>2. Acknowledge change that needs to occur for our future</li> <li>3. Develop personal vision and purpose</li> </ol>	<ol style="list-style-type: none"> <li>1. Site walk at location that brings together key aspects from sessions</li> <li>2. Lecture / facilitated discussion</li> <li>3. Individual activity on personal vision and purpose</li> </ol>
12:00pm - <b>lunch and personal presentation</b>	Intersections	Intersections	<ol style="list-style-type: none"> <li>1. Listen and learn from each other</li> </ol>	<ol style="list-style-type: none"> <li>1. Participants share their story of lived experience and interaction with agriculture and food</li> </ol>
2:00pm	Personal	Education - Career Development	<ol style="list-style-type: none"> <li>1. Identify potential career paths across food system</li> <li>2. Connect with businesses and organizations working in the food system</li> </ol>	<ol style="list-style-type: none"> <li>1. Panel discussion - careers in food systems: business, government, non-profits</li> </ol>
4:30pm – Happy hour	Intersections	Intersections	N/A	N/A

## Example: Summer Program

Category	Details
Target Audience	College students (freshman/sophomore)
Number of Participants	10
Format of Program	Summer semester club (5 weeks; meeting 1 day a week)
Timeframe	6-week timeframe (has to have end date of Sept. 2025)
Program delivery	(5 weeks)
Evaluation	(1 week)
Primary Host	ISU Farm, Food and Enterprise Development Unit
Identified Partners	Fieldtrip Partners
Production site	Specialty Crop Farm
Processing site	Processing Center
Distribution site	Food Hub
Consumer site	Grocery Store
Waste sit	Composting Site/Waste Center

Outline of Anticipated Costs (\$5000 stipend)	Classroom Fee: Free
N/A	Fieldtrip Site Stipend: 5 sites at \$500 each/\$2500 total
N/A	Fieldtrip Transportation Fee (ISU Transportation Services Rental, 15-Passenger Van): \$54 per day/\$270 total
N/A	Dinner for 1st and 5th Classroom Day: \$900
N/A	Teacher Stipend: \$1200
N/A	Classroom materials: \$130 (flip charts, markers, etc.)
Additional Eval Metrics (beyond base evaluation provided by ISU)	None

**Table 8: Summer Curriculum Plan**

	Category	Topic	Learning Objectives	Classroom Activities (Day 1)	Site Visit (Day 2)
<b>Week 1: Food Systems Overview (1 day: 8am-4pm; lunch included)</b>	Systems	Food Systems Overview	<ol style="list-style-type: none"> <li>1. Understand food system sectors and assets</li> <li>2. Identify intersections and impacts across the food system</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture-style presentation</li> <li>2. Small group activities</li> </ol>	N/A
	Systems	History	<ol style="list-style-type: none"> <li>1. Understand history of Agriculture and Food Systems</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture-style presentation/ Oral History</li> <li>2. Group Discussion</li> </ol>	N/A
	Systems	Value-Chain Development	<ol style="list-style-type: none"> <li>1. 1. Understand and reflect on commonalities and differences between value chain and supply chain</li> <li>2. Discuss differences in scale and how geography impacts values</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture-style presentation</li> <li>2. Review video or case study of the difference between supply and value-chains</li> </ol>	N/A
	Systems	Policy	<ol style="list-style-type: none"> <li>1. Build awareness of different policies that impact farm and food business and food system at large</li> </ol>	<ol style="list-style-type: none"> <li>1. Panel discussion from experts at local, state, and federal policy levels</li> </ol>	N/A

Resilient Food System Immersion Curriculum Pilot

			2. Identify engagement practices for changing policy	2. Group exercise: study a policy and share with the group	
	Systems	Economics	1. Understand financial considerations and constraints for agriculture-based businesses 2. Assess potential economic impacts of the food system 3. Understand economies of scale	1. Lecture-style presentation 2. Case study of general production costs and inputs for different food and farm businesses	N/A
<b>Week 2: Production (12pm-4pm)</b>	Practices	Agriculture	1. Understand different types of agriculture and growing environments 2. Understand key business decisions - costs and revenue 3. Discuss opportunities for market diversification	1. Site visit 2. Lecture-style presentation	Specialty crop farm
<b>Week 3: Processing (12pm-4pm)</b>	Practices	Processing and Value-Added Agriculture	1. Listen, review, and understand key components of processing business 2. Identify needs for food safety 3. Assess opportunities for brand development	1. Site visit 2. Lecture-style presentation 3. Case studies: equipment and facility needs, regulatory requirements and regulations, packaging and labeling, costs and pricing, branding and marketing	Processing center/Shared-use kitchen
<b>Week 4: Distribution (2pm-4pm)</b>	Practices	Aggregation and Distribution	1. Understand different models of food distribution and aggregation	1. Site visit 2. Lecture-style presentation 3. Case study: food miles	Food Hub
<b>Week 5: Consumption (12pm-4pm)</b>	Practices	Consumption	1. Assess scale of food access points and impacts across the community 2. Identify potential barriers of food access	1. Site visit 2. Lecture-style presentation	Grocery stores (small scale and large scale)

Resilient Food System Immersion Curriculum Pilot

	Systems	Health	<ol style="list-style-type: none"> <li>1. Analyze critical aspects to grocery shopping that impact food choices</li> <li>2. Identify potential barriers of making the "healthy choice"</li> </ol>	1. Food access simulation	N/A
<b>Week 6: Resources (12pm-4pm)</b>	Practices	Resources/ Food Waste	1. Understand different models of food recovery	<ol style="list-style-type: none"> <li>1. Site visit</li> <li>2. Case studies on food waste audits</li> </ol>	Composting site/Waste or landfill center
	Systems	Environment and Ecosystem	1. Acknowledge different intersections between the ecosystem, climate and agriculture	<ol style="list-style-type: none"> <li>1. Lecture-style presentation</li> <li>2. Discuss environmental impact assessment</li> </ol>	N/A
	Systems	Resilience	<ol style="list-style-type: none"> <li>1. Showcase the intersections across systems, people, and practices</li> <li>2. Acknowledge change that needs to occur for our future</li> </ol>	<ol style="list-style-type: none"> <li>1. Lecture-style presentation</li> <li>2. Food Systems Resilience Scenario table-top exercise</li> </ol>	N/A
<b>Week 7: Professional Development and Intersections (8am-12pm)</b>	Personal	Personal Why / Leadership	<ol style="list-style-type: none"> <li>1. Develop personal mission and purpose</li> <li>2. Reflect on personal "why"</li> </ol>	<ol style="list-style-type: none"> <li>1. Personal values activity</li> <li>2. Think/ Pair/Share</li> </ol>	N/A
N/A	Personal	Education - Career Development	<ol style="list-style-type: none"> <li>1. Identify potential career paths across food system</li> <li>2. Determine goals for the future</li> <li>3. Connect with businesses and organizations working in the food system</li> </ol>	<ol style="list-style-type: none"> <li>1. Panel discussion - careers in food systems: business, government, non-profits</li> <li>2. Career goal setting</li> </ol>	N/A
N/A	Intersection	Intersections	<ol style="list-style-type: none"> <li>1. Listen and learn from each other</li> <li>2. Participants share their story of lived experience and interaction with agriculture and food</li> </ol>	1. Tabletop Discussion Cards	N/A
<b>Week 8: Evaluation of Program</b>	N/A	N/A	N/A	N/A	N/A

## Appendix B: Food Systems Immersion Pilot Rubric

**Purpose:** The purpose of the immersion funding is to provide financial support to organizations that are piloting a food system immersion course in their community based on the findings from cohort discussion in 2024.

### Grading Rubric:

A grading rubric is used by reviewers to assess pilot applications for hosting an immersion curriculum. It is recommended for applicants to review the rubric prior to completing the application.

The grading rubric assigns a category to each aspect necessary for successful pilot implementation: educational components related to food systems, immersive activities, capacity, audience, innovation, and timeline.

	<b>Above expectations (4-5 pts)</b>	<b>Meets Expectations (2-3pts)</b>	<b>Does Not Meet Expectations (0-1 pts)</b>
<b>Food Systems</b>	Curriculum is well detailed and provides clear understanding of creative ways for incorporating systems, practices, and intersections throughout the pilot. Detailed examples of partners that will showcase each aspect.	Curriculum encompasses all aspects of the Immersion cohort discussion: systems, practices, and intersections; with special attention to place-based practices.	Unsatisfactory and insignificant alignment to immersion cohort discussions on systems, practices and intersections.
<b>Immersive activities</b>	Clear description of engaging activities, that encompass the combination of site-based learning and other engagement practices.	Clear description of activities that are beyond lecture style and incorporate hands-on and engaging lessons.	Limited description of activities and lack of engaging aspects to curriculum.
<b>Capacity</b>	Thoughtful and clear description of project lead and team roles that will allow for smooth coordination for program planning, development, and implementation.	Adequate response to how project lead and broader team can coordinate and implement the pilot.	Unsatisfactory and limited description of the ability of the project lead and team to execute the pilot.
<b>Innovation</b>	Significant response to how the cohort and curriculum will bring new ideas and unique contribution to the pilot.	Adequate response on how the pilot is unique and creative to their community.	Unsatisfactory, insignificant response detailing the unique and creative pilot design.
<b>Timeline</b>	Clear description of timeline that includes planning, development, and execution of process. Alignment with completion date prior to August 2025.	Clear description of timeline execution of process. Alignment with completion date prior to August 2025.	Unsatisfactory, insignificant details for how program will be executed prior to August 2025.
<b>Audience</b>		Includes a cohort design that relates to young professionals in the field of food systems: junior/ senior in high school; freshman/ sophomore in college. **or has adequate justification for working with a different cohort**	Unsatisfactory description of cohort, or significantly deters from young professionals.



## Appendix C: Food Systems Immersion Pilot Application

**Purpose:** The purpose of the immersion funding is to provide financial support to organizations that are piloting a food system immersion course in their community based on the findings from cohort discussion in 2024.

**Requirements:** All applicants must implement the pilot before August 2025 and complete a post-discussion with the AgMRC/ Iowa State team in September 2025. Pilots must include the audience of young professionals, geared towards juniors-seniors in high school and freshmen – sophomores in college. Please review the [rubric](#) for additional requirements and grading categories.

**Awards:** This is a competitive application. Up to three contracts will be awarded at up to \$5,000 each to pilot an immersion curriculum. The awards are discretionary based on application submissions, and not guaranteed. Agricultural Marketing Resource Center and Iowa State University Extension and Outreach staff will review each application in confidence and use the rubric provided to participants.

Contracts will be awarded without regard to race, sex, religion, age, national origin, or sexual orientation. Iowa State University is an equal opportunity provider. For the full non-discrimination statement or accommodation inquiries, go to [www.extension.iastate.edu/diversity/ext](http://www.extension.iastate.edu/diversity/ext).

**Submission of Application Form:** Please fill out the following word document application and return to Kaley Hohenshell at [kaleyh@iastate.edu](mailto:kaleyh@iastate.edu) by **January 15, 2025**. *Once the acceptance period closes, applications will be reviewed and awarded by **February 3, 2025**.*

**Immersion Pilot Awardee Expectations:** As a potential awardee, these are the following expectations:

- Scheduling an initial review of program with AgMRC/ Iowa State
- Throughout the pilot, AgMRC/Iowa State is available to support in thought partnership as the awardee's program evolves
- Participants will participate in an evaluation during the pilot program offered by the awardee
- Awardee will schedule a post-pilot meeting and debrief with AgMRC/ Iowa State to discuss the success and challenges of the program. This must be completed before September 30, 2025.

In addition to filling out this form with required information for applying to host an immersion course, **please submit a general course syllabus using the immersion curriculum outline for reference, like what was presented in the Food Systems Immersion Meeting #3 on November 22.**

Additionally, you will be requested to provide a list of any partner organizations that you intend to work with for your pilot. It is encouraged, but not required, to include a letter of support for your application to showcase the agreement from the partner to work with you on this effort. If you have any questions regarding your application, please contact Kaley Hohenshell- [kaleyh@iastate.edu](mailto:kaleyh@iastate.edu).



**Project Title:** Click or tap here to enter text.

**Project Leader Contact Information:** Click or tap here to enter text.

**Identified Partner Organizations:** Click or tap here to enter text.

**Target Audience (junior-senior in high school; freshman-sophomore in college):** Click or tap here to enter text.

**Number of Participants anticipated:** Click or tap here to enter text.

**Are you prepared to handle appropriate liability and risk to students that may occur through immersive activities:**  Yes  No

**Describe the format of the program you are planning to host (i.e. week long class; summer cohort; etc.). (200 words)**

Click or tap here to enter text.

**Describe the timeframe that the course will be in sessions. (100 words)**

Click or tap here to enter text.

**Describe your experience with hosting courses that are immersive in nature. (100 words)**

Click or tap here to enter text.

**Describe your capacity for implementing this pilot between now and end of August 2025. Detail any anticipated challenges or perceived obstacles that you may experience. (200 words)**

Click or tap here to enter text.



**Outline of Anticipated Costs (up to \$5,000).**

*Examples are shared below, but are not required. Please add additional items as necessary.*

Description	Funding
Education (teacher, classroom, materials etc.)	Click or tap here to enter text.
Fieldtrips (Sites, transportation, etc.)	Click or tap here to enter text.
Food (snacks, meals, water, etc.)	Click or tap here to enter text.
<b>Total</b>	<b>\$</b> Click or tap here to enter text.

**Please state any specific evaluation metrics you would like to gather throughout the pilot:**

Click or tap here to enter text.

## Appendix D: Colorado State University and Yampa Valley High School

A news release was published on the Soda Creek Elementary School website, titled, ["From Classroom to Kitchen: How Yampa Valley High School Students Brought Local Food Systems to Life."](#)

During the spring of 2025, Yampa Valley High School piloted a food systems immersion capstone course. Yampa Valley High School is located in Northwestern Colorado in the town of Steamboat Springs. The school supports 9<sup>th</sup>-12<sup>th</sup> graders who seek a learning environment that meets their personal and educational goals. The school is a public school and part of the Steamboat Springs School District. It has a very small student-staff ratio of 7:1. There are 20 students and four instructors. For the spring semester they offer an immersive capstone course.

In January of 2025, the principal for the school Kristyl Boies reached out to Michele Meyer with the Colorado Department of Agriculture and local food system advocate about organizing a ten-week course centered on food systems for the students. Michele recommended that Kristyl reach out to Libby Christensen.

The intensive project-based learning course ran from March 18th to May 15th. The course culminated in an educational food event dinner open to the public where the students presented a menu that reflects three priorities for food consumption, price, individual, and environmental health. The event served 80 individuals and featured foods that were prepared by the students with support from a local chef and catering company. Students presented key findings from the course before the meal. Table 3 shares the pre-survey results for each student by competency. Table 10 shares the post-survey results for each student by competency. Results from the post-survey evaluation show that none of the twenty students expressed interest in pursuing a career related to food and agriculture.

**Table 9:** Pre-survey Results

Student Identifier	Grade	Gender	Awareness of USDA programs	Food systems scales	Food system sectors	Complexity of food systems	Food access constraints	Local and regional food in my community	Farm and food policies
Student 1	9	Female	0	6	8	6	2	5	0
Student 2	9	Female	0	2	4	4	2	4	0
Student 3	9	Female	1	5	5	5	3	5	0
Student 4	9	Male	1	2	3	3	1	3	0

Resilient Food System Immersion Curriculum Pilot

Student 5	9	Male	0	0	2	0	1	3	0
Student 6	9	Male	0	2	5	2	4	5	0
Student 7	10	Female	0	4	6	4	4	6	0
Student 8	10	Female	0	5	7	2	2	6	0
Student 9	10	Male	0	3	5	3	3	5	0
Student 10	10	Male	0	1	6	1	3	5	0
Student 11	11	Female	1	1	2	1	2	4	1
Student 12	11	Female	0	4	5	4	4	5	0
Student 13	11	Female	2	5	5	5	5	5	0
Student 14	11	Female	0	6	6	6	6	6	1
Student 15	11	Male	0	3	4	3	3	4	0
Student 16	11	Male	3	5	5	5	5	5	0
Student 17	12	Female	0	7	8	7	5	8	1
Student 18	12	Female	0	4	5	6	5	5	0
Student 19	12	Female	0	3	3	3	3	3	0
Student 20	12	Male	2	5	6	6	6	5	1
Average	No Data	No Data	0.5	3.65	5	3.8	3.45	4.85	0.2

Table 10: Post-survey Results

Student Identifier	Grade	Gender	Awareness of USDA programs	Food systems scales	Food system sectors	Complexity of food systems	Food access constraints	Local and regional food in my community	Farm and food policies
Student 1	9	Female	2	8	8	8	4	8	0
Student 2	9	Female	2	6	7	6	4	7	0
Student 3	9	Female	4	8	9	8	6	9	0

Resilient Food System Immersion Curriculum Pilot

Student 4	9	Male	4	7	7	8	5	8	1
Student 5	9	Male	1	5	7	8	5	8	1
Student 6	9	Male	0	7	7	8	8	8	0
Student 7	10	Female	1	7	7	8	8	8	0
Student 8	10	Female	5	9	9	9	4	9	0
Student 9	10	Male	2	5	5	7	5	7	0
Student 10	10	Male	2	6	6	6	5	6	0
Student 11	11	Female	4	5	8	8	5	8	2
Student 12	11	Female	3	7	8	8	5	8	0
Student 13	11	Female	3	7	8	9	6	9	0
Student 14	11	Female	1	8	9	9	8	9	1
Student 15	11	Male	1	6	6	8	5	8	0
Student 16	11	Male	5	6	8	8	8	8	0
Student 17	12	Female	2	10	10	10	10	10	2
Student 18	12	Female	3	8	8	8	8	8	0
Student 19	12	Female	3	6	8	8	8	8	0
Student 20	12	Male	5	9	8	9	8	8	1
Average	No Data	No Data	2.65	7	7.65	8.05	6.25	8.1	0.4

Table 11: Syllabus

Timeline	Topics to be Covered	Field Trip Destination	Activities	Transport
Week 1 – 3/18  Parent-teacher Conferences	Introduction to Food Systems. Introduction to certifications and environmental considerations of food systems. Why local?	9:00 - 10:00 Visit Yampa Market, Katie Stanhope. <a href="mailto:katie@communityagalliance.org">Email Katie (katie@communityagalliance.org)</a> and Noah with Mountain Bluebird. <a href="mailto:info@mountainbluebirdfarm.com">Email Mountain Bluebird (info@mountainbluebirdfarm.com)</a> .	Interview food outlet managers about their supply chains, and product demand. Students will be asked to reflect on the different outlets. Students will collect price information for different products.	Walk or city bus

Resilient Food System Immersion Curriculum Pilot

<p><b>Conferences No school 3/20</b></p>	<p>considerations of food systems. Why local?</p>	<p>Bluebird. <a href="#">Email Mountain Bluebird</a> (<a href="mailto:info@mountainbluebirdfarm.com">info@mountainbluebirdfarm.com</a> ). 10:00 - 11:00 Visit LiftUp, Sue Fegelin. <a href="#">Email Sue</a> (<a href="mailto:director@liftuprc.org">director@liftuprc.org</a>)  <a href="#">Ag Appreciation Week webpage.</a></p>	<p>collect price information for different products.  Taste comparison carrots (Mountain Bluebird Farm, Hungeberg, Conventional carrots) at Community Ag Alliance</p>	
<p><b>Week 2 – 3/25 and 3/27</b></p>	<p>Documentary: <i>Environment and health: Introduction to health and environmental considerations of the food system.</i> Food safety, basic concepts around nutrition and balanced meals, perceptions of health.</p>	<p>3/25 8:20 - 9:45 Katie Food Safety <a href="mailto:kmaloney@co.routt.co.us">kmaloney@co.routt.co.us</a>.  3/27 Watch YouTube video: <a href="#">Is Colorado a Food Utopia? Exploring Farm to Table Cuisine, Epic Landscapes &amp; UFO's   Dirt Colorado</a>  Libby Christensen comes 9-11:45 for food systems Q&amp;A</p>	<p>Katie will talk about misinformation in nutrition information. Can touch on food safety, food-borne illness, etc. Libby presents about general food system overview.</p>	<p>At YVHS</p>
<p><b>Week 3 – 4/1 and 4/3</b>  <b>April 1-- Must be at YVHS</b></p>	<p>Understand financial considerations of the food system (intro to supply and demand, and cost of production/ cost of goods)</p>	<p>Visit City Market and Safeway, Steamboat Springs.</p>	<p>GS&amp;TS--From last week, have students complete product price sheet. Analyze results (difference in price across cuts, certification, retail outlets).</p>	<p>City bus</p>
<p><b>Week 4 – 4/8 and 4/10</b>  <b>State Testing 4/8/-10</b></p>			<p>Have student groups determined and what students want to make by this time.</p>	
<p><b>Week 5 – 4/15 and 4/17</b></p>	<p>How do you take into consideration tradeoffs in food from the perspective of a food service director and an engineer? How does what the consumer prioritizes inform the impacts?</p>	<p>April 15th ONSITE: Jason Quinn, CSU. <a href="mailto:jason.quinn@colostate.edu">Email Jason</a> (<a href="mailto:jason.quinn@colostate.edu">jason.quinn@colostate.edu</a>)  April 17th Hayden Community Kitchen 495 W Jefferson Ave, Hayden, CO 81639 (Nash Welch is with the Town of Hayden. Florencia and Brian Morales, La</p>	<p>Develop and finalize menu items.  HAYDEN LONGER DAY--Times??</p>	

Resilient Food System Immersion Curriculum Pilot

		Central. <a href="mailto:flol@lacentralcatering.com">Email Florencia (flol@lacentralcatering.com)</a>	Arrive in Hayden by 9:10 - leave by 12:45. Can leave school at 8:30 and leave Hayden by 11:30??	Bus requested 8:30 pickup; 11:30 departure Need lunch ideas
<b>Week 5 – 4/29 and 5/1</b>	How does what an animal eat impact the planet, the health of the animal, and the final product	The Legacy Ranch (Todd Hagenbuch, CSU Extension. <a href="mailto:thagenbuch@co.routt.co.us">Email Todd (thagenbuch@co.routt.co.us)</a> )	Work on presentations and materials for community dinner. Develop market materials for the dinner. Get the word out there.	4/29 Bus requested
<b>Week 6 - 5/6 and 5/8</b>		Visit City Market 505 W Victory Way Craig and Fitch's Market 383 E 1st St, Craig, CO 81625 <a href="mailto:deborah@fitchranch.com">Email Deborah Fitch (deborah@fitchranch.com)</a>		BUS RESERVED Leave 8:30am At Fitch's by 9:30am Leave Fitch's by 11:30am
<b>Week 7 – 5/13 and 5/15</b>		CMC	Practice presentations	Back to Hayden for food prep?

Resilient Food System Immersion Curriculum Pilot



## Appendix E: Homegrown Hillsborough

**Table 12:** Pre and Post-test Knowledge Change

Question	Pre-test Average Aggregated Score	Post-test Average Aggregated Score	Percent of Change
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>awareness of USDA programs</i> .	2.75	6.27	142%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>food system scales</i> .	2.19	7.27	278%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>food system sectors</i> .	2.5	7.47	307%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>complexity of food systems</i> .	3.06	7.13	175%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>food access constraints</i> .	4.13	7.53	116%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>local and regional food in my community</i> .	3.63	7.00	102%
Please rate the extent of your knowledge from 1-10, where 1 is no knowledge and 10 is the most knowledge, on <i>farm and food policies</i> .	3.06	6.93	180%

# Appendix F: Texas Center for Local Food



## Week 1: Understanding the Food System

Schedule: Monday – Wednesday, 10:00 am – 3:00 pm

**Table 13:** Week 1 Curriculum Plan

Day and Time	Lesson/ Activity	Day and Time	Lesson/ Activity	Day and Time	Lesson/ Activity
<b>Monday: Zucchini Spaghetti, with side salad</b>	Food Systems and Health	<b>Tuesday: Breakfast tacos with zucchini bread, Agua de melon</b>	Environment and Ecosystem	<b>Wednesday: Pizza and salad, Peach lemonade, brownies</b>	Agriculture and Business
<b>10:00–10:45 AM</b>	Welcome, Introductions, Program Overview, Class agreements	<b>10:00–10:30 AM</b>	Warm-up & Agenda Review	<b>10:00–10:30 AM</b>	Warm-up & Agenda Review
<b>10:45-10:50</b>	5 min Break	<b>10:45-10:50</b>	5 min Break	<b>10:45-10:50</b>	5 min break
<b>10:30–11:00</b>	Intro to Food Systems (terms, definitions, sectors/ This or That Activity FOOD SYSTEM POSTER	<b>10:30–12:30</b>	Instructions (splitting up cooking jobs, table setter, and dish washer Cooking activity- Chorizo, Potato, and egg tacos, zucchini bread	<b>10:30–11:00</b>	Intro to Agriculture
<b>11:00–11:05 PM</b>	5 min Break	<b>12:30–12:35 PM</b>	5 min Break	<b>11:00–11:05 PM</b>	5 min Break

<b>11:05–1:05 PM</b>	Instructions (splitting up jobs, table setters, dishwashers, etc.) Cooking Activity- Zucchini Spaghetti and salad	<b>12:35–1:05 PM</b>	Intro to Ecosystem, Agriculture & Climate and Environmental Impact Assessment (EIA)	<b>11:05–1:05 PM</b>	Instructions (Splitting up jobs, dishwashing, etc.) Cooking Activity: Pizza from scratch (dough and sauce), salad, brownies
<b>1:05–1:15 PM</b>	10 MIN BREAK WALK FOOD DOWN	<b>1:05–1:15 PM</b>	Go outside to find items for the sculpture activity	<b>1:05–1:15 PM</b>	10 min break
<b>1:30–2:00 PM</b>	Intro to Health (food desserts)	<b>1:15–2:15 PM</b>	Make Air dry clay, create a sculpture that reminds you of your ecosystem, agriculture, or climate	<b>1:15–2:15 PM</b>	Farm Business simulation
<b>2:00–2:30 PM</b>	Grocery Shop & Meal Prep Challenge	<b>2:15–2:45 PM</b>	Classroom Sculpture show case, students go around and talk about what they created	<b>2:15–2:30 PM</b>	Share Farm business
<b>2:30-3:00PM</b>	Daily reflection and wrap-up	<b>2:45- 3:00PM</b>	Daily Reflection & Wrap-up	<b>2:30- 3:00PM</b>	Daily reflection & Wrap Up

## Week 2: Me and the Food System

Schedule: Monday – Wednesday, 10:00 am – 3:00 pm

**Table 14:** Week 2 Curriculum Plan

Day and Time	Lesson/ Activity	Day and Time	Lesson/ Activity	Day and Time	Lesson/ Activity
<b>Monday: Chicken Alfredo, peach lemonade, salad</b>	Careers in the Food System	<b>Tuesday: Pickles, Green chicken enchiladas,</b>	Processing, Branding and Sustainability	<b>Wednesday: Burgers and fries peach cobbler</b>	Community, Dignity & Intersections
<b>10:00–10:30 AM</b>	Welcome, Warm-up, Agenda Overview	<b>10:00–10:30 AM</b>	Warm-up & Agenda Review	<b>10:00–10:30 AM</b>	Warm-up & Overview

Resilient Food System Immersion Curriculum Pilot

<b>10:45-10:50</b>	5 min break	10:45-10:50	5min Break	10:45-10:50	5 min break
<b>10:30-11:00</b>	Recap of food system and introduce Careers in the Food System- Hand out Career Flashcards, choose one to present to class	10:30-11:00	Intro to Food Processing & Value-Added Products	10:30-11:00	Story Sharing: Lived Experiences in Food & Farming
<b>11:00-11:05 PM</b>	5 min break	11:00-11:05 PM	5 min break	11:00-11:05 PM	Show documentary
<b>11:05-1:05 PM</b>	instructions (splitting up jobs, dishwash, table set) Cooking activity- Chicken Alfredo	11:05-12:00 PM	Food Safety & Canning Activity - Making local pickles	11:05-1:05 PM	Cooking Activity & Lunch: Breakfast challenge using local market ingredients
<b>1:05-1:15 PM</b>	10 MIN Break	1:05-1:15 PM		1:05-1:15 PM	Return & Lunch Wrap-Up
<b>1:15-2:15 PM</b>	Build more on Farm business activity from last week, ask students to share what kind of jobs/ careers they would need to hire to operate a farm business or partner up with to have a successful one.	1:15-2:15 PM	Branding Workshop: Design and pitch a label for canned product	1:15-2:15 PM	Awards Ceremony: Certificates & Recognitions
<b>2:15-2:30 PM</b>	Group Sharing: Career paths that inspired you	2:15-2:30 PM	Sustainability and Food Waste Discussion	2:15-2:30 PM	Final Feedback Survey & Closing Discussion

2:30- 3:00PM	Reflection	2:30 - 3:00PM	Daily Reflection & Group Share	2:30- 3:00PM	N/A
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## Introductions to environment, ecosystems, climate, agriculture, and environmental impact assessments

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### Introduction (15 minutes)

- **Objective:** Briefly introduce the topic of ecosystems, climate change, and agriculture. Discuss how these factors intersect and influence one another.
- **Materials Needed:** Whiteboard or digital slides, markers.
- Instructions:
  - Begin with a quick overview of ecosystems, climate change, and agriculture.
  - Explain how agriculture is both influenced by and contributes to environmental issues like climate change, water use, and biodiversity.
  - Provide examples of real-world intersections, such as sustainable farming practices reducing carbon footprints, or climate change affecting crop yields.
  - Encourage students to ask questions and share thoughts to engage them right from the start.

Creating a diorama to represent the intersection of ecosystems, climate change, and agriculture can be both engaging and visually impactful. Here's a step-by-step guide to help you display the concepts in a creative, three-dimensional way:

### Materials Needed for the Diorama:

- A large box (shoebox or similar size) or a piece of cardboard as the base
- Craft supplies (clay, colored paper, markers, paint, cotton balls, fabric, etc.)
- Small toy figures (optional)
- Natural elements (twigs, leaves, soil, small stones, etc.)
- Plastic or paper plants/trees
- Clear plastic wrap or other materials for representing water or rain
- Labels or small cards for explanation

### Steps for Creating the Diorama:

#### 1. Choose a Base and Create Divisions:

- **Select a Box/Surface:** Use a shoebox or large piece of cardboard for your diorama. The box can be divided into sections to represent different elements of the topic (e.g., ecosystems, agriculture, climate change).
- **Divide the Box:** Create three sections:
  1. **Ecosystem** (natural environment like forest, wetlands, or ocean)
  2. **Agriculture** (a farm or field with crops or livestock)
  3. **Climate Change Impact** (showing the effects like drought, flooding, or temperature extremes)

## 2. Represent Ecosystems:

- **Natural Landscape:** In the first section, create a natural ecosystem using natural elements (twigs for trees, cotton balls for clouds, small stones for mountains, etc.).
- **Add Details:** Place animals (toy or crafted) and plants (real or made from paper, clay, or fabric) in this section.
- **Highlight Biodiversity:** Use different colors of plants and animals to represent a thriving ecosystem (rich in biodiversity). Label these elements for clarity.

## 3. Illustrate Agriculture:

- **Farm Scene:** In the next section, design a farm with elements like:
  - **Crops:** Use green paper or fabric to show fields of crops like wheat, corn, or vegetables.
  - **Livestock:** Place small figures of animals (or create them using clay or paper).
  - **Farm Buildings:** If space allows, add barns or silos made from cardboard or other materials.
- **Water Use:** You can show a water source like a river or irrigation system (e.g., blue-colored paper or plastic wrap).
- **Interactions:** Create connections between this section and the ecosystem by placing the farm near a forest or wetland to show how they rely on healthy ecosystems.

## 4. Represent Climate Change Impact:

- **Weather Effects:** In this section, you can show the impact of climate change on both ecosystems and agriculture:
  - **Drought:** Use dried-up soil, cracked earth (colored clay or paint), or barren fields.
  - **Flooding:** Use plastic wrap or blue paper to simulate rising waters and submerged crops.
  - **Temperature Extremes:** Create a contrast in temperature by showing wilting plants, scorched earth, or snow in other sections.
- **Visual Impact:** Consider adding a "before and after" effect—e.g., one side of the section shows healthy crops, while the other shows them impacted by heat or drought.

## 5. Linking the Sections Together:

- **Connections Between Agriculture and Ecosystems:** Place arrows or lines showing how agriculture depends on ecosystems (for soil, water, pollination) and how both are affected by climate change.
- **Use Labels:** Include small labels in each section that explain how ecosystems, agriculture, and climate change are interconnected.
- **Interactive Component:** You could include small cards with facts or questions for the audience to read, encouraging them to think about how they can contribute to sustainable agriculture practices.

## 6. Final Touches:

- **Color & Detail:** Add vibrant colors, textures, and detail to make the diorama visually appealing. Use paint or markers to highlight specific features such as the sun, clouds, or effects of climate change.
- **Add Movement or Sound** (optional): If you're feeling creative, add small fans (for wind), cotton (for clouds), or sound effects like rainfall to make the diorama more interactive.

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## Example Layout for the Diorama:

- **Left Section (Ecosystem):** Show a healthy forest or wetland with diverse plants and animals. Include trees, animals like birds and insects, and healthy soil.
- **Middle Section (Agriculture):** Create a farm with crops and livestock, and show water sources like irrigation systems. Place it next to the ecosystem section to indicate the interdependence.
- **Right Section (Climate Change Impact):** Illustrate the effects of climate change, such as drought, extreme heat, or flooding. Show crops wilting, soil drying out, and disrupted ecosystems.

### Activity 1: Climate, Agriculture, and Ecosystem Intersections (45 minutes)

#### Activity Title: "The Intersections Web"

- **Objective:** Help students visualize the interconnectedness of climate, agriculture, and ecosystems.
- **Materials Needed:** Large poster paper or whiteboard, string or yarn, sticky notes, markers.
- Instructions:
  1. **Start with a central idea:** Write "Ecosystems" in the center of a large piece of poster paper (or on a whiteboard).
  2. **Add connections:** Ask students to think of different ways agriculture, climate, and ecosystems are connected. Write these ideas on sticky notes (e.g., "Deforestation," "Soil erosion," "Water consumption," "Carbon sequestration").
  3. **Create intersections:** Have students draw lines or connect these sticky notes to the "Ecosystem" in the center, showing how they are linked.
  4. **Extend the web:** Then, ask students to add how changes in one of these aspects (like climate change) can impact others (e.g., how deforestation affects carbon levels and climate). Continue to expand the web by adding new ideas.
  5. **Discussion:** End with a group discussion on the complexity of these intersections and how small changes can lead to large-scale environmental effects.

### Activity 1: Ecosystem, Climate, and Agriculture Simulation (45 minutes)

#### Activity Title: "The Climate & Ecosystem Simulation Game"

- **Objective:** Engage students in a dynamic simulation where they role-play different sectors of the ecosystem (e.g., farmers, climate scientists, wildlife conservationists, etc.) to explore how climate change and agricultural practices impact ecosystems.
- Materials Needed:
  - Role cards (e.g., farmer, climate scientist, local government, wildlife conservationist, community members)
  - Scenario cards (with different environmental conditions like drought, flooding, or crop failure)
  - Large whiteboard or poster paper, markers
  - Timer

#### Instructions:

1. Introduction (10 minutes):
  - Begin by explaining the interconnectedness of climate, agriculture, and ecosystems. Emphasize how actions in one area can lead to changes in others (e.g., agricultural expansion leading to deforestation, or climate change affecting crop yields).
  - Explain that students will take on different roles to simulate how various sectors impact the food system and the environment.
2. Assign Roles (5 minutes):
  - Split the group into smaller teams (3-5 people per team). Each team is assigned a role in the ecosystem and agriculture:
    - **Farmers** (focused on crop production, livestock, irrigation, etc.)
    - **Climate Scientists** (concerned with climate patterns, climate data, and impacts)
    - **Wildlife Conservationists** (focused on protecting biodiversity, ecosystems)
    - **Local Government Officials** (focused on policies, regulations, and supporting communities)

- **Community Members** (focus on human health, food security, and sustainable living)
  - Hand out role cards with a description of each role's responsibilities and goals. Each group is encouraged to think about how their actions impact the other roles and sectors.
  - 3. Scenario Cards (5 minutes):
    - Draw a scenario card from a deck (e.g., "Severe drought threatens water supply," "Rapid urbanization leads to loss of farmland," "Sudden shift in rainfall patterns affects crop yields").
    - Read the scenario aloud to the group. Each role will now have to respond to the new scenario, discussing the immediate and long-term effects on the environment, climate, and agriculture.
  - 4. Simulation (20 minutes):
    - Teams (in their assigned roles) work together to decide on a strategy to handle the scenario. For example, farmers might decide to switch crops or implement water-saving practices, while climate scientists analyze data to predict future trends.
    - Each team must present their strategy, explaining how their response to the scenario will affect other sectors. For example:
      - If the government decides to enforce a water-use restriction, how does that affect farmers?
      - How will wildlife conservationists react to loss of biodiversity due to agricultural expansion?
      - What can community members do to support sustainable farming practices?
  - 5. Group Reflection (5 minutes):
    - After the simulation, gather the students for a brief reflection. Discuss the challenges and trade-offs that each role faced when responding to climate and agriculture scenarios.
    - Use the whiteboard to create a visual map of how the different sectors interacted. Discuss how decisions made in one area (e.g., farming practices) have ripple effects on other sectors (e.g., wildlife conservation, water availability, or community health).
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## Activity 2: Environmental Impact Assessment Trial (1 hour)

### Activity Title: "Mini Environmental Impact Assessment"

- **Objective:** Introduce students to how environmental impacts are assessed, focusing on agricultural practices.
- **Materials Needed:** Printable worksheets for assessment, checklists, pencils, a sample farm scenario (you can create a simple case study of a local farm or community garden), access to online or printed resources on agriculture and environmental impacts.
- Instructions:
  1. **Introduction (10 minutes):** Briefly explain what an Environmental Impact Assessment (EIA) is and why it's important in both environmental conservation and sustainable agriculture.
  2. **Case Study (15 minutes):** Present students with a scenario where a local farm (or a fictional farm) is considering expanding its operations. For example, this could involve increasing the amount of crops grown or introducing new livestock.
  3. **Assessment Trial (25 minutes):**
    - Hand out EIA worksheets with questions such as:
      - What is the potential impact on water resources?
      - How might this affect local wildlife or biodiversity?
      - What could be the consequences for soil quality and erosion?
      - How might this impact the local climate (e.g., carbon emissions)?
    - Have students assess the farm's expansion by evaluating these aspects. They should consider both positive and negative effects and prioritize them.

4. **Reflection (10 minutes):** Have the students share their findings with the group. Discuss how different farming practices (e.g., monoculture vs. polyculture) impact ecosystems and climate.
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### Cooking Activity: Sustainable Farm-to-Table (1 hour)

#### Activity Title: "Cooking with Local, Sustainable Ingredients"

- **Objective:** Teach students how to cook using fresh, locally sourced ingredients while discussing the environmental benefits of supporting local agriculture.
  - **Materials Needed:**
    1. Ingredients sourced from the farm or local market (e.g., seasonal vegetables, herbs, grains, etc.)
    2. Cooking utensils, cutting boards, bowls, knives, stoves.
    3. Recipe handouts (simple dishes like seasonal salads, stir-fries, or soups).
  - **Instructions:**
    1. **Introduction to Cooking (5 minutes):** Briefly talk about the environmental benefits of farm-to-table cooking, such as reduced carbon emissions, lower food miles, and supporting local farmers.
    2. **Hands-on Cooking (40 minutes):**
      - Have students work in small groups to prepare a meal using the locally sourced ingredients.
      - Encourage them to discuss how each ingredient is grown (e.g., is it organic? Does it require a lot of water? How does it affect the local ecosystem?).
      - Guide them through a simple recipe, such as a vegetable stir-fry, seasonal salad, or soup.
    3. **Tasting & Discussion (15 minutes):**
      - Once the dish is prepared, allow the students to enjoy the meal together.
      - While eating, facilitate a discussion about the environmental benefits of cooking with fresh, local produce. Ask them how supporting local agriculture can help reduce the environmental footprint of their food choices.
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### Wrap-Up and Reflection (30 minutes)

#### Activity Title: "Environmental Pledge & Reflection Circle"

- **Objective:** Have students reflect on what they've learned about agriculture, ecosystems, and environmental impact.
- **Materials Needed:** Sticky notes, pens, large bulletin board or wall space.
- **Instructions:**
  1. **Reflection (10 minutes):** Ask students to think about what they've learned during the day's activities. What surprised them the most? How do they think agriculture, ecosystems, and climate are connected?
  2. **Pledge (15 minutes):**
    - Have students write down one action they can take to reduce their environmental impact (e.g., "I will buy local produce," "I will reduce food waste," "I will start a composting bin").
    - They'll stick their pledges on the board, sharing with the group.
  3. **Final Discussion (5 minutes):** Close with a group discussion, encouraging students to continue exploring sustainable agriculture and climate-conscious living.

## Introductions Food System Overview

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### Food System Overview and Sectors (1 hour)

#### Activity 1: Food System Escape Room

- **Objective:** Help students understand the different sectors of the food system (production, processing, distribution, consumption, waste) through an exciting problem-solving activity.
- **Materials Needed:**
  - Clues or puzzles related to each food system sector (printed cards or hidden in envelopes)
  - Whiteboard or flip chart to track progress
- **Instructions:**
  - Divide the group into small teams and give each team a starting point in the "escape room." Each clue leads to the next and focuses on a specific sector of the food system.
  - For example, a clue in the "Farm" sector might ask, "What are the environmental impacts of industrial farming?" or "List three benefits of organic farming." To move forward, teams must answer or solve the puzzle.
  - Once teams have unlocked all clues and sectors, they come together to discuss how each sector connects to others. The goal is to learn about the food system in a fun, hands-on way and see how each part fits together.

#### Activity 2: Local Food System Mapping with a Twist (30 minutes)

- **Objective:** Encourage students to identify food system assets in their own communities and discuss intersections.
- **Materials Needed:** Large map of the community (or blank paper), markers, sticky notes.
- **Instructions:**
  - Provide a map of their local community or ask them to create one (if digital tools are available, they can use Google Maps or an app).
  - Ask students to mark the location of food-related assets: local farms, community gardens, food banks, grocery stores, food trucks, farmers' markets, etc.
  - Once the assets are mapped, give students different colored sticky notes or markers to identify intersections: How do these locations interact? For example, a farm could be linked to a grocery store that sells fresh produce, or a food bank could be connected to a local restaurant.
  - Have students reflect on how these intersections could impact the community (e.g., supporting local economies, reducing food insecurity, improving sustainability).

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### Identify Intersections and Impacts (1.5 hours)

#### Activity 3: Food System Debate (45 minutes)

- **Objective:** Engage students in critical thinking about the impacts of different sectors of the food system.
- **Materials Needed:** Debate cards with food system issues (e.g., "Should we switch to 100% organic farming?", "Does urban farming help reduce food insecurity?", "Should fast food chains be taxed for unhealthy food?")
- **Instructions:**
  - Divide students into two teams. Each team will receive a topic related to food systems, and each student will take turns presenting an argument for their assigned position.

- Teams will debate for 5-10 minutes, discussing the economic, social, and environmental impacts of their assigned issue. Afterward, have a reflection session where everyone can discuss how these debates relate to real-world food system challenges.

#### Activity 4: The Ripple Effect (45 minutes)

- **Objective:** Help students understand how changes in one sector can have widespread effects across the food system.
  - **Materials Needed:** Large poster paper, markers, food system icons (e.g., farm, grocery store, compost bin, etc.), sticky notes.
  - **Instructions:**
    - Students will draw a basic diagram of the food system on a large sheet of paper (or use a digital tool).
    - As a group, students will choose one part of the food system (e.g., "local farm" or "waste reduction") and explore how changes to that part could affect other sectors.
    - For example, if local farms use sustainable practices, this could reduce carbon emissions, benefit community health, and support local economies. Each change is represented with a sticky note and connected with arrows to show the ripple effect.
    - Afterward, students can discuss the real-world consequences of these interconnections and brainstorm ways to make positive changes.
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#### Cooking Activity: Farm-to-Table Challenge (1 hour)

#### Activity 5: Farm-to-Table Cooking Competition

- **Objective:** Let students experience the cooking process firsthand using local, fresh ingredients and reflect on the role of food in the system.
  - **Materials Needed:**
    - Fresh, local produce (e.g., tomatoes, greens, herbs, etc.)
    - Basic cooking ingredients (olive oil, vinegar, seasonings)
    - Cooking supplies (stoves, pots, cutting boards, utensils)
    - A timer, and competition judging sheet (for fun!)
  - **Instructions:**
    - Divide the students into small teams, and assign each team a cooking challenge: Create a simple dish using locally sourced, fresh ingredients.
    - Teams have 30-40 minutes to cook, with a challenge to incorporate at least one local or seasonal ingredient.
    - While cooking, students will discuss how the ingredients they're using might have been sourced and the environmental or economic impacts of choosing local products.
    - At the end of the activity, each team presents their dish, explaining how it ties into the food system and the benefits of using local food.
    - Have everyone vote on the most creative or delicious dish (without judging the cooking skills too harshly), and encourage discussion about the importance of cooking with fresh, locally sourced ingredients.
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#### Wrap-Up and Reflection (30 minutes)

#### Activity 6: Food System Pledge Wall

- **Objective:** Encourage students to reflect on what they've learned and how they will apply it to their everyday lives.

- **Materials Needed:** Sticky notes, pens, a large wall or bulletin board.
- Instructions:
  - Have students write down one or two things they plan to do to improve or support the local food system (e.g., "I will shop at the local farmers' market," "I will reduce food waste by composting").
  - Afterward, invite everyone to place their sticky notes on a "Food System Pledge Wall" and share their ideas with the group.
  - Encourage students to keep thinking about their role in the food system and how they can continue learning and making a difference.

## Introduction to Food Choices and Health (20 minutes)

- **Objective:** Set the stage for the program by discussing the importance of food choices and how they affect overall health.
- **Materials Needed:** Whiteboard, markers, handouts or slides with facts about healthy eating, food choices, and health.
- Instructions:
  1. **Introduction (5 minutes):** Begin by discussing how our food choices affect our health, energy levels, and long-term well-being. Ask students to think about what factors influence the foods they eat daily.
  2. **Discussion (10 minutes):** Lead a short discussion on factors that affect food choices, such as:
    - Convenience (time, availability)
    - Price (budget constraints)
    - Nutrition (health benefits)
    - Taste and preference
    - Family or cultural influences
  3. **Food Facts (5 minutes):** Share basic statistics about food and health (e.g., the link between diet and obesity, heart disease, etc.). Mention how making healthier food choices is a critical part of preventing lifestyle diseases
- Watch Documentary
- If your goal is to focus on the impact of diet on health, "Forks Over Knives" and "Super Size Me" are strong choices.
- If you want to explore the ethical and environmental implications of food choices, "Food, Inc.", "The Biggest Little Farm", and "What the Health" will provide important context.
- If you are interested in **the sugar content of processed foods**, "That Sugar Film" will provide an engaging, accessible way to understand the risks of sugar consumption.

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### Activity 1: Analyzing Grocery Shopping Factors (45 minutes)

#### Activity Title: "Grocery Shopping Challenge"

- **Objective:** Help students analyze the different factors that influence grocery shopping choices, and how to make informed decisions.
- **Materials Needed:** Mock grocery store flyer or digital shopping list (with prices), calculators, handouts with tips on healthy shopping.
- Instructions:
  1. **Introduction (5 minutes):** Briefly discuss the common factors that influence grocery shopping decisions (e.g., cost, convenience, nutritional value). Explain that students will make decisions based on a budget while aiming for a healthy shopping list.

2. Shopping Challenge (30 minutes):
    - Break students into small groups (3-4 people).
    - Give each group a scenario with a set budget (e.g., “You have \$30 to buy groceries for a week. Your goal is to make healthy food choices while staying within budget. Plan meals for the week and fill your grocery list.”).
    - Each group will receive a **mock grocery store flyer** or **shopping list** (with prices for various items, including healthy and less-healthy options). They must choose items that fit the budget and aim for nutritious meals.
    - Encourage them to consider factors like price per unit, nutrient density, and long-term storage when making decisions.
  3. Group Reflection (10 minutes):
    - Have each group present their grocery list and explain their choices. Discuss the challenges they faced in balancing healthy choices and staying within budget.
    - Share tips for smarter grocery shopping, like buying in bulk, looking for sales, or choosing whole grains and fresh produce over processed foods.
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## Activity 2: Understanding Barriers to Healthy Choices (45 minutes)

### Activity Title: "Barriers to Healthy Eating Discussion"

- **Objective:** Help students understand common barriers to making healthy food choices, with a focus on food deserts.
- **Materials Needed:** Whiteboard, markers, printed statistics or facts about food deserts, discussion prompts.
- Instructions:
  1. **Introduction to Food Deserts (10 minutes):** Explain what a **food desert** is (an area where access to affordable and nutritious food is limited). Share statistics or a brief video about food deserts in different regions.
  2. Group Discussion (15 minutes):
    - Break students into small groups and give them some discussion prompts about food deserts and barriers to healthy eating. Examples include:
      - What makes it difficult for people to eat healthy in low-income areas?
      - How does living in a food desert impact someone's health and food choices?
      - What are the challenges in accessing fresh produce or affordable food in these areas?
      - How do personal, social, and economic factors influence what people buy and eat?
    - Have each group write down key insights from their discussion.
  3. **Class Debrief (10 minutes):** Bring the groups together and discuss their answers. Write down the barriers mentioned (e.g., lack of access to fresh food, high cost of healthy options, convenience of fast food, lack of transportation) and talk about potential solutions.
  4. **Reflection (10 minutes):** Ask students to reflect on their own communities. Do they think food deserts exist where they live? How can they or their communities overcome these barriers to make healthy food more accessible?

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## Cooking Lesson: Healthy Meal Prep (1 hour)

### Activity Title: "Healthy Cooking on a Budget"

- **Objective:** Teach students how to prepare a simple, nutritious meal on a budget, while emphasizing the importance of making healthy food choices.

- **Materials Needed:**
    1. Fresh ingredients (vegetables, lean protein, whole grains, etc.), cooking utensils, cutting boards, pans, stove or oven, recipe handouts.
    2. Example recipe: Vegetable stir-fry with brown rice or quinoa
  - **Instructions:**
    1. **Introduction (5 minutes):** Talk about the importance of preparing meals at home as a way to make healthier food choices. Discuss the benefits of cooking from scratch (e.g., control over ingredients, lower cost, healthier).
    2. **Demonstration (10 minutes):** Briefly demonstrate how to prepare a simple, healthy meal (e.g., stir-fry with a variety of vegetables, lean protein like chicken or tofu, and a whole grain like quinoa or brown rice). Explain how the meal is balanced and nutritious.
    3. **Cooking Activity (30 minutes):**
      - Have students work in small groups to cook the dish. Ensure they follow the recipe and are using nutritious ingredients. Emphasize the importance of portion sizes and balanced nutrition.
      - Encourage them to think about how they could adapt the recipe for different dietary preferences or restrictions (e.g., vegetarian, gluten-free).
    4. **Tasting and Discussion (15 minutes):** Once the dish is prepared, allow students to taste their creations. While eating, discuss the challenges and benefits of cooking healthy meals at home. Ask them how this recipe might fit into a weekly meal plan or how it could be modified to meet different tastes or dietary needs.
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### Wrap-Up and Reflection (10 minutes)

#### Activity Title: "Healthy Eating Reflection"

- **Objective:** Wrap up the program with a reflection on what students have learned and how they can apply it in their lives.
- **Materials Needed:** Sticky notes, pens, whiteboard.
- **Instructions:**
  1. **Reflection (5 minutes):** Ask students to write down one barrier to healthy eating they learned about and one strategy they can use to overcome it (e.g., "I learned that food deserts make healthy eating difficult. A strategy to overcome it is meal prepping with local ingredients.>").
  2. **Sharing (5 minutes):** Have students share their reflections with the class or in small groups. Collect their sticky notes and use them to create a visual board showing common barriers and strategies for overcoming them.
  3. **Closing Thoughts:** Conclude by reminding students that healthy eating is not only about making good food choices but also about being mindful of the barriers they face. Encourage them to continue exploring ways to make healthier choices in their daily lives.

### Introduction to Careers in the Food System (20 minutes)

- **Objective:** Kickstart the program with an introduction to the diverse career opportunities in the food system.
- **Materials Needed:** Whiteboard, handouts with career examples, projector for slides or videos.
- **Instructions:**
  1. **Introduction (5 minutes):** Briefly introduce the concept of the food system and its various components (production, distribution, processing, sustainability, etc.).
  2. **Career Overview (10 minutes):** Present a slideshow or handouts detailing different career paths in the food system, such as:
    - **Agriculture:** Farmers, farm managers, crop scientists.

- **Food Production & Processing:** Food scientists, quality control specialists, product development.
  - **Sustainability & Environmental Careers:** Environmental scientists, sustainable farming experts, waste management.
  - **Nutrition & Health:** Dietitians, public health experts, food safety specialists.
  - **Food Entrepreneurship & Business:** Food entrepreneurs, marketing professionals, logistics managers.
  - **Food Distribution & Retail:** Supply chain coordinators, food buyers, grocery store managers.
3. **Discussion (5 minutes):** Ask students to reflect on which areas of the food system they find most interesting and why. This could serve as a starting point for the day's activities.
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### Activity 1: Career Exploration "Food System Career Speed Networking" (1 hour)

- **Objective:** Allow students to explore various career paths in the food system through a simulated networking event.
  - **Materials Needed:** Career cards (representing different food system roles), timer, name tags.
  - Instructions:
    1. **Setup (5 minutes):** Prepare cards that describe different food system careers (e.g., food scientist, sustainable agriculture consultant, nutrition expert). Each student will receive a career card that outlines the job, skills required, and educational pathways.
    2. **Speed Networking Format (40 minutes):** Students will pair up with each other for **5-minute discussions** about their career cards. During the discussion, students should share what they know or think about each career and ask questions to gain a deeper understanding. At the end of each round, students rotate to a new partner.
    3. **Reflection (15 minutes):** After the networking rounds, have students gather together and discuss what they learned about different careers. Which career stood out to them the most and why? What skills or qualifications would they need for these careers? This encourages students to start thinking about the steps they would need to take to pursue these fields.
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### Activity 4: "Create Your Own Food System Business" (40 minutes)

- **Objective:** Encourage students to apply their knowledge of the food system by developing a potential food-related business idea.
- **Materials Needed:** Paper, markers, pens, handouts with a business plan template.
- Instructions:
  1. **Introduction (5 minutes):** Explain that students will work in small groups to create their own food system business. They should think about what part of the food system they want to focus on (e.g., sustainable farming, food distribution, nutrition consulting, food trucks, etc.).
  2. Business Planning (25 minutes):
    - In small groups, students will fill out a **business plan template** that includes:
      - Name and concept of their business
      - Target market (who they will serve)
      - Products or services offered
      - Career opportunities within their business
      - What skills are necessary to work in their business
    - Encourage creativity and sustainability, as well as connections to current trends in the food industry (e.g., plant-based foods, local sourcing, eco-friendly packaging).
  3. **Group Presentations (10 minutes):** Each group will present their business idea to the class. Encourage them to think about potential careers that could be created within their business.

### Program Wrap-Up and Reflection (20 minutes)

- **Objective:** Conclude the program with a reflection on career pathways, connections made with businesses, and takeaways from the activities.
- **Materials Needed:** Reflection handouts, pens.
- Instructions:
  1. **Reflection (10 minutes):** Have students fill out a short **reflection sheet** answering questions like:
    - What career path in the food system interested you the most, and why?
    - What is one thing you learned about food system businesses or organizations today?
    - What steps can you take now to explore this career further?
  2. **Discussion (10 minutes):** Invite students to share their reflections. Encourage them to continue exploring career options in the food system and to take advantage of any future internships, volunteer opportunities, or mentorship programs.

### Introduction to Processing & Value-Added Agriculture (30 minutes)

- **Objective:** Introduce students to the concept of value-added agriculture and food processing.
- **Materials Needed:** Presentation slides, whiteboard, handouts with examples of value-added agricultural products (e.g., jam, canned vegetables, dried fruit).
- Instructions:
  1. **Introduction (10 minutes):** Provide an overview of what food processing and value-added agriculture mean. Explain that value-added agriculture refers to the process of taking a raw agricultural product and turning it into a more valuable product through processing (e.g., turning fruit into jam, milk into cheese, vegetables into canned goods).
  2. **Key Components of Processing Business (20 minutes):** Walk students through the basic components of a food processing business:
    - **Raw materials:** The agricultural products to be processed.
    - **Processing techniques:** Methods for transforming raw materials (e.g., canning, freezing, fermentation).
    - **Packaging and labeling:** Ensuring the product remains safe and appealing to consumers.
    - **Distribution and marketing:** How processed products reach consumers and are marketed.

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### Activity 1: Canning Workshop (1 hour 30 minutes)

- **Objective:** Teach students the basics of food preservation by canning, a key value-added technique.
- **Materials Needed:**
  1. Fresh fruits or vegetables (e.g., peaches, tomatoes, cucumbers, or berries)
  2. Canning jars, lids, and rings
  3. Large pot for sterilizing jars
  4. Water bath canner or large pot for processing
  5. Canning funnel and ladle
  6. Measuring cups, knives, cutting boards
  7. Food safety guidelines for canning
  8. Labels and pens for branding the jars
- Instructions:
  1. **Introduction to Canning (10 minutes):** Explain the process of canning as a method of preserving food. Discuss the importance of food safety, such as sterilizing jars and ensuring the food is sealed

correctly to avoid contamination. Outline the steps in the canning process (e.g., preparing the product, sterilizing the jars, processing in a water bath, and sealing).

2. **Hands-On Canning Activity (60 minutes):**
    - **Step 1: Prepare the Produce (10 minutes):** Students will wash and cut the fruits or vegetables that will be canned.
    - **Step 2: Sterilize the Jars (10 minutes):** Students will prepare jars by boiling them to ensure they are sanitized.
    - **Step 3: Fill Jars (10 minutes):** Using a canning funnel, students will carefully pack the prepared produce into the sterilized jars, leaving proper headspace.
    - **Step 4: Process in Water Bath (20 minutes):** The filled jars will be processed in a boiling water bath for the required amount of time to ensure that they are sealed properly.
    - **Step 5: Seal and Label Jars (10 minutes):** After processing, students will remove the jars from the water bath and check that the seals have formed. They will also label the jars with the product name and date.
  3. **Food Safety Focus (10 minutes):** As students work, explain key food safety practices in canning, including:
    - Properly sterilizing jars and lids.
    - Ensuring that jars are sealed correctly.
    - The importance of using the correct processing time and temperature to prevent foodborne illness.
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#### Activity 2: Food Safety Practices for Processing (45 minutes)

- **Objective:** Identify the essential needs for food safety during processing to ensure products are safe for consumption.
  - **Materials Needed:** Handouts on food safety guidelines (FDA, USDA), scenario cards, food safety posters.
  - Instructions:
    1. **Introduction to Food Safety (10 minutes):** Discuss the critical aspects of food safety during the processing of agricultural products. Explain common food safety risks in food processing (e.g., bacterial contamination, cross-contamination, improper temperature control).
    2. **Food Safety Scenarios (20 minutes):** Divide students into small groups. Provide each group with a **scenario card** that describes a potential food safety issue that could occur during food processing (e.g., improper sealing, dirty equipment, or inadequate cooking time). Have each group brainstorm solutions and write down their response.
      - Example Scenarios:
        - A jar didn't seal correctly during the canning process.
        - The produce was not heated to the correct temperature during canning.
        - Cross-contamination occurred because equipment wasn't sanitized between batches.
    3. **Group Presentations (10 minutes):** Have each group present their food safety scenario and solutions. Emphasize the importance of proper hygiene, temperature control, and sterilization during food processing.
    4. **Wrap-Up (5 minutes):** Conclude with a brief recap of food safety guidelines and how they apply to canning and other food processing techniques.
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#### Activity 3: Brand Development for Processed Products (45 minutes)

- **Objective:** Teach students about the importance of branding for processed food products and how to develop a brand identity.
- **Materials Needed:** Paper, markers, examples of food brands, brand development worksheet.

- Instructions:
    1. **Introduction to Branding (10 minutes):** Explain the role of branding in the food industry. Discuss how branding goes beyond a logo to include elements like product packaging, storytelling, target audience, and the values associated with the brand. Provide examples of successful food brands (e.g., "Mott's" for applesauce or "LaCroix" for sparkling water).
    2. **Brand Development Exercise (25 minutes):** In small groups, students will develop a brand for the canned product they made during the canning workshop. They will:
      - Create a **brand name** for their product.
      - Design a **label** for their canned product (they can sketch or use a template).
      - Write a **brand story**: What makes their product unique? Why should consumers buy it?
      - Define their **target audience** (e.g., health-conscious consumers, busy families, environmentally-conscious shoppers).
      - Develop a **slogan** for the product.
    3. **Group Presentations (10 minutes):** Have each group present their brand name, label, and story to the class. Encourage students to think about how they would sell their product and what makes it different from other canned products on the market.
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### Program Conclusion and Reflection (10 minutes)

- **Objective:** Conclude the program with a reflection on the key lessons learned and how students can apply them to real-world situations.
  - **Materials Needed:** Reflection sheets, pens.
  - Instructions:
    1. **Reflection Activity (5 minutes):** Hand out reflection sheets with the following questions:
      - What was the most interesting thing you learned about food processing and canning today?
      - What did you learn about food safety in the processing industry?
      - How would you apply the branding strategies you learned to create a food product?
    2. **Group Discussion (5 minutes):** Allow a few students to share their reflections. Discuss how they can apply these insights in real life, whether in entrepreneurship or pursuing a career in food processing.
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### Summary:

In this **4-hour program**, students will:

1. **Understand key components** of a food processing business and the importance of value-added products.
2. **Learn food safety** practices essential for preserving and processing food.
3. **Explore brand development** and create a brand identity for their processed food product.
4. **Engage in a hands-on canning activity**, learning how to preserve food safely while practicing important food processing techniques.

This program provides both theoretical knowledge and practical experience, allowing students to get hands-on with the food processing industry while also learning about the importance of food safety and branding.