

From Farm to Table

Description

Introduction:

This lesson will identify some of the vegetables that are produced on a farm and their nutritional value. Next, the students will identify vegetables that are familiar to them and some that are not familiar. Lastly, the students will design and implement a Supervised Agriculture Experience project which is a teacher supported project where the student will create small garden of their own and document their experience from start to finish. This experience will mirror what a farm to table would look like in the classroom.

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Lesson Plan Tags

Check the standards that are met in your lesson plan, check all that apply.

- Middle School High School 6th Grade Science 7th Grade Science
 8th Grade Science Middle School Math Middle School CTE
 Biology Chemistry Physics Energy Harvesting Anatomy
 Other High School Science High School Math

HS Family and Consumer Science
HS BFIT
HS Marketing & Entrepreneurship
Agriculture
HS Technology
Trade & Industrial
Health Science

Introduction

Food deserts exist all over the United States. These are places where there are not quality grocery stores, where people do not know how to grow their own food, or where food outlets are not available in sufficient numbers - thus leaving an abundance of people longing for affordable high quality food. According to NC Policy Watch, greater than “six percent of North Carolina households face very low food security, meaning that at least one person in the household reduces food intake or changes their eating pattern due to a lack of resources at any point during the year.” Along with this phenomena, many people both adults and students do not understand or value the process of growing a garden from start to finish and seeing the fruits of their labor. Thereby they cannot understand and appreciate sound nutritional practices of preparing nutritional meals that will benefit themselves health wise in the future.

Curriculum Alignment



Agriculture, Food & Natural Resources Career Cluster (AG)

	Standard
	Examine and summarize the importance of nutrition
	Analyze the interaction among systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources.
Food Products & Processing Systems Career Pathway (AG-FD)	Identify and apply principles of nutrition
	Select and process food products for storage, distribution and consumption.
	Explain the scope of the food industry and the historical and current developments of food products and processing.
Plant Systems Career Pathway (AG-PL)	
College & Career Readiness Anchor Standards for Language	

Language Standards

Conventions of Standard English	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	
	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	
	9-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
	9-12.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
Knowledge of Language	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.	
	9-12.3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Common Core Standards

College & Career Readiness Anchor Standards for Speaking and Listening

Speaking & Listening Standards

Comprehension & Collaboration	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	
	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	
	9-12.1	Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
	9-10.2	Integrate multiple sources of information presented in diverse media or formats evaluating the credibility and accuracy of each source.
	11-12.2	Integrate multiple sources of information presented in diverse formats and media in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
Presentation of Knowledge & Ideas	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	
	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	
	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	

	9-10.4	Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
	9-12.5	Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
	9-12.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
	11-12.4	Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.



Common Core Standards

College & Career Readiness Anchor Standards for Writing

Writing Standards

Text Types & Purposes	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	
	9-12.2	Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
Production & Distribution of Writing	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	
	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	
	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	
	9-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
	9-12.5	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
	9-10.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
	11-12.6	Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
	Research to Build & Present Knowledge	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.		
Draw evidence from literary or informational texts to support analysis, reflection, and research.		

	9-12.7	Conduct short as well as more sustained research projects to answer a question or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
	9-10.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
	9-12.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.

Source: www.icevonline.com

Objectives

1. Students will define the phrase ‘farm to table’.
2. Students will identify various vegetables.
3. Students will determine the nutritional value of vegetables
4. Students will plan a spring and fall vegetable garden.
5. Students will learn how to harvest vegetables.
6. Extension activity: Students will taste the vegetables that they have grown or the teacher may buy some vegetables for students to sample.

Time & Location

For 5 days at a duration of 90 minute classes (can be broken down into chunks).

Location: In the classroom, greenhouse, and garden beds.

Teacher Materials

This lesson could be catered for your area and the project can be a small scale in class project or a larger unit where raised beds or greenhouses on the school ground can be used.

-Farm to table word search

-Drawing paper

-A small garden area

-Hoes, rakes, shovels, trowels, gloves and other gardening equipment

-Poster boards and pencils

- Plants or seeds (normally, local nurseries or home improvement places will help) for the cooking class, you can even ask local grocery stores – they maybe would be willing to assist you as a teacher. The students will be able to use the cafeteria area or if your school has an instructional kitchen, or if none of these seem to be an option, then use your classroom if that would be appropriate. You will need a basic cookbook, a recipe for vegetables, cooking utensils like bowls, and a platter and plate’s for serving the sample vegetables on.
- Camera or iPad for before and after pictures of the garden

Student Materials

- A worksheet on growing your own vegetables
- Seeds, soil, and area of land or use container to plant your seeds in

Safety

The teacher will review the following rules with the students for working inside the classroom and outside in the garden.

1. Do not run inside the room or outside in the garden area
2. Do not waste soil
3. Do not over water
4. Review and practice proper knife safety and food handling techniques
5. Use your gloves
6. Use your aprons
7. Use the proper eyewear
8. Do not use any chemicals
9. If students are outside for long periods of time hydration and sun exposure need to be considered
10. Teacher needs to be aware of any student allergies

Student Prior Knowledge

The student should know some basic vegetables, how to plant various vegetables, should know how to plan or draw a vegetable garden.

Teacher Preparations

The teacher should: Have an area set up for plots that the students can use, so that they can plant their vegetable garden. Also, the teacher should have the tools in place so that the students can go to work implementing their garden plan. Next, the teacher should have paper and pencils so that the students can map out a plan of how they want their garden to look. The teacher should have seeds or plants selected that will grow during the specific semester/quarter and in the area designated for the garden. If teacher is completing the extension activity, teacher should have contacts lined up to teach the students to cook the vegetables.

Activities

Class 1:

1st: For 5-15 minutes- Start the class with a warm up activity which is a word search on Farm to Table, vegetables, and nutrition words.

2nd: For 15 minutes- Have the students define the words from the word search.

3rd: For 10 minutes- As a class discuss what each word means.

4th: For 25 minutes- Students will review the Food Shuttle website and answer the following questions: What are the statistics on the number of people in hunger in Wake County? What are some of the other statistics that the students can expound upon from the website?

<http://foodshuttle.org/hunger-stories/north-carolina/>

5th: For the remainder of the class go outside and do a tour of potential land outside your classroom or plot that you have available for a garden. *Note: if this is not an option for your school, students can still plant seeds in cups and place them in the window of the classroom or under grow lights

6th: Exit Ticket- Before the students leave the classroom have them do informal questioning gauge what the students have learned about hunger in North Carolina.

Class 2:

1st: For 10 minutes- Warm-Up Activity: See what the students have retained from the previous day. How many people in North Carolina are food insecure? How many families are affected by being in a food desert?

2nd: For 80 minutes- Start the class with having the students choose 5 vegetables from the list from provided and use the IPAD, laptop, or desktop and research the 5 vegetables. (*If these technologies are unavailable students could use their phones to conduct the research.) Once students have completed the

Research they will create a PowerPoint discussing the following for each of the 5 vegetables: the type of vegetable, nutritional value, how to grow this vegetable, and a slide about two types of recipes that use this vegetable as the primary ingredient. There will be a total of 7 slides for this PowerPoint (Introduction, body (one slide per vegetable), and conclusion)

3rd: Exit Ticket- Before the students leave the classroom have them do informal questioning gauge what the students have learned.

Class 3:

1st: For 5 minutes Warm-Up Activity: See what the students have retained from the previous day by asking them questions

2nd: For 35 minutes- Have the students to complete their PowerPoint.

3rd: For 35 minutes- go outside to your garden area, container pots or plot and have the students to look at the layout of the land.

- You may want to get a soil test done by your North Carolina extension agent to detect the amount of nitrogen, phosphorus, and potassium in the soil. Once you get this information back, you can make decisions on what fertilizers you need to add to the soil for optimal results.
- Next, students will make a list of the types of plants that they want to put in the garden, it should likely be the list of the 5 plants that they have researched for their PowerPoint.
- As the students start to put their ideas together for their drawing, they should keep in mind the direction of the garden (teacher will go over this information). Typically the garden rows should be in a north to south direction this will insure that each of the plants will get the most sunlight as the sun travels in an east to west pattern.
- Think about how large or small you want your garden to be. Typically, for the novice gardener, you should start off with a small garden. So, that students and the teacher could manage this area or if you are doing containers, make sure you have enough space for these containers outside a classroom and positioned away from the school lawn service professionals.

Once the students have an idea for their drawing and how these vegetables can fit in to this area they can sketch on paper using a clip boards, drafting paper or gardening software or applications.

4th: Exit Ticket- Before the students leave the classroom have them do informal questioning to gauge what the students have learned, i.e. what direction should plants be planted?

Class 4:

1st: For 10 minutes- Warm-Up Activity: See what the students have retained from the previous day.

2nd: For 40 minutes- Have the students now sit down and scale their drawing on paper. Put their drawings and sketches on paper (detailing the types of vegetables they want to plant, what direction should the plants be, the measurements between

each plant and each row, and the plants with unique symbols representing the plants with a decoder key at the bottom).

3rd Take the students outside and take a before picture with the IPAD or camera (and do an after picture once the vegetables have grown), while outside, have the students start the weeding process and/or clear off the garden area for planting.

4th Exit Ticket: Before the students leave the classroom have them do informal questioning gauge what the students have learned.

Class 5:

1st: For 20 minutes- Warm-Up Activity: Have the students to present their garden drawing.

2nd: For 40 minutes- Have the students to present their Farm to Table vegetable garden power point.

3rd: For 30 minutes- Have the students go outside to their garden area to plant the seeds for the 5 vegetables that they chose.

*Throughout the rest of the quarter/semester have students routinely go outside to work on the garden and check on their plants. Teacher can partner with a Family and Consumer Science teacher at the school to implement a class where students get to cook and eat the vegetables at the end. It is also a great idea to have students bag up the extra vegetables from the garden to be sent home with students who need it or give it to the guidance office at school to disperse in the school food pantry.

Extension classes

For these classes, the teacher could partner with a local food bank or the North Carolina Extension agents in their county to do a 5 week cooking class one day a week that would give students nutritional knowledge, learn about healthy food selection and practical knife handling skills to use to build on what they have learned throughout the previous lessons. If the teacher does not have access to the extension service, you could use your classroom and bring in healthy vegetables from what the students chose in their power points.

Assessment

The assessment will be the power point and the rubric. Also, there will be a grading rubric for the garden design project.

Critical Vocabulary

Farm, vegetables, plan, garden, produce, nutrition, healthy, food desert, harvest

Additional Resources

- Local Farmers Markets- <http://http://www.localharvest.org/>
- FFA Agricultural Education- www.ffa.org
- Culinary Arts- <http://fcclainc.org/>
- Skills USA- <http://www.skillsusa.org/>
- Interfaith Food Shuttle- <http://foodshuttle.org/hunger-stories/north-carolina>

Author Information

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PowerPoint Appearance and Content : Vegetable PowerPoint

Teacher Name: **Mr. Faulkner**

Student Name: _____

CATEGORY	4	3	2	1
Content - Accuracy	All content throughout the presentation is accurate. There are no factual errors.	Most of the content is accurate but there is one piece of information that might be inaccurate.	The content is generally accurate, but one piece of information is clearly flawed or inaccurate.	Content is typically confusing or contains more than one factual error.
Originality	Presentation shows considerable originality and inventiveness. The content and ideas are presented in a unique and interesting way.	Presentation shows some originality and inventiveness. The content and ideas are presented in an interesting way.	Presentation shows an attempt at originality and inventiveness on 1-2 cards.	Presentation is a rehash of other people's ideas and/or graphics and shows very little attempt at original thought.
Background	Background does not detract from text or other graphics. Choice of background is consistent from card to card and is appropriate for the topic.	Background does not detract from text or other graphics. Choice of background is consistent from card to card.	Background does not detract from text or other graphics.	Background makes it difficult to see text or competes with other graphics on the page.
Sequencing of Information	Information is organized in a clear, logical way. It is easy to anticipate the type of material that might be on the next card.	Most information is organized in a clear, logical way. One card or item of information seems out of place.	Some information is logically sequenced. An occasional card or item of information seems out of place.	There is no clear plan for the organization of information.