FAMILY AND CONSUMER SCIENCES (FACS)
Healthy Plant-Based Food Unit Implementation Guide

Middle School Level
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Introduction

Never doubt the difference one dedicated person can make!

Let us introduce Pat Fritz—one such difference-maker, indeed.

For over a decade, Mrs. Fritz has taught Family and Consumer Sciences classes at East Islip Middle School (EIMS) on Long Island. After school, she runs a FACS club, which is hugely popular. Students at EIMS get to tend a vegetable garden in the school’s courtyard, thanks to Mrs. Fritz. She’s teaching them about composting, too. Are you getting the picture? Mrs. Fritz is someone who really, really cares.

Back in 2008, Mrs. Fritz contacted NYCHSF, and told us how much she wanted to do something different for her students. We were excited about the chance to work with her to create a unit of food labs that focus on healthier, plant-based recipes, and we finally got that chance, in the spring of 2011.

Thanks to the generosity of Whole Foods Market’s stores on Long Island in Jericho and Manhasset, and with the kind cooperation of the East Islip School District, we were able to partner with Mrs. Fritz to conduct a pilot unit with her ten classes of 7th grade students. This guide is the result!

We offer this guide in the hope that it will be a helpful resource. Mrs. Fritz’s students really enjoyed these healthy, plant-based recipes; we bet your students will, too. Please stay in touch with us; we would love to get your feedback, and celebrate your successes.

NYCHSF thanks Mrs. Fritz, and we thank FACS educators everywhere. This is such important work, providing students with life skills that are critical for their health and happiness. We commend you for making a difference.

Amie Hamlin
Executive Director
New York Coalition for Healthy School Food

Jennifer Greene
Plant-Based FACS Pilot Project Manager
Why is this guide important?

The bad news

There is a health crisis in this country. We’re seeing higher-than-ever rates of diet-related diseases—preventable diseases—including type 2 diabetes, heart disease, stroke, and some types of cancer.

In New York State, 34% of children are overweight or obese. The Bogalusa Heart Study found that 50% of children between the ages of 2 – 15 have fatty streaks in their arteries, which is already the beginning stage of heart disease.

According to the Centers for Disease Control, 33% of children born in the year 2000 will develop type 2 diabetes at some point in their lives, if the current trend continues. For African Americans and Latinos, the numbers rise to a frightening 40 – 53%. This means more blindness, amputations, kidney dialysis, heart disease, poor quality of life, and early death.

The good news — FACS has the power to fix this!

The good news is that it doesn’t have to be this way. We know how to reverse these trends. A tremendous amount of disease and suffering can be prevented with healthy, whole-foods, plant-based eating. Compared to dishes with meat and dairy, plant-based dishes contain no cholesterol, less total and saturated fat, and more fiber. This is just what the doctor ordered!

- FACS educators can provide students with accurate, up-to-date information about nutrition and disease prevention.
- FACS curricula can stress the importance of increasing our intake of vegetables, legumes, fruits, and whole grains.
- In FACS classes, students can learn and practice healthy food preparation.

It’s been said that cooking is a dying art. In so many homes, even the basics of food preparation are not being taught. For many of our students, FACS class is their only opportunity to gain valuable life skills.
Thinking outside the (brownie) box…

We understand that **most FACS programs are given the tiniest of budgets**—which can seriously limit what recipes you can do.

Even though the recipes included in this guide are low-cost recipes (we found they averaged $0.50 per student), they may still cost you more than you have in your budget. So in Appendix A, you’ll find suggestions for **raising funds and obtaining donations** to help you incorporate these food labs into your planning.

Another point is that while many of us are aware that we need to eat more fruits, vegetables, and whole grains, the component of the meal that’s often overlooked is the main dish! The main dish is where we have the biggest opportunity to reduce cholesterol and saturated fat, and increase fiber. So we encourage you to include our main dish recipes in your healthy food preparation unit.

**Implementation tips**

**Public relations**

**Meet with your administration.** Explain your plan and get them on board.

Provide an article for posting at the **district’s website**.

Issue a **press release** or invite local **TV coverage** to publicize your healthy food unit to the wider community.

Invite members of the administration or board of education to **visit your classroom** and sample the results!

- Plan to have visitors and/or reporters come partway through the unit rather than at the beginning, so your students will be more familiar with food lab procedures.

- The Vegetable Teriyaki Stir-fry and Frozen Fruit Smoothies offer great color for photo opportunities, and sound for video.

Attend your school district’s summit for **local businesses** or other meetings about the community’s economic development, so you can promote your program or obtain funding from these groups.

Document the classroom activity. **Take lots of pictures.** This can help with future fundraising or lobbying for a higher budget.
**Please Note**

We've created an engaging slideshow you can use to **introduce your plant-based unit** to your students! It's called **“Seven Steps to Smarter Eating.”** It includes a complete presenter’s script. Download the file from [www.healthyschoolfood.org](http://www.healthyschoolfood.org). Go to the Resources Section and look for the FACS Food Unit.

Check your students for **food allergies** and 504 plans. For example, you might be offering almond milk as an option in the smoothie-making lab, but a student with a nut allergy will need to use another option (e.g., soy, rice, oat, etc.). Be sure to use different blenders so there is no cross contamination for the student with the allergy.

When your students complete the **food lab sheets**, the correct answer for which boxes should be checked in the “check which nutrients” grid is: EVERY box! That’s because, as you know, all whole plant foods contain all items listed. **Fiber** is listed first to emphasize the importance of getting enough fiber, and we want to remind students with every lab that fiber is an important nutrient found in plant foods, and **only** plant foods.

If you hear students **complaining** (“I don’t like this!”), try providing them with another way to express themselves, like this: “How about saying: I guess I’m not used to this yet.”

If your students seem unsure about a food lab like veggie sushi, worrying that it will be **too hard**, encourage them—this is their chance to play with their food! And when they succeed, it’s a great boost to their self-esteem. The proof is in the smiles you'll see.

Conduct a **“food tasting”** with varieties of **plant-based milk**, or varieties of **hummus**. Students enjoy comparing and judging which flavor is their favorite. Remember to take note of nut-based milks for students with allergies.

**The whole “school food environment”**

In many schools, the **cafeteria food** has seen considerable improvement; however, there may still be a noticeable discrepancy between what you're teaching, and what's being served to your students at lunchtime. This is an understandable source of frustration, and here’s what some FACS teachers are doing about it:
- Share plant-based recipes with your food service director, and/or with the wellness committee and/or your nutrition committee. Plant-based quantity recipes are available at www.healthyschoolfood.org/recipes.htm. These recipes have been distributed to over 24,000 schools nationwide.

- Invite the food service director into your classroom to participate in your cooking activities; pitch it as an opportunity to interact with the students and to get a sense of what recipes might be winners in the cafeteria.

- Suggest that the food service stock plant-based à la carte items such as single-serve soymilks; hummus cups; or soy yogurts (there are other non-dairy yogurts, such as almond or coconut, which may or may not meet the new regulations for foods sold outside of the meal program).

- Suggest that the school district approve (or negotiate with the food service contractor) self-serve, free fresh fruit at lunchtime for all students. The students who participate in the lunch program already have access to fruit, but ideally all students would have access to whole, fresh fruit.

Outside lunchtime, are there other ways to improve the school food environment? Yes! Fresh fruit & vegetable snack programs have been a huge success. A limited number of these programs funded by the federal government are available in elementary schools in every state, but schools at any grade level can start their own version as well.

**Bonus resources**

If your school is able/willing to host a school garden, PCRM (Physicians Committee for Responsible Medicine) has developed easy-to-follow instructions for a Three Sisters Garden, and recipes which use the harvest:

www.pcrm.org/health/diets/recipes/growing-a-three-sisters-garden

(Corn, beans, and squash are three crops that benefit from companion planting; they have been known as the Three Sisters by indigenous peoples of North America.)

The Food Studies Institute offers a food curriculum for elementary school which contains a delicious Three Sisters Recipe, as well as other simple plant-based recipes. Though you are teaching middle school students, these are additional recipes you could consider preparing in class. Go to www.foodstudies.org and click on “Products & Services” to order the “Food is Elementary” curriculum.
Food lab sheets for the classroom & recipe sheets to send home

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GREEN SMOOTHIE RECIPES & FACT SHEET FOR HOME USE (makes a 2-sided flyer)......... 26

Dear Mrs. Fritz,

I want to tell you, Anastasia, made lentil soup last night. I think it came out good. His father thought it was good too. Everybody enjoyed dinner last night! He did a good job.

Good morning Mrs. Fritz,

I wanted to thank you for the yummy cinnamon apple oatmeal recipe! Alexa made it and we loved it!! Have a nice day.

2-16-11
Food Lab Plan

Kitchen #: ___________ Period: ______ A or B Day                                  Date:_________
Supervisor: ______________________________
Dishwasher: _____________________________
Dryer: __________________________________
Counter Person: _________________________

Apple Pie Oatmeal
Yield: 1 serving
Ingredients:
1           Apple, shredded
½ cup   Raw old fashioned oats (not quick or instant)
1 cup    Water
½ tsp    Cinnamon
2 tsp     Maple Syrup

1. Peel and shred the apple.
2. Measure oats, water, cinnamon, and maple syrup.
3. Bring oats, water, cinnamon, shredded apple, and maple syrup to a boil.
4. Reduce heat and simmer while stirring until liquid is absorbed. (10 min.or less)

Planning the Lab
1. List the equipment you would need to prepare this recipe:

Product Evaluation

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List as many fruit or nut additions to this recipe you can think of.

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Did your group have any difficulty with this recipe? Explain why or why not.

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Check which nutrients you think this recipe provides:

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For advanced or high school level: Use [http://caloriecount.about.com/cc/recipe_analysis.php](http://caloriecount.about.com/cc/recipe_analysis.php) to obtain a nutritional analysis of this recipe.
Apple Pie Oatmeal
Yield: 1 serving

Ingredients:
1       Apple, shredded
½ cup   Raw old fashioned oats (not quick or instant)
1 cup   Water
½ tsp   Cinnamon
2 tsp   Maple Syrup

Directions:
1. Peel and shred the apple.
2. Measure oats, water, cinnamon, and maple syrup.
3. Bring oats, water, cinnamon, shredded apple, and maple syrup to a boil.
4. Reduce heat and simmer while stirring until liquid is absorbed. (10 min. or less)

Equipment needed: Pot, dry and liquid measuring cups, measuring spoons, peeler, grater, large mixing spoon, and bowl.

Variations: Replace apples with fresh or frozen peaches, blueberries, or strawberries. Raisins and nuts can be added.

(created by NYCHSF)
Food Lab Plan

Kitchen #: ___________ Period: ______ A or B Day                                  Date:_________
Supervisor: ______________________________
Dishwasher: _____________________________
Dryer: __________________________________
Counter Person: __________________________

Lentil Soup Food Lab Plan

Yield: 4-6 serving
Serving Size: ½ cup

Ingredients:
1 T Olive Oil
1 small onion, finely diced
1 garlic clove, minced
1 celery stalk, finely diced
1 medium carrot, finely diced (or, 1/2 sweet potato,
peeled and cubed)
¾ cup dried lentils (My favorite is French lentils, they
cook more quickly and taste great)
1 large vegetable bouillon cube (or 2 small cubes)
3 cups water
½ t salt
¼ t pepper

Day 1
1. Cut onion and garlic as directed above.
2. Cut celery and carrot as directed above.
3. Put vegetables in two separate zip lock bags. Label with your group # and
class period. Store in the refrigerator.

Day 2
3. Heat oil, onion and garlic in a medium soup pot. Saute’ over medium heat
until translucent, about 3-4 minutes.
4. Add celery and carrots or sweet potato, and saute’ for 3-4 minutes longer.
5. Add 3 cups of water, ¾ cup lentils, and vegetable bouillon cube (or 2 small).
6. Bring to a boil, then turn off heat. Store in container over night.

Day 3
1. Place lentil soup in a soup pot and simmer on low until lentils are tender. 10- 15
minutes.
2. Season with salt and pepper. Serve in soup bowls.
Planning the Lab

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Basic Lentil Soup

Ingredients:
1 T Olive Oil
1 small onion, finely diced
1 garlic clove, minced
1 celery stalk, finely diced
1 medium carrot, finely diced (or, 1/2 sweet potato, peeled and cubed)
¾ cup dried lentils (My favorite is French lentils, they cook more quickly and taste great)
1 large vegetable bouillon cube (or 2 small cubes)
3 cups water
½ t salt
¼ t pepper

Directions:
1. Cut vegetables as directed above.
2. Heat oil, onion, and garlic in a medium size soup pot. Sauté over medium heat until translucent, about 3-4 minutes.
3. Add celery and carrots or sweet potato, and sauté for 3-4 minutes longer.
4. Add 3 cups of water and remaining ingredients, except salt and pepper.
5. Bring to a boil, turn down heat to low, simmer until the lentils and vegetables are tender, 30 - 40 minutes.
6. Season with salt and pepper. If time allows, this soup benefits from standing 1 hour or so before serving to develop flavor.

Variations:
Lentil Barley or Lentil Rice Soup: Add 3 table spoons pearl barley or brown rice when adding the lentils along with an additional ½ cup of water.
Lentil Tomato Soup: Add one 8 oz can diced or crushed tomatoes once the lentils are done and simmer gently another 7 minutes.

Yield: 4-6
½ cup serving

Recipe from “The Vegetarian Cookbook”, by Nava Atlas
(revised by Mrs. Fritz & Jennifer Greene)
Food Lab Plan

Kitchen #: ___________ Period: _____ A or B Day                                  Date:_________
Supervisor: ______________________________
Dishwasher: _____________________________
Dryer: __________________________________
Counter Person: __________________________

Tasty Tostada Food Lab Plan

Yield: 4-6 serving
Serving Size: 1/4 cup

Ingredients:
Refried beans mixture:
1 can pinto beans, drained
¼ cup chopped onions
1 teaspoon garlic, minced
1 ¾ teaspoon chili powder
½ teaspoon ground cumin
½ teaspoon salt
1 teaspoon fresh squeezed lime juice (about 1/8 lime)

Corn Tortilla
Salsa
Sprig Cilantro
Avocado sliced or guacamole

Directions: Make refried beans mixture first, then assemble tostada.
Refried Beans mixture:
1. Mash the beans in a bowl with a masher and set aside.
2. Sauté onions in a heavy skillet and cook until translucent. Add 1 tablespoon of water at a time to keep skillet moist and to keep from burning the onions.
3. Then add garlic and continue cooking until the onions are a light golden color.
4. Add mashed beans to skillet and mix thoroughly.
5. Then stir in the chili powder, cumin, and salt.
6. Continue to cook the beans in the skillet and stir with a spatula until it is a thick paste.
7. Once it is a thick paste, add the lime juice and thoroughly mix it into the cooked beans.
8. Turn off the heat once the lime juice is mixed in to avoid cooking away the lime flavor.

Assemble the Tostada

1. Heat corn tortilla at 400° for 5-7 minutes.
2. Spread refried beans on the corn tortilla.
3. Spread on the salsa.
4. Place sliced avocado on tostada.
5. Top with a sprig of cilantro.
Planning the Lab
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**Tasty Tostadas**

4 Servings

**Ingredients:**
Refried beans mixture:
- 1 can pinto beans, drained
- ¼ cup chopped onions
- 1 teaspoon garlic, minced
- 1 ¾ teaspoon chili powder
- ½ teaspoon ground cumin
- ½ teaspoon salt
- 1 teaspoon fresh squeezed lime juice (about 1/8 lime)

Corn Tortilla or Tortilla chips
Salsa
Sprig Cilantro
Avocado sliced or guacamole

**Directions:** Make refried beans mixture first, then assemble tostada.
Refried Beans mixture:
1. Mash the beans in a bowl with a masher and set aside.
2. Sauté onions in a heavy skillet and cook until translucent. Add 1 tablespoon of water at a time to keep skillet moist and to keep from burning the onions.
3. Then add garlic and continue cooking until the onions are a light golden color.
4. Add mashed beans to skillet and mix thoroughly.
5. Stir in the chili powder, cumin, and salt.
6. Continue to cook the beans in the skillet and stir with a spatula until it is a thick paste.
7. Once it is a thick paste, add the lime juice and thoroughly mix it into the cooked beans.
8. Turn off the heat once the lime juice is mixed in to avoid cooking away the lime flavor.

**Assemble the Tostada**
1. Heat corn tortillas at 400° for 5-7 minutes.
2. Spread refried beans on the corn tortilla.
3. Spread on salsa.
4. Place sliced avocado on tostada.
5. Top with a sprig of cilantro.

Variation: Make soft tacos by steaming the tortillas instead.
Stir Fry Teriyaki Food Lab Plan
Yield: 4 serving
Serving Size: 1/2 cup

**Ingredients:**
1 clove of garlic, minced
1 slice of ginger root
½ medium onion, thinly sliced
1 carrot sliced Julienne style
1 cup chopped green pepper (1/2 pepper)
¼ cup of broccoli (use the stalk and the florets)
¼ cup of sliced zucchini (about 2”)
¼ cup of sliced mushrooms (2 mushrooms)
2 cups chopped bok choy or Napa cabbage
2 Tbsp olive oil

**Directions:** Day 1
- Wash vegetables.
- Cut vegetables.

**Directions:** Day 2
- Make Teriyaki sauce and set aside.
- In a large skillet or wok, heat oil on a high flame.
- Stir fry ginger root and garlic for about 2 minutes.
- Add onion and carrots: stir fry about 2-4 minutes.
- Add green pepper, broccoli, zucchini, mushroom, bok choy; stir fry about 2-4 minutes.
- Add Teriyaki sauce and when the sauce begins to bubble, add the slurry mix.

**Recipe for Teriyaki sauce**

**Ingredients:**
1 tsp mustard powder
1 clove of garlic, minced
2 tbsp tamari (natural soy sauce)
1 tbsp toasted sesame oil
2 tbsp pure maple syrup

**Slurry:**
1 tbsp of arrowroot or organic cornstarch
1 tbsp water

**Directions:**
- 1. Mix mustard powder, garlic, tamari, toasted sesame oil, and maple syrup in a bowl.
- 2. Prepare slurry of arrowroot or cornstarch and water in a separate cup.
Planning the Lab

1. List the equipment you would need to prepare this recipe:

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Stir-Fry Teriyaki

Yield: 4 servings

Ingredients:
1 clove of garlic, minced
1 slice of ginger root
½ medium onion, thinly sliced
1 carrot sliced Julienne style
1 cup chopped green pepper (1/2 pepper)
¼ cup of broccoli (use the stalk and the florets)
¼ cup of sliced zucchini (about 2”)
¼ cup of sliced mushrooms (2 mushrooms)
2 cups chopped bok choy or Napa cabbage
2 Tbsp olive oil

Directions:
1. Wash vegetables.
2. Cut vegetables.
3. Make Teriyaki sauce and set aside.
4. In a large skillet or wok, heat oil on a high flame.
5. Stir fry ginger root and garlic for about 2 minutes.
6. Add onion and carrots: stir fry about 2-4 minutes.
7. Add green pepper, broccoli, zucchini, mushroom, bok choy; stir fry about 2-4 minutes.
8. Add Teriyaki sauce and when the sauce begins to bubble, add the slurry mix.

Recipe for Teriyaki sauce

Ingredients:
1 tsp mustard powder
1 clove of garlic, minced
2 tbsp tamari (natural soy sauce)
1 tbsp toasted sesame oil
2 tbsp pure maple syrup

Slurry:
1 tbsp of arrowroot or organic cornstarch
1 tbsp water

Directions:
1. Mix mustard powder, garlic, tamari, toasted sesame oil, and maple syrup in a bowl.
2. Prepare slurry of arrowroot or cornstarch and water in a separate cup.

(Created by Mrs. Fritz)
Food Lab Plan

Kitchen #: ___________ Period: ______ A or B Day                                  Date:_________
Supervisor: ______________________________
Dishwasher: _____________________________
Dryer: __________________________________
Counter Person: __________________________

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<th>Vegetable/Fruit Sushi</th>
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<tbody>
<tr>
<td>Day 1: Prepare fillings</td>
</tr>
<tr>
<td>Ingredients:</td>
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<tr>
<td>½ carrot</td>
</tr>
<tr>
<td>¼ cucumber</td>
</tr>
<tr>
<td>optional: mango, kiwi</td>
</tr>
<tr>
<td>Instructions:</td>
</tr>
<tr>
<td>1. Lay paper a paper towel. As vegetables/fruits are sliced, place pieces on paper towel.</td>
</tr>
<tr>
<td>2. Slice carrot into thin strips.</td>
</tr>
<tr>
<td>3. Slice pepper into thin strips.</td>
</tr>
<tr>
<td>4. Slice cucumber into thin julienne sticks.</td>
</tr>
<tr>
<td>5. Slice sweet potato into thin julienne sticks.</td>
</tr>
<tr>
<td>6. If using mango, or other fruits peel a few thin slices from the fruit</td>
</tr>
<tr>
<td>7. Cover fillings on tray with plastic wrap and refrigerator for Lab Day 2.</td>
</tr>
</tbody>
</table>

| Day 2: Assemble sushi rolls |
| Ingredients:               |
| 4 half-sheets of nori     | Filling ingredients: |
| 2 C. cooked brown rice    | toasted sesame seeds |
|                          | soy sauce            |
|                          | pickled ginger       |
|                          | wasabi               |
| Instructions:             |
| (Everyone will make one roll per person.) |
| 1. Lay nori sheet on cutting board so it’s wider than tall. |
| 2. Put ½ C. cooked rice (which is a ball slightly larger than a golf ball) on nori. |
| 3. Spread rice right up to all four edges of nori. |
| 5. Carefully flip rice and nori sheet over so nori is now on top. |
| 6. Lay fillings across the width of the nori, from left end to right end. |
| 7. Lift the edge nearest you and begin rolling it towards the far edge, making sure all the fillings get tucked completely inside the roll (or the edges won’t seal closed). Roll it tightly enough so the two long edges overlap a little. |
| 8. Lay bamboo mat over your roll and squeeze the sides to firm the roll and prepare it for slicing. Remove bamboo mat. |
| 9. Use a back-and-forth sawing motion with your knife to slice your roll. Slice it into 8 pieces by finding the middle, and making a cut there. Repeat with each half, and again with each quarter, to make 8 pieces. |

Remember: to avoid squishing your nicely-formed roll, do not push down with the knife. Instead, saw back-and-forth (using a very light touch) as many times as necessary to cut through the role.

Create a pleasing presentation by placing some wasabi, ginger, and sushi roll pieces on a serving plate. Serve with a small amount of soy sauce. Enjoy!
1. List the equipment you would need to prepare this recipe: (Day 1 & 2)

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Product Evaluation

<table>
<thead>
<tr>
<th>Category</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Appearance</td>
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<td>Texture</td>
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<td>Flavor</td>
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<tr>
<td>Aroma</td>
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<tr>
<td>Presentation</td>
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</table>

Did your group have any difficulty with this recipe? Explain why or why not.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Check which nutrients you think this recipe provides:

<table>
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<tr>
<th>Fiber</th>
<th>Fat</th>
<th>Protein</th>
<th>Carbohydrate</th>
<th>Vitamins</th>
<th>Minerals</th>
<th>Phytonutrients</th>
<th>Water</th>
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For advanced or high school level: Use [http://caloriecount.about.com/cc/recipe_analysis.php](http://caloriecount.about.com/cc/recipe_analysis.php) to obtain a nutritional analysis of this recipe.
Inside-Out Veggie Sushi

Yield: 4 rolls (8 pieces per roll)

Ingredients:
- ½ carrot
- 1/6 red pepper
- ¼ cucumber
- section of baked sweet potato
- optional: mango, kiwi

Instructions:
1. As vegetables/fruits are sliced, place pieces on plate.
2. Peel thin slices from carrot.
3. Slice pepper into thin strips.
4. Slice cucumber into pencil-thick strips.
5. Slice sweet potato into pencil-thick strips.
6. If using mango, peel a few thin slices from the fruit. If using kiwi or other fruits, slice very thinly.

Instruction for assembling sushi rolls
Ingredients:
- 4 half-sheets of nori
- 2 C. cooked brown rice or a mix of brown short grain rice and brown rice
- toasted sesame seeds
- filling ingredients, soy sauce, pickled ginger, wasabi

Instructions:
1. Lay nori sheet on cutting board so it’s wider than tall.
2. Put ½ C. cooked rice (which is a ball slightly larger than a golf ball) on nori.
3. Spread rice right up to all four edges of nori on the rough side.
5. Carefully flip rice and nori sheet over so nori is now on top.
6. Lay fillings across the width of the nori, from left end to right end.
7. Lift the edge nearest you and begin rolling it towards the far edge, making sure all the fillings get tucked completely inside the roll (or the edges won’t seal closed). Roll it tightly enough so the two long edges overlap a little.
8. Lay bamboo mat over your roll and squeeze the sides to firm the roll and prepare it for slicing. Remove bamboo mat.
9. Place a piece of plastic over the roll.
10. Use a back-and-forth sawing motion with your knife to slice your roll. Slice it into 8 pieces by finding the middle, and making a cut there. Repeat with each half, and again with each quarter, to make 8 pieces. Remove the plastic before serving. Remember: to avoid smushing your nicely-formed roll, do not push down with the knife. Instead, saw back-and-forth (using a very light touch) as many times as necessary to cut through the role.
11. Create a pleasing presentation by placing some wasabi, ginger, and sushi roll pieces on a serving plate. Serve with a small amount of soy sauce. Enjoy!

Equipment: cutting board, measuring cup, plastic-covered bamboo mat, knife
# Be a Chef

Directions: Almost everyone knows how to prepare some kind of recipe, even if it’s only a peanut butter and jelly sandwich. We will be creating our own smoothie recipes and writing the recipe for the group to follow. Assume that the person who may use your recipe has never prepared the recipe before, so be clear in your directions of what to do. Note whether the ingredients you need to use are fresh or frozen if that makes a difference to the success of the recipe (What category would this be called?). Give an amount for each ingredient listed, and then list the ingredients in the order of using them. Think about what you do first, then next, and last. (What part of the recipe would you call this?) Number the directions and write the steps in order of how you need to do them. Think of a fun name for your recipe (What would this be called?). How many servings and what is the nutritional analysis for your recipe? Each group will type a final copy and submit for evaluation.

<table>
<thead>
<tr>
<th>Amount</th>
<th>Ingredients</th>
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**Directions:**

_____________________________________________________________________________
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_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

**Nutritional Analysis:**
_____________________________________________________________________________
_____________________________________________________________________________

**Teacher note:**

¼ c fruit per student  
¼ c plant-based milk or fruit juice per student

**** Another great ingredient in smoothies: kale or spinach, fresh or frozen!
Superhero Smoothies

This smoothie is delicious, and it’s great to see how people react when they find out that it contains kale! While we don’t advocate drinking a lot of juice, we make these smoothies as a way of turning people, especially students, on to raw kale. We make these smoothies at health fairs, school programs, and summer camps. At one camp recently, several children declared it was the best summer treat they ever had. Virtually all children love them.

Makes 1 large or 2 small smoothies or four 4 ounce samples or eight 2 ounce samples

Ingredients:
1 cup pure pineapple juice (bottled, not canned)
1 – 2 frozen bananas, broken into 3 or 4 pieces
2 leaves washed and stemmed kale
3 ice cubes (not necessary for high-tech blenders such as Vita Mix or BlendTec)

Directions:
Add all ingredients except frozen bananas to blender and blend until kale is completely pureed. Then add frozen bananas and puree.
Pour and enjoy!

Go Green Smoothies

This green smoothie version is more along the lines of what we would recommend for a daily dose of good health! You can start by adding just a leaf or two of kale. Try adding more as you become accustomed to it. You may notice how great it makes you feel! In the case of kale, more IS better. It tastes great, too!

Makes 1 large or 2 small smoothies

Ingredients:
10 raw organic almonds or walnut halves & 1 cup water OR 1 cup unsweetened non-dairy soy, rice, or other non-dairy milk
2 frozen bananas
1 orange, peeled, and broken into sections
2 or more leaves of kale or collards, stemmed, and torn into pieces
4 or 5 ice cubes (not necessary for high-tech blenders such as Vita Mix or BlendTec)

Directions:
Soak almonds or walnuts in water overnight. Put into blender and blend until smooth, OR use 1 cup of non-dairy milk. Add the other ingredients except bananas and blend until greens and ice are completely blended. Add bananas and puree. Pour and enjoy!

New York Coalition for Healthy School Food * www.healthyschoolfood.org
Eat (or drink) Your Greens!

For the most nutrients per calorie, you just can’t beat the leafy green vegetables. In fact, calorie for calorie, collards and kale have more calcium than milk!

What’s more, the calcium in kale and collards is more bio-available than the calcium in cow’s milk. About 59% of the calcium in kale is absorbed, while only about 32% of the calcium in cow’s milk is absorbed.

The dairy industry questions whether folks are willing to eat enough greens to get the amount of calcium they need. We’re not surprised by their lack of enthusiasm for greens. They want to persuade you to rely on dairy products for calcium, because it’s better for their business. But is it better for you? Nutrition experts say no. Dairy products can be high in saturated fat, they contain cholesterol, and they are devoid of fiber.

Consuming dairy products causes bloating, diarrhea, and discomfort in the majority of people worldwide. Those of Asian, African, Latino or Native American heritage are especially likely to have trouble digesting dairy, and so do up to 20% of those with Northern European ancestry.

So for all these reasons, everyone should be eating more greens. And making green smoothies is an easy way to add more greens to your diet.

Another kitchen tip: cooking greens with lots of oil or ham hocks may be traditional, but it’s not very healthy. Try cooking greens in vegetable broth instead of oil. Delicious!

By the way, greens are not the only plant source of calcium—they’re just one of the best sources. There’s calcium in all sorts of other vegetables, fruits, beans, nuts, seeds, and grains, too.

Are there other reasons to be eating lots of vegetables, fruits, and legumes?

Definitely! Eating this way has been proven to help keep you regular and avoid the discomfort of constipation.

Another benefit: people carrying extra pounds tend to slim down when they replace high-calorie foods with nutrient-dense, lower-calorie plant foods. Evidence also shows that eating this way can lift your mood and improve your skin.

A plant-strong diet helps you in the long run, too. People who eat a plant-based diet are less likely to get chronic diseases like diabetes, heart disease, and certain cancers.

For more info on calcium and bone health, check out: http://www.pcrm.org/search/?cid=127 and http://www.pcrm.org/search/?cid=126

New York Coalition for Healthy School Food * www.healthyschoolfood.org
Learning Standards

This unit supports NYS Family and Consumer Science Learning Standard 1:

Personal Health and Fitness
Students will use an understanding of the elements of good nutrition to plan appropriate diets for themselves and others. They will know and use the appropriate tool and technologies for safe and healthy food preparation.

Students:
- Understand the relationships among diet, health, and physical activities; evaluate their own eating patterns; and use appropriate technology and resources to make food selections and prepare simple, nutritious meals.
- Apply principles of food safety and sanitation
- Recognize the mental, social, and emotional aspects of good health
- Apply decision making process to dilemmas related to personal health

This unit also supports the following Common Core Standards:

College and Career Readiness Standards for Reading
Key Ideas and Details
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

College and Career Readiness Standards for Writing
Text
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

College and Career Readiness Standards for Speaking and Listening
Comprehension and Collaboration
1. 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.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker’s point of view, reasoning, and use of evidence and rhetoric.

College and Career Readiness Standards for Math
Solve real-life and mathematical problems involving measuring volume, and area.
Appendix A: Fundraising ideas

Here are possible ways to fund your plans:

- Ask local retailers to donate ingredients.
- Ask local retailers or national manufacturers to donate equipment.
- Invite local businesses to sponsor the program.
- Sell smoothies after school as a fundraiser.
- Use www.donorschoose.org to post your project plans.
- Ask your superintendent to increase the FACS budget. (This could be a long shot, but it might not hurt to ask.)
Appendix B: Letter templates

To adapt these templates for your own use, download from the FACS page at healthyschoolfood.org/resources.htm.

**LETTER REQUESTING DONATION OF INGREDIENTS**

Dear ____,

I’m writing to ask if you would be interested in donating ingredients for Family and Consumer Sciences (FACS) classes this coming semester at ________ School. We are planning a new unit of healthy food preparation, and even though these are low-cost recipes, the ingredients will take us beyond the tiny budget allocation for FACS classes. So I am reaching out to you to ask for your support.

More and more, our students are hearing the message that it’s important to eat healthier food; your sponsorship of this healthy food unit will generate good will throughout our community, and be mentioned in district publicity.

We will be using easy recipes that support healthy eating and help familiarize students with nutrient-dense, plant-based foods that may be new to them.

For example, for ten classes to conduct food labs preparing “Cinnamon Apple Breakfast Oatmeal,” the following will be needed: 108 oz. rolled oats, 64 apples, 2.5 oz. cinnamon, 24 oz. maple syrup. For recipes such as Lentil Soup, Tasty Tostadas, Teriyaki Vegetable Stir-Fry, and Frozen Fruit Smoothies the grocery items needed would include items such as: broccoli, onions, garlic, celery, carrots, green pepper, avocados, lentils, pinto beans, non-dairy milk, bananas, blueberries (this is not the complete list).

I have attached copies of the planned food labs, and the corresponding donation requests. Please let me know if I can provide additional information, and thank you for your consideration.

Sincerely,

_______________
LETTER REQUESTING DONATION OF EQUIPMENT

Dear ____,

I’m writing to ask if you would be interested in donating six food processors for Family and Consumer Sciences (FACS) classes at ________ School. We are planning a new unit of healthy food preparation, and the purchase of food processors would take us beyond the tiny budget allocation for FACS classes. So I am reaching out to you to ask for your support.

More and more, our students are hearing the message that it’s important to eat healthier food; your sponsorship of this healthy food unit will generate good will throughout our community, and be mentioned in district publicity.

We are looking forward to obtaining food processors so that we can prepare easy recipes such as hummus, pesto, and non-dairy pudding. These recipes support healthy eating and help familiarize students with nutrient-dense, plant-based foods that may be new to them.

I have attached copies of the planned food labs. Please let me know if I can provide additional information, and thank you for your consideration.

Sincerely,

_______________
LETTER NOTIFYING SCHOOL DISTRICT OF VALUE OF DONATED GOODS

Dear ____.

Thank you for this opportunity to tell you about our plans for a unit of healthy food preparation for ___ grade students this semester.

We will be using easy recipes which are feasible for FACS food labs, given the constraints of classroom time. These are recipes that support healthy eating and help familiarize students with nutrient-dense, plant-based foods that may be new to them.

______ Food Retailer has agreed to donate ingredients for these recipes. For example, for ten classes to conduct food labs preparing “Cinnamon Apple Breakfast Oatmeal,” the following will be donated: 108 oz. rolled oats, 64 apples, 2.5 oz. cinnamon, 24 oz. maple syrup. For recipes such as Lentil Soup, Tasty Tostadas, Teriyaki Vegetable Stir-Fry, and Frozen Fruit Smoothies, the grocery items to be donated include and are not limited to the following: broccoli, onions, garlic, celery, carrots, green pepper, avocados, lentils, pinto beans, non-dairy milk, bananas, and blueberries.

We’re estimating the retail value of the donated goods for this unit at approximately $____ (roughly $__ per student).

More and more, our students are hearing the message that it’s important to eat more vegetables, fruits, legumes and whole grains—and this unit will help translate those ideas into practice.

Please let me know if you need any additional information.

Sincerely,

______________
LETTER IN SUPPORT OF INCREASED FACS BUDGET

Today’s date

Superintendent _________
My Central School District
Main Street
Anytown, State  00000

Dear Superintendent ________:

I’m writing to urge you to increase the budget allocation for Family and Consumer Sciences classes at _________.

Across the U.S.—and our community is no exception—we’re seeing higher-than-ever rates of diet-related diseases as well as rising health care costs. But there’s good news: it doesn’t have to be this way.

Let us not be resigned to a future of preventable diseases—type 2 diabetes, heart disease, stroke, and colon cancer—for this generation of children. We can help turn around these devastating trends.

And that is why the instruction that students can receive in FACS classes has never been more important. Food preparation—especially preparation of healthy, less-processed dishes and recipes—is a life skill that students need to learn.

So please, help us teach healthy food preparation by increasing the funds available for FACS food lab supplies. This is education that is critical to their future—their health, their happiness, their success in life.

Sincerely,
Appendix C: A pie chart that’s hard to swallow

U.S. FOOD CONSUMPTION AS A % OF CALORIES

PLANT FOOD:
Vegetables, Fruits, Legumes, Nuts & Seeds, Whole Grains Fiber is found only in plant foods.

ANIMAL FOOD:
Meat, Dairy, Eggs, Fish, Seafood Cholesterol is found only in animal foods. Animal foods are the PRIMARY source of saturated fat.

NOTE: The shaded portion signifies the bad news that even within this category, up to half of the food consumed is in the form of less healthy choices—such as almonds in candy bars, apples in apple pies, spinach in frozen spinach souffle. The focus should be on whole unprocessed vegetables, fruits, legumes, nuts and seeds and whole grains.

GUIDE TO HEALTHY EATING:
Eat LESS from the animal and processed food groups and MORE whole foods from the plant food group.

In general, food from the animal and processed food group contribute to obesity, while WHOLE foods from the plant group contribute to good health.

34
While genetics play a role in the expression of many diseases, and we all have genetic weaknesses and predispositions, for the vast majority of diseases that occur in the modern world, nutrition, exercise and environment play a much larger role than genetics. For example, those living in rural China prior to 1980 have a lifetime risk of heart disease of less than two percent and less than two percent risk of developing breast cancer, but when they move to America their children have the same high risks as other Americans.(1) When we abuse our bodies through unhealthy food and other lifestyle choices, many different problems arise and what happens to you then may be influenced by your genetics.

Heart disease and diabetes are recent occurrences in the history of [hu]mankind. By 1916 it was already hypothesized by the well-known French scientist, C.D. de Langen that overeating and a diet rich in animal-fats appeared to be a factor in the populations of those European countries experiencing a rise in heart attacks. We cannot consider heart disease to be primarily genetic, because it did not occur much before the last hundred years and pockets of populations inhabiting the world today have no heart disease. By the 1950’s scientific investigations were able to explain population differences in heart disease rates by differences in the consumption of saturated fat (the most important determinant of serum cholesterol, found primarily in foods of animal origin) and the inverse association with consumption of fresh produce. The less saturated fat and the more fresh produce consumed the less heart disease that occurs. A significant amount of modern research studies have documented that heart disease is almost totally preventable through diet rich in plant produce and low in animal products and processed foods.(2)

Scientific Research Shows Food Is Our Greatest Weapon Against Disease
Over the last 50 years, this causal relationship between diet and heart disease has been observed and documented by thousands of scientific studies. The reality is that heart disease, the leading cause of death in the modern world, as well as the other leading causes of death, including various cancers and strokes, are created by our diet and are avoidable. Very few people have genetics so favorable that they can eat anything without concern. Heart disease is discussed here as an example but strokes, dementia and especially most common cancers can all be traced back to an unhealthy diet-style as the predominant causative factor; especially the diet consumed in childhood.(3)

The Boyd Orr Study assessed food intake from almost 5000 families, tracking their risk of disease over the next 60 years. One of the major findings from this fascinating study
was that higher levels of childhood fruit intake had dramatic effect at reducing incidence of all adult cancers, such as cancer of the breast, prostate and colon. Children in the highest quartile of fruit intake became adults with forty percent lower risk of all cancers.(4) However children who ate more nutritionally empty calories and more calories in general had dramatically higher risk of cancer.(5)

These and numerous other studies illustrate that food choices, especially food choices early in life are the primary cause of most chronic diseases and premature death. Inferior childhood nutrition has led to a nation with high levels of chronic illnesses, and out of control health care costs.

The American Diet is Nutritionally Inadequate

Americans eat about 25 percent of calories from animal products, such as meat, eggs and dairy.

Animal products contain no antioxidants, bioflavonoids, carotenoids, folate, vitamin C, vitamin K or those thousands of phytochemicals that are essential for cellular normalcy and prevent DNA damage.

Americans eat about 63 percent of calories from processed foods such as oil, sugar, and white flour products. Processed foods contain almost no antioxidants, bioflavonoids, carotenoids, folate, vitamin C, vitamin K or those thousands of phytochemicals that are essential for cellular normalcy and prevent DNA damage.

To make matters worse, most of the animal products eaten by children such as butter, cheese and milk are high in saturated fat. Saturated fat consumption correlates with cancer incidence worldwide. It also raises cholesterol and causes heart disease. Scientific studies also show that the combination of low micronutrient intake plus high saturated fat (found mostly in foods of animal origin) is more disease causing than either alone.(6) The typical American diet, high in both processed foods, animal fats, and unfavorable fats, is the perfect formula for a nation of sickly children and adults.

The development of heart disease begins in childhood. Fifty percent of children ages 2 – 15 already have fatty streaks in their arteries, literally the beginning stages of heart disease. Not only do unhealthy childhood diets high in saturated fat and low in the protective micronutrients found in unprocessed plant foods accelerate heart disease, but they promote the aging process, and create a cellular environment favorable for the development of cancer. To add insult to injury, much of the processed foods children eat are rich in trans fat, a [hu]man-made fat that is also linked to cancer and heart disease. While many processed food companies are switching over to non-trans fats, they are replacing them with saturated fats, still very dangerous to health.

We could not have designed a cancer-causing environment more effectively if we scientifically planned it. We feed our children a diet high in saturated fat, add lots of processed foods with those dangerous ([hu]man-made) trans fats, and full of other non-
food chemicals such as artificial colors, flavors, preservatives, and artificial sweeteners, and combine it with an insufficient intake of unrefined plant foods, to guarantee sufficient phytochemical deprivation and we have created a nation rich in autoimmune illnesses, allergies, obesity, diabetes and finally heart disease and cancer.

Research is Inconclusive…
The reason why some studies performed on adults did not show a relationship between diet (or certain components of diet) and disease is that the changes made are not substantial enough and the populations investigated are past the age where dietary improvements can cause dramatic benefits. Childhood diets are the chief cause of adult cancers, not adult diets. When we are growing, the cells are more sensitive to the damaging effects of poor nutrition.

Nutrient Dense Food
Food has powerful disease–protecting and therapeutic effects and those who seek truly good health must consume a broad array of micronutrients via their food choices. It is not enough to merely avoid the bad fats, consume foods with a low glycemic index, or lower the intake of animal products; a truly healthy diet must do all of those things and be micronutrient rich. The foods with the highest micronutrient per calorie scores are green vegetables, colorful vegetables, and fresh fruits. For optimal health and to combat disease, it is necessary to consume enough of these foods to deliver the highest concentration of nutrients.

Adding up all the known and measurable micronutrients in an equal caloric portion of food gives each food a nutrient density score. Nutrient Density is a critical concept in devising and recommending dietary and nutritional advice to patients and to the public. Not merely vitamins and minerals, but adequate consumption of phytochemicals is essential for a normal immune system and to enable our body’s detoxification and cellular repair mechanisms that protect us from cancer and other diseases.

Nutritional science in the last twenty years has demonstrated that colorful plant foods contain a huge assortment of protective compounds, mostly unnamed at this point. Only by eating an assortment of natural plant foods that are nutrient-rich, can we access these compounds and protect ourselves from the common diseases that afflict Americans. Our modern, low-nutrient eating style leads to an overweight population with common diseases of “nutritional ignorance” and medical costs spiraling out of control.

For superior health, green vegetables, fresh fruits, seeds and nuts, whole grains and beans or legumes should all be consumed each day. To achieve adequate micronutrient density both animal products and processed foods must be restricted to much lower levels than they are now, or even eliminated.

Protecting our children
We graduate from high school, college, even graduate and professional schools and yet
most of us never learn some of the most important lessons in our lives - how to be in control of our health destiny. We live in a society that believes that we protect our health with access to medical care and drugs; it doesn’t work. We also live in a society that makes it cheap and easy to eat poorly, and more difficult to eat healthfully. We can only win the fight against cancer, heart disease, and diabetes, not with more money put into medical interventions and drugs, but by unleashing the powerful tools found in our kitchens--berries, green vegetables, beans and seeds to name a few. The science is important and motivating because we are eating ourselves into a tremendous amount of needless and tragic diseases in this country and our cancer rates have increased unrelentingly each year for the last seventy years. The human suffering and financial cost are both devastating.

But aside from all the convincing scientific data, it is just as important to show people how they can deal with their picky eaters, get their family to like the healthful foods at the family table and make healthy eating great tasting and fun. After gaining the knowledge, people can transition their family over to a disease-preventive lifestyle and enjoy the change.

The food industry influences the policy decisions and legislation created by our government, and this means that we don’t get the information which science has unmistakably demonstrated. The food industry attempts to confuse us by citing a few poorly designed or self-staged studies and saying the evidence is inconclusive.

The most amazing and satisfying aspect of promoting a high micronutrient diet-style and utilizing it as medical therapy is watching many diseases melt away. People faced with health challenges can often improve and even obtain complete recoveries from autoimmune diseases, digestive disorders, type 2 diabetes, headaches and heart disease to name a few, via nutritional excellence. The human body is a miraculous, self-healing machine when the optimal nutritional environment for healing is realized.

Joel Fuhrman, M.D is a family physician and best-selling author Eat To Live (2003), Eat For Health (2008), Super Immunity (2011), and the acclaimed Disease-Proof Your Child. (2005)


