Go the Distance Challenge

The Challenge:
Can you eat healthy from Miami to Tallahassee, Florida? Try it out! As a class, group, family or school, see how far you can travel across the state by measuring the lengths of different fruits and vegetables and tracking your progress.

Make it Happen

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Use the <strong>Fast Facts</strong> worksheet to learn about the magnitude of this challenge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Gather your team! It takes more than one person to eat MILLIONS, yes, MILLIONS of fruits and vegetables so the bigger your team, the better. Remember, there is no deadline for how much time you have to finish the challenge.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Use the Power Food Kids superheroes to select different fruits and vegetables to eat for this challenge. Learn about their nutritional value and calculate the average length of the fruits and veggies using the <strong>Lab Worksheet</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Do the math. Determine approximately how many fruits and vegetables it would take to reach the capital in Tallahassee, FL.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Track your progress. Use the <strong>Map Tracker and Daily Tracker</strong> provided to track how far your team travels across the state.</td>
</tr>
</tbody>
</table>

Find new challenges at [www.FreshFromFlorida.com/CafeteriatoClassroom](http://www.FreshFromFlorida.com/CafeteriatoClassroom)!
**Bring it to the Classroom! Lesson Plan (Grades 6-8)**


**Objective:** Students will identify the causes and effects of citrus greening on Florida citrus. Students will investigate cures for greening, evaluate the pros and cons and formulate their own cure in a letter addressed to Florida’s Commissioner of Agriculture.


**Vocabulary:** Citrus greening, GMO, bacteria

**Opening – 10 minutes**

**Background:** Citrus greening, also known as HLB disease is a bacterium effecting citrus trees across Florida. The bacteria is spread by a small insect, the citrus psyllid that feeds on the trees, passing the bacteria from tree to tree. The disease first infects the roots of the tree and then moves up the trunk where it cuts off the nutrient supply. Infected trees produce fruit that is stunted in growth, green in color and sour in taste. It has been estimated that more than 80 percent of Florida’s citrus trees are infected with HLB. This rapid spreading disease threatens Florida’s economy and has motivated farmers and researchers to find a cure.

Show students a series of pictures of both healthy and infected citrus leaves, fruit and roots. Arrange the pictures in a gallery walk and have students write down observations about each photo.

**Teacher Will – 30 minutes**

Discuss students’ observations and define citrus greening. Play NPR’S, Dec 27th podcast, “Time is Running Out to Save Florida’s Oranges.”(http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&i d=257632396&n=25767412&live=1)

**Students Will – 5 minutes**

Complete a graphic organizer while listening to the podcast answering the following questions:

- What are three causes of citrus greening?
- What are two effects of greening?
- What are scientists doing to try and cure trees of the disease?
- Identify vocabulary words that are unfamiliar.

After the podcast, students will think-pair-share to discuss their notes.

**Assessment:** There is a lot of debate and research around about how to eradicate HLB from citrus trees. Scientists have experimented with pesticides, penicillin and genetic modification as potential solutions to the growing problem. In a five paragraph persuasive essay, students will outline, support and defend what they believe is the best approach to combating citrus greening. Students should research potential cures and choose one that they believe is best OR generate their own solution.
The distance from Miami to Tallahassee is approx. 481 miles!
That is about 846,560 yards, 2,539,680 feet or 30,476,160 inches!

According to the United States Department of Agriculture, the most popular fresh fruits in the United States are bananas, apples, oranges, grapes and strawberries.
The most popular fresh vegetables are tomatoes, potatoes, lettuce and carrots.

Florida’s farmers grow and harvest all of the most popular fruits and veggies except for bananas and apples.

What’s the length?
To the right is a list of the average length of the most common fruits and vegetables. Just as humans are diverse, fruits and vegetables come in many different shapes, sizes and colors. Therefore, it is difficult to determine a definitive average length. However, the estimated averages provided can help with your calculations.

Don’t forget to use the science Lab Worksheet to determine your own averages!

<table>
<thead>
<tr>
<th>Average Length of Fruits and Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana</td>
</tr>
<tr>
<td>7 inches</td>
</tr>
<tr>
<td>Red Apple</td>
</tr>
<tr>
<td>5 inches</td>
</tr>
</tbody>
</table>
MAP AND DAILY TRACKER
Go the Distance Challenge

Can you do it?

Use both the Daily Tracker and Map Tracker to determine how far you can travel across Florida by eating healthy fruits and vegetables. This is NOT an easy challenge. Did you know, it would take 4,535,797 bananas lined end-to-end to reach the capital? That is a lot of potassium!

Directions:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Determine the average length of common fruits and vegetables. Use the Fast Fact sheet and the science Lab Worksheet provided for help.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Using the Daily Tracker or a food journal, record the cumulative length of the fruits and vegetables you eat.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Convert this length into feet, yards and miles as you continue with the challenge. How many fruits and vegetables do you need to eat before you are able to make a mark on the Map Tracker?</td>
</tr>
<tr>
<td>Step 4</td>
<td>Using the map scale provided, trace the dotted line to indicated how many miles you have traveled.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Label each of Florida’s counties as you pass through them.</td>
</tr>
</tbody>
</table>
## DAILY TRACKER

**Go the Distance Challenge**

<table>
<thead>
<tr>
<th>Date</th>
<th>Today I Ate...</th>
<th>Length</th>
<th>Cumulative Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: January 10th</td>
<td>1. Banana</td>
<td>7.5 inches</td>
<td>7.5 inches</td>
</tr>
</tbody>
</table>

### Instructions

- Fill in the table with your daily measurements.
- Track the length of what you eat.
- Keep a cumulative distance to monitor progress.

*Living Healthy in Florida.com*
What’s the length?

- My goal is to travel _____ inches each week. This is about _____ yards and almost _____ miles.

- With the help of family and friends, I anticipate it will take _____ days, _____ months and _____ years to reach the capital.

Scale

1 inch = 64 miles
The fruit or vegetable I choose is _______________________

**Directions:**

Students will determine the average length of a fruit or vegetable and calculate how many, lined end-to-end, it would take to span the 481 miles from Miami to our state’s capital of Tallahassee.

**Lab Procedure:**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Use the Power Food Kids posters to select one fruit or vegetable you like to eat. Write the name in the space provided at the top of the page.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Obtain four different samples of the fruit or vegetable.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Using a tape measurer and a balance, record the length, width, circumference and mass of each object. Record your findings in the boxes to the right. Round to the nearest 10\textsuperscript{th} of a unit.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Using the data, calculate the mean length, width, circumference and mass of your fruit or veggie.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Answer the follow-up questions below.</td>
</tr>
</tbody>
</table>

| Sample 1 | Length (inches): ________________________
| Sample 1 | Width (inches): ________________________
| Sample 1 | Circumference (inches): ________________________
| Sample 1 | Mass (grams): ________________________

| Sample 2 | Length (inches): ________________________
| Sample 2 | Width (inches): ________________________
| Sample 2 | Circumference (inches): ________________________
| Sample 2 | Mass (grams): ________________________

| Sample 3 | Length (inches): ________________________
| Sample 3 | Width (inches): ________________________
| Sample 3 | Circumference (inches): ________________________
| Sample 3 | Mass (grams): ________________________

| Sample 4 | Length (inches): ________________________
| Sample 4 | Width (inches): ________________________
| Sample 4 | Circumference (inches): ________________________
| Sample 4 | Mass (grams): ________________________

**Follow-up Questions:**

1. The average length is _________. Show the math
2. The average width is _________. Show the math
3. The average mass is _________. Show the math
4. The average circumference is ______. Show the math
5. What are some limitations of the experiment? Why might the averages not be fully accurate? How could you make them more accurate?
6. If there are 30,476,160 inches between Miami and Tallahassee, how many of the fruits or vegetables you choose would it take to reach the capital?