Unit Title: Vegetables, Vitamins, and You, Day 1

Objectives

• Students will be able to:
  – Read a nutritional label and extract relevant health information
  – Enumerate the consequences of healthy and unhealthy decision-making.
  – Design a healthy meal based on calories and nutritional costs

NJ Core Curriculum Content Standards (refer to the 2009 version)

2.2.4.B.2 Differentiate between healthy and unhealthy eating practices
2.2.4.B.3 Create a healthy meal based on nutritional content, value, calories, and cost.
2.1.4.B.4 Interpret food product labels based on nutritional content

Opening (Describe the warm-up, “do now,” demonstration, or focus question with which the lesson will begin.)

Students should compose a 1-page journal entry:

Who in your house decides what you eat for lunch? For dinner? What are your least favorite foods? Your favorites?

Content/Procedure (List activities, worksheets, key questions, experiments. Who will do what?)

Key Question: What is the difference between healthy and unhealthy eating?

Activity 1:

1. The class will be broken up into teams of four if possible.
2. Each student in each group will receive two photo flashcards, one with a junk food item and the other with a vegetable. The members of each team individually will be asked to choose between the pairs of food items based on what they would like to have for lunch.

The suggested pairings of food items are as follows, but should be adjusted as available in the garden:

a. Broccoli or vanilla birthday cake
b. Kale or Reeses
c. Tomatoes or strawberry ice cream
d. Carrots or potato chips
e. Peas or chocolate chip cookie
3. These choices will determine the outcome of a race between the teams. If the team chooses the less healthy of the two items in each pair, it will receive a penalty of 1 minute for that team member’s leg of the race. This exercise is meant to demonstrate the health benefits of eating vegetables.

**Activity 2:**

After the completion on the race, the teacher will explain that the game was an exercise in healthy decision-making. The teacher will briefly discuss some of the consequences of choosing unhealthy snacks over healthy ones (less energy, excess weight, greater susceptibility to disease)

**Activity 3: (Can be conducted in the garden)**

The teacher will pass around some nutritional labels on boxed food products for the class to examine while explaining how to read nutrition labels. Particular emphasis should be placed on locating the number of calories, and the daily percentage values of important vitamins and minerals. Foods that contain between 10-19% of a person’s daily value for a given vitamin or mineral are good sources of that vitamin or mineral. Foods with 20+% are excellent sources of a given vitamin or mineral. The important caveat should be made that daily value percentages may not be entirely accurate for kids, who are generally recommended to consume fewer than 2000 calories a day until the age of 14, but are useful for comparing different foods.

**Teacher Resource:**
http://kidshealth.org/kid/stay_healthy/food/labels.html?tracking=K_RelatedArticle

**Activity 4: (***Garden Activity)**

The children will be broken up into the teams used during the opening activity. They will use the website www.nutritiondata.self.com to locate the number of calories in one of the boxed food items passed around and one vegetable found in the garden. If computer access is not available, the teacher can have resources from this site printed out: nutritiondata.self.com/. For each vegetable, students should also look up whether each is a good or excellent source of the mineral listed.

One member from each group will add the good/excellent sources of vitamins information to a class chart, created by the teacher, listing calories and percent of daily value of vitamins and minerals for each vegetable studied. The teacher will briefly review the results of the chart and the number of calories.

**Accommodations** (Include any adjustments made for students with special needs or for those who have missed class.)
Children with disabilities that impair running can participate in the healthy decision-making race with assistance (i.e. wheelchair) or be given a head start, based on the discretion of the teacher.

Children who miss class should review information on http://kidshealth.org/kid/stay_healthy/food/labels.html?tracking=K_RelatedArticle. They should also submit Activity 4 and the assigned homework as make-up work.

**Assessments** (Include formative assessment strategies and any work that will be collected)

Homework will be collected for teacher review.

**Closure** (How will the lesson end so that student learning is reinforced? Include exit tickets, reflective journaling, etc.)

Students will view the following Youtube link in preparation for the lesson on vegetables, vitamins, and body function to be presented in the next class:

http://www.youtube.com/watch?v=zSL5qiey9Ng

Students will be instructed to watch the video and list the functions of vitamins they hear.

**Homework** (What work should the student complete to be prepared for the following class?)

The children will use the website www.nutritiondata.self.com to design a healthy salad that contains 500 or less calories and the vegetable they researched during class.
Unit Title: Vegetables, Vitamins, and You, Day 2

Objectives

• Students will be able to:
  – Name different vitamins and minerals and their functions
  – List those garden vegetables that are good and excellent sources of vitamins and minerals and their function in contributing to health
  – Design a personal health goal and track progress
  – Determine when and how to make healthy decisions

NJ Core Curriculum Content Standards (refer to the 2009 version)

2.1.4.B.1 Explain how healthy eating provides energy, helps to maintain healthy weight, lowers risk of disease, and keeps body systems functioning effectively.

2.2.4.B.1 Use the decision-making process when addressing health-related issues.

2.2.4.B.2 Differentiate between situations when a health-related decision should be made independently or with the help of others.

2.2.4.B.4 Develop a personal health goal and track progress.

Opening (Describe the warm-up, “do now,” demonstration, or focus question with which the lesson will begin.)

The teacher will distribute vitamins and minerals worksheet and complete crossword.

Charts and crosswords are available here: http://www.texasheart.org/HIC/ProjH/g5masters.cfm

The teacher will review briefly why it is important to make sure we get enough vitamins and minerals.

Content/Procedure (List activities, worksheets, key questions, experiments. Who will do what?)

Activity 1:

Each team will be assigned to illustrate the function of a designated vitamin or mineral using magazines and other art media. The finished product can be attached to the class chart listing the nutritional content of vegetables made the previous day.

Activity 2: (**Garden Activity)

The students will complete a scavenger hunt with their teammates from the day before in the school garden. A worksheet with sample clues and answers are attached. It is intended that
the students will be able to connect vegetables to their vitamin and mineral content, determined the previous day, with their knowledge of the effects of vitamins and minerals on the body.

Activity 3:
After all vegetables have been gathered and students are seated on the garden tarp, the teacher should conduct a ‘tasting contest.’ The children will be offered the opportunity to try each of the vegetables gathered from the garden, one at a time, with the instruction of the teacher. After all vegetables have been tasted, the teacher will call a vote on the class’s favorite vegetable. The chosen vegetable will be designated the ‘class vegetable.’

Accommodations (Include any adjustments made for students with special needs or for those who have missed class.)

Accommodations for students with disabilities can be included at the discretion of the teacher.

Students who have missed class should complete the vitamins and minerals crossword puzzle and should illustrate the function of an assigned vitamin or mineral. The students should also design a personal health goal and complete the 2-page writing assignment.

Assessments (Include formative assessment strategies and any work that will be collected)

Homework, in the form of a writing assignment described below, will be collected the following day.

Closure (How will the lesson end so that student learning is reinforced? Include exit tickets, reflective journaling, etc.)

Students will return to the classroom and design a chart that tracks the progress of a specific health goal, designated by the student. The teacher may suggest health goals including eating more of the class vegetable, eating more vegetables, etc.

Homework

Students will complete the following writing assignment;

*Imagine a situation where you have to make a choice to follow your personal health goal or to choose a less healthy alternative. Write a 2-page narrative about how you would make the decision. Who would you consult?*
Sample Vegetable Scavenger Hunt

***Should be adjusted based on vegetables available in the garden***

I am crunchy and help you see. What am I?
Excellent source: **Vitamin A**
Good source: Vitamin K
*Answer: Carrot*

I help you fight disease and make a colorful addition to a salad. What am I?
Excellent source: **Vitamin C**
Good source: Vitamin A and Vitamin K
*Answer: Tomato*

You probably don’t eat me very often, but I keep your muscles strong and help your nervous system. What am I?
Excellent source: Vitamin A, C, K
Good source: Copper, **Vitamin B6**, potassium
*Answer: Kale*

I come in a pod and help you stop bleeding when you get a cut. What am I?
Excellent source: **Vitamin K** and Vitamin C
Good source: Thiamin, Niacin, Folate, Vitamin A
*Answer: Peas*

I have a head and a stem and help keep your brain healthy so you can do well in school. What am I?
Excellent source: Vitamin C, Vitamin K
Good source: **Folate**, Manganese
*Answer: Broccoli*

*** The bolded vitamin or mineral is the one associated with the function described in the clue. Students should be able to connect the vegetable to the vitamin it contains, to the function this vegetable performs in the body.
**Enrichment Activity**

Decision-making activity for the week (to take place during lunch):

The enrichment activity would be conducted as a competition among the teams used throughout the mini-unit.

- During lunch each day, the teacher or other volunteers track whether or not the members of each team ate a provided vegetable from the garden.
- Progress, measured on a binary scale as “ate vegetables,” “didn’t eat vegetables,” would be documented on a large chart in the classroom. At the end of the week, the team that had consumed the most vegetables would win a prize.

The enrichment activity meets the following NJ Health and Physical Education standard of learning on team-building:

2.5.4.B.2: Acknowledge the contribution of team members and choose appropriate ways to motivate and celebrate accomplishments