High School Lesson Plan

Fruits and Vegetables
Fear Factor
Grades 9-12

I. Lesson Objectives:
   A. Students will explain the importance of fruits and vegetables for a healthy eating style.
   B. Students will describe MyPlate guidelines for fruit and vegetable intake.
   C. Students will identify important nutrients found in fruits and vegetables.

II. Behavior Outcomes:
   A. Make half your plate fruits and vegetables, at least half your grains whole grains, and switch to fat-free or low-fat milk and milk products.

III. Pennsylvania Educational Standards:
   A. 11.3 Food Science and Nutrition
   B. 10.1 Concepts of Health
   C. 10.2 Healthful Living

IV. Materials
   A. Laptop/Projector with Power Point Presentation
   B. Handouts: “Fruits and Vegetables” worksheet, “Fear Factor” rating worksheet
   C. Optional Handouts: “Add more vegetables to your day”, “Focus on Fruits” from MyPlate Ten Tips Series
   D. Additional Activities: “Fruits and Vegetables Name Game”, “Fruits and Vegetables Word Scramble”
   E. Other materials: Faux blindfold
   F. Optional Visual: fruit and vegetable food models to demonstrate portion sizes
   G. Reinforcement that conveys the appropriate nutrition message
   H. Hand wipes
   I. Food tasting and any necessary supplies: 3 or 6 different fruits and/or vegetables with a variety of textures (cold, slimy, etc.), including some that are unfamiliar to students, cut into small, sample-sized pieces
   H. Ten Tips Sheet: “Liven up your meals with fruits and vegetables”

V. Procedure: Text in italics are instructions for the presenter, non-italicized text is the suggested script.
   A. Introductory
      1. Lesson Introduction
         a. Introduce yourself and the nutrition education program/organization presenting the lesson.
b. **Review previous lesson.**
c. **Briefly introduce lesson topic.**

2. **Ice breaker**
   a. **Ask students to list some healthy fruits and vegetables. To make the game more challenging give them a specific color or letter to focus their answers around.**

**B. Developmental**
1. **Slide 1: Fruits and Vegetables**
   a. Today we will discuss the benefits of fruits and vegetables and how they can be incorporated into your healthy eating style.
   b. **Distribute “Fruits and Vegetables” worksheet for students to complete as you discuss the lesson topic.**

2. **Slide 2: Project Sponsors**
   a. Drexel University’s EAT.RIGHT.NOW. program is the official Pennsylvania Nutrition Education TRACKS Program of the School District of Philadelphia.
   b. The program is funded by the USDA Supplemental Nutrition Assistance Program Education (SNAP-Ed) through the Pennsylvania Department of Human Services (DHS).

3. **Slide 3: Benefits of eating fruits and vegetables**
   a. **Ask students why they think fruits and vegetables are important for our bodies and health? Review all reasonable answers.**
   b. Everything you eat and drink matters. The right mix of food groups can help you be healthier now and in the future.
   c. Eating a diet rich in vegetables and fruits as part of an overall healthy diet may:
      i. Reduce risk for heart disease, including heart attack and stroke
      ii. Protect against certain types of cancers
      iii. Reduce the risk of obesity and Type 2 diabetes.
      iv. Lower blood pressure
      v. Reduce the risk of developing kidney stones
      vi. Help to decrease bone loss.
      vii. Lower calorie intake – By shifting from higher calorie foods to fruits and vegetables, which tend to be lower in calories, a person’s overall calorie intake may decrease which can help in achieving and maintaining a healthy body weight.

4. **Slide 4: What’s inside that makes them great?**
   a. Fruits and vegetables are packed with several important nutrients including potassium, fiber, vitamins A and C, folate, magnesium, iron, and calcium.
   b. Each of these nutrients plays an essential role in our health from reducing our risk of chronic disease to keeping our hair and skin healthy.
   c. Consuming a variety of colorful fruits and vegetables everyday will ensure you are getting the right balance of nutrients.
   d. **Ask the students:** Are there any foods on this chart that you eat?
   e. **Ask students:** Do you see that many of these foods are found in several boxes?
      Individual fruits and vegetables are packed with several vitamins and minerals which
help make them such great choices. By eating a variety of them, we can get a wide range of necessary nutrients.

5. Slide 5: Phytonutrients...What’s that?
   a. The term phytonutrients is a broad name for a wide variety of compounds produced by plants that have protective or disease preventive properties. Each phytonutrient comes from a variety of fruits and vegetables that we eat every day and has different effects and benefits for the body. There are over 4,000 phytonutrients but only a few have been named and studied.
   b. Some of the more common phytonutrients and the foods they are found in include:
      i. Beta-Carotene – Carrots, pumpkin, sweet potato, cantaloupe
      ii. Flavonoids – oranges, grapefruit, lemon
      iii. Lycopene – tomatoes, red peppers, watermelon
      iv. Lutein – Collard greens, kale, spinach, broccoli
      v. Anthocyanidins – blueberries, blackberries, plums, red potatoes
      vi. Allyl Sulfides – Garlic, onions, chives
   c. By maintaining a balanced eating pattern that includes a wide variety of fruits and vegetables you are also including a variety of phytonutrients!

6. Slide 6: MyPlate guidelines for fruits and vegetables
   a. MyPlate recommends making half your plate fruits and vegetables.
   b. Focus on whole fruits.
      i. Choose whole fruits that are fresh, frozen, canned, or dried.
      ii. Enjoy fruit with meals, as snacks, or as a dessert.
   c. Vary your veggies.
      i. Try adding fresh, frozen, or canned vegetables to salads, sides, and main dishes.
      ii. Choose a variety of colorful veggies prepared in healthful ways: steamed, sautéed, roasted, or raw. Make sure to include dark green, red, and orange choices.

7. Slide 7: What’s in the vegetable group?
   a. Any vegetable or 100% vegetable juice counts as a vegetable.
   b. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed.
   c. Vegetables are organized into 5 subgroups based on their nutrient content
      i. Dark-green vegetables, starchy vegetables, red and orange vegetables, beans and peas, and other vegetables. We should choose a variety of vegetables from each subgroup.

8. Slide 8: What counts as a serving?
   a. Optional Visual: fruit and vegetable food models can be displayed for students to see proper portion sizes.
   b. 2½ cups of vegetables daily
   c. 1 cup of vegetables counts as
      i. 1 cup raw or cooked vegetables
      ii. 2 cups leafy salad greens
      iii. 1 cup 100% vegetable juice
9. Slide 9: How to add more veggies?
   a. Ask students what are ways they can add more vegetables into their diets? Review responses and provide students with additional examples listed below. You can review the MyPlate Ten Tips Series handout “Add more vegetables to your day” if time allows, or wait until the end of the lesson to handout to students.
   b. Buy fresh vegetables in season. They cost less and are likely to be at their peak flavor.
   c. Stock up on frozen vegetables for quick and easy cooking in the microwave.
   d. Buy vegetables that are easy to prepare. Pick up pre-washed bags of salad greens and add baby carrots or grape tomatoes for a salad in minutes. Buy packages of veggies such as baby carrots or celery sticks for quick snacks.
   e. Vary your veggie choices to keep meals interesting.
   f. Try crunchy vegetables, raw or lightly steamed.
   g. Choose a variety of colored vegetables from each subgroup for a rainbow of flavors.

10. Slide 10: What’s in the fruit group?
    a. Any fruit or 100% fruit juice counts as a fruit.
    b. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.

11. Slide 11: What counts as a serving?
    a. Optional Visual: fruit and vegetable food models can be displayed for students to see proper portion sizes.
    b. 2 cups of fruit daily
    c. 1 cup of fruit counts as
       i. 1 cup raw or cooked fruit
       ii. ½ cup dried fruit
       iii. 1 cup 100% fruit juice

12. Slide 12: How to add more fruits?
    a. Ask students what are ways they can add more fruit into their diets? Review responses and provide students with additional examples listed below. You can review the MyPlate Ten Tips Series handout “Focus on Fruits” if time allows, or wait until the end of the lesson to handout to students.
    b. Keep a bowl of whole fruit on the table, counter, or in the refrigerator.
    c. Refrigerate cut-up fruit to store for later.
    d. Buy fresh fruits in season when they may be less expensive and at their peak flavor.
    e. Buy fruits that are dried, frozen, and canned (in water or 100% juice) as well as fresh, so that you always have a supply on hand.
    f. Consider convenience when shopping. Try pre-cut packages of fruit (such as melon or pineapple chunks) for a healthy snack in seconds. Choose packaged fruits that do not have added sugars.
    g. Make most of your choices whole or cut-up fruit rather than juice, for the benefits dietary fiber provides.
    h. Vary your fruit choices. Fruits differ in nutrient content.
   a. Tell the students that they will be playing a game called “Nutrition Fear Factor”. It is a game of mystery that allows you to explore your sense of taste, feel, and smell without seeing!
   b. Explain that you will need a few very brave volunteers that are willing to eat something new, that might be “cold and slimy.”
   c. Have the students come to the front of the classroom and cover their eyes with the faux blindfold. Tell the other students watching that when you take out the foods that the volunteers are going to try, they need to be quiet and not let them know what it is.
   d. Ask the volunteers to put their hands out and give them a small piece of one of the fruits or vegetables to try. You may have each volunteer taste one of the fruits/vegetables, or they each may taste all of the foods.
   e. Tell the volunteers to first use their other senses (smell, touch), and then when you say so, they can take a small bite and to tell you what they think it is, if they know.
   f. After they do the taste-testing take their blindfolds off and let them see what they tasted.
   g. Give all the other students a chance to try the different fruits/vegetables. Distribute the “Fear Factor” rating worksheet. Each student will taste each fruit and/or vegetable and rank it on the worksheet. Discuss how they described the different fruits/vegetables and which were their favorites and why.

14. Additional Activities: may be completed as time allows or as an additional follow-up activity.
   a. “Fruit and Vegetable Name Game”
      i. Have students think of as many fruits and vegetables as they can and write them in the correct column according to their color.
      ii. Review answers when finished and encourage students to eat a variety of colorful fruits and vegetables every day.
   b. “Fruit and Vegetable Word Scramble”
      i. Have students work individually to unscramble the letters to make fruits or vegetables. To make it more of a challenge and competition, you may tell students that whoever can get all of the answers correct the fastest will win a prize.

15. Slide 14: Summary
   a. Most fruits and vegetables are naturally low in fat, sodium, and calories to fit into your healthy eating style.
   b. Fruits and vegetables are sources of many essential nutrients that are under consumed, including potassium, dietary fiber, vitamin C, and folate (folic acid).
   c. Choose a variety of vegetables and whole fruits for a healthy eating style to last you a lifetime.

16. Slide 15: Questions

   B. Conclusion
   1. Review take-away messages from lesson.
      a. Ask students to explain the importance of fruits and vegetables.
      b. Have students describe the MyPlate guidance for fruit and vegetable intake.
c. Ask students to identify the important nutrients found in fruits and vegetables.

2. Distribute hand wipes.

3. Provide each student with a food tasting and encourage him or her to make small changes in his or her diet now. Explain why the food is a healthy option.

4. Distribute the reinforcement, read the message and/or explain the reason why they are receiving the reinforcement.

5. Distribute Ten Tips Fact Sheet (or other appropriate fact sheet) and encourage students to share it with their families.

6. Thank the students for their participation and answer any question they may have.
1. According to MyPlate, how much of our plates should be fruits and vegetables?

2. The five subgroups of vegetables are:
   a. ____________________
   b. ____________________
   c. ____________________
   d. ____________________
   e. ____________________

3. How many cups of vegetables does MyPlate recommend we have every day?

4. List two vegetables that count as a serving (1 cup)
   a. ______________________________
   b. ______________________________

5. How many cups of fruit does MyPlate recommend we have every day?

6. List two fruits that count as a serving (1 cup)
   a. ______________________________
   b. ______________________________

7. List five nutrients that are found in fruits and vegetables
   a. ____________________
   b. ____________________
   c. ____________________
   d. ____________________
   e. ____________________
1. According to MyPlate, how much of the plate should be fruits and vegetables?
   a. Half

2. The five subgroups of vegetables are
   a. Dark green
   b. Starchy
   c. Red and orange
   d. Beans and beans
   e. Other

3. How many cups of vegetables does MyPlate recommend we have every day?
   a. 2 ½ cups

4. List two vegetables that count as a serving (1 cup)
   a. Answers will vary. Guidelines state 1 cup raw or cooked vegetables, 1 cup 100% vegetable juice, and 2 cups leafy salad greens

5. How many cups of fruit does MyPlate recommend we have every day?
   a. 2 cups

6. List two fruits that count as a serving (1 cup)
   a. Answers will vary. Guidelines state 1 cup raw or cooked fruit, 1 cup 100% fruit juice, and ½ cup dried fruit.

7. List five nutrients that are found in fruits and vegetables
   a. Potassium
   a. Dietary fiber
   b. Folate
   c. Vitamin A
   d. Vitamin C
   e. Magnesium
   f. Iron
FEAR FACTOR

Directions:
1. Volunteers for the activity will be blindfolded.
2. Each person will taste one of the sample items and try to guess what it is. The rest of the students will remain quiet!
3. They will remove their blindfold and they will be told which food item they had.
4. Then everyone else will get a chance to try each of the food items and fill out the table below.
5. Remember to look for your favorites next time you are in the grocery store.

<table>
<thead>
<tr>
<th>Food item #</th>
<th>Name of food item</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Give each food a rating between 1 and 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = yuck and 10 = yum</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
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<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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FEAR FACTOR

Name ____________________________________________________________  Date _____________________

Directions:
1. Volunteers for the activity will be blindfolded.
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<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Describe the taste, texture, feel, and smell.</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>1 = yuck and 10 = yum</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FRUIT AND VEGETABLE NAME GAME

Directions: Think of as many fruits and vegetables as you can. Write them in the correct column according to their color.

<table>
<thead>
<tr>
<th>Red</th>
<th>Orange</th>
<th>Blue and Purple</th>
<th>Green</th>
<th>White</th>
</tr>
</thead>
</table>

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Fruit & Vegetable Word Scramble

Unscramble the letters below to make fruits or vegetables.

1. ryerch _______________________________
2. aoomtt _______________________________
3. goman _______________________________
4. iealepppn _______________________________
5. nanaba _______________________________
6. achspin _______________________________
7. colibroc _______________________________
8. plganteg _______________________________
9. yberblreu _______________________________
10. uoaaecntlp _______________________________
11. plape _______________________________
12. ralentewom _______________________________
13. orartc _______________________________
14. hcunizci _______________________________

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# Fruit & Vegetable Word Scramble

## ANSWERS

Unscramble the letters below to make fruits or vegetables.

<table>
<thead>
<tr>
<th>Scrambled Letters</th>
<th>Unscrambled Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>ryerch</td>
<td>Cherry</td>
</tr>
<tr>
<td>aoomtt</td>
<td>Tomato</td>
</tr>
<tr>
<td>goman</td>
<td>Mango</td>
</tr>
<tr>
<td>iealepppn</td>
<td>Pineapple</td>
</tr>
<tr>
<td>nanaba</td>
<td>Banana</td>
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<tr>
<td>achspin</td>
<td>Spinach</td>
</tr>
<tr>
<td>colibroc</td>
<td>Broccoli</td>
</tr>
<tr>
<td>plganteg</td>
<td>Eggplant</td>
</tr>
<tr>
<td>yberblreu</td>
<td>Blueberry</td>
</tr>
<tr>
<td>uoaaecnlp</td>
<td>Cantaloupe</td>
</tr>
<tr>
<td>plape</td>
<td>Apple</td>
</tr>
<tr>
<td>ralentewom</td>
<td>Watermelon</td>
</tr>
<tr>
<td>orartc</td>
<td>Carrot</td>
</tr>
<tr>
<td>hcunizci</td>
<td>Zucchini</td>
</tr>
</tbody>
</table>

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