Lesson Plan F

Course: **Practical Nutrition**

Module II: **Implementing the Dietary Guidelines in School Meals**

Lesson F: **Eat Less! Fat, Sugar, Salt, Sodium and School Meals**

Lesson Length: **60 minutes**

Lesson Equipment and Materials

Equipment
Computer and LCD Projector
Flip chart and Markers

Supplies
Flip chart and Markers
1 empty can of regular pop (not diet)
12 ounce clear glass
12 teaspoons of sugar

Visual Aids
PowerPoint Slides 1-20

Participant Materials
H-F1 *Comparing Yesterday and Today*
H-F2 *Making School Meals Healthier - Fat*
H-F3 *Modify These School Lunch Menus for Fat*
H-F3a *Modify These School Lunch Menus for Fat Key*
H-F4 *Modify This Recipe for Fat*
H-F4a *Modify This Recipe for Fat Key*
H-F5 *My School Foodservice Plan for Reducing Fat*
H-F6 *Making School Meals Healthier Sugar/Salt/Sodium*
H-F7 *My Plan to Prepare Food with Less Sugar, Salt and Sodium in School Meals*

Lesson Preparation

1. Read the entire **Lesson Plan F**.
2. Reproduce all **Participant Materials** for Lesson F.
3. Measure 12 teaspoons of sugar into a clear glass. Collect one empty pop can.
4. Post Performance Standards for participants.

Lesson Outcome

On completion of the lesson, the learner will demonstrate knowledge and skills needed to incorporate the principles of sound nutrition into the Child Nutrition Program based on the following **performance standards**:

- Identify common sugars and alternate names that are used for sugar on food labels.
- Choose and prepare foods with less fat, sugar, salt and sodium in Child Nutrition Programs.
- Identify ways to decrease fat in Child Nutrition Programs.

Lesson Instruction

- **Setting the Stage**
  Focus learner's attention.
  - Child Nutrition Programs (Slide 3) have been around for a long time now. The guidance for the programs focuses on offering a variety of nutritious foods, serving meals that help students maintain a healthy body weight, offer meals low in fat, saturated fat, *trans* fat and cholesterol, serve LOTS of fruits and vegetables (especially raw), LOTS of whole grains and low-fat or fat-free milk, and finally decrease the amount of sugar and salt.
  - The School Foodservice goal (Slide 4) is to provide children with school meals that promote their health, meet nutrient needs, meet nutrition goals, and assist in preventing chronic disease.
  - Since school meals provide a significant contribution to a child's diet, it is especially important that school meals be changed to provide choices that include low-fat foods, vegetables, fruits, and whole grain products. It has become clear that changes are necessary to provide children with healthy meals.
- **Relate to Past Experience**
  - School Lunch: Compare yesterday and today (Slide 5) by distributing and completing activity **H-F1** ***Comparing Yesterday and Today***.

- **In Today's Lesson...**
  - We will focus on the role of sugar, fat, and sodium in the diet and ways to reduce them in school meals.

- **You Will Be Able To...**
  - Identify common sugars and alternate names that are used for sugar on food labels.
  - Choose and prepare foods with less fat, sugar, salt and sodium in Child Nutrition Programs.
  - Identify ways to decrease fat in Child Nutrition Programs.

- **Identify the Purpose**
  - To provide healthy school meals that are consistent with the Dietary Guidelines for Americans 2005 and MyPyramid.

Performance Standard
The learner will:
- Identify common sugars and alternate names that are used for sugar on food labels.
- Choose and prepare foods with less fat, sugar, salt and sodium in Child Nutrition Programs.
- Identify ways to decrease fat in Child Nutrition Programs.

LESSON CONTENT

Slide 1: Eat Less! Fat, Sugar, Salt and Sodium in School Meals
- Title Page

Slide 2: Lesson Objectives
- Quickly review the objectives for this session as outlined on the slide.

Slide 3: Nutrition Guide for Child Nutrition Programs
- Child Nutrition Programs have been around for a long time now. The guidance for the programs focuses on offering a variety of nutritious foods, serving meals that help students maintain a healthy body weight, offer meals low in fat, saturated fat, *trans* fat and cholesterol, serve LOTS of fruits and vegetables (especially raw), LOTS of whole grains and low-fat or fat-free milk, and finally decrease the amount of sugar and salt.

Slide 4: School Foodservice Goal
- The School Foodservice goal is to provide children with school meals that promote their health, meet nutrient needs, meet nutrition goals, and assist in preventing chronic disease.
- Since school meals provide a significant contribution to a child's diet, it is especially important that school meals be changed to provide choices that include low fat foods, vegetables, fruits, and whole grain products. It has become clear that changes are necessary to provide children with healthy meals.

Slide 5: School Lunch: Comparing Yesterday and Today

- Distribute **H-F1** ***School Lunch: Comparing Yesterday and Today***.
- Compare some of the food items from yesterday with what is currently being served. There have been a lot of changes in the school lunch program that help us to know that we are following the recommendations. Certainly, menu nutrient analysis has helped us ensure that we are serving meals within the recommendations.

Slide 6: Types of Fat

- Saturated fat, cholesterol and *trans* fat are both plaque forming and cause a narrowing of the arteries otherwise known as atherosclerosis. This leads to increased risk for heart disease and stroke.
- Saturated fat is found in animal products (milk, meat, etc.) and certain oils (coconut, palm and palm kernel). Saturated fat is also solid at room temperature.
- *Trans* fats are fats that were once oils at room temperature that have been chemically altered to be solids at room temperature. This process is known as hydrogenation. Hydrogenation adds hydrogen to the oil molecule through a chemical bond. The bond can either be on the same side, a *cis*- bond or on the other side a *trans*- bond. In our bodies, the *trans* bonds or *trans* fats act like cholesterol and saturated fats, therefore, leading and contributing to heart disease. That is why *trans* fats are such a big deal.
- Polyunsaturated and monounsaturated fats are primarily oils. Monounsaturated fats are the most heart healthy, with polyunsaturated being next in line. They are not plaque forming. Monounsaturated oils include olive and canola. Polyunsaturated fats include corn, soybean, etc. Omega 3 and 6 fatty acids have gotten lots of press lately. These are essential fatty acids that our bodies need (brain, eye and heart healthy) and most Americans don't get enough of these nutrients.

Slide 7: Making School Meals Healthier

- Menu Planning
- Food Purchasing
- Recipe Modification
- Food Preparation
- We will look at some strategies to make school meals healthier in

the next few slides, with menu planning, purchasing, recipe modification and in food preparation.

Slide 8: Menu Planning Goals

- The menu planning goals for school lunch are as follows
  - Average of 30% or less of calories from fat
  - Average of 10% saturated fat of calories from fat
  - 20-24 grams of fat/lunch per day for K-3
  - 24-30 grams of fat/lunch per day for 4-12
  - School lunch entrée 12-15 grams of fat
  - Caloric goals for school lunch
    - 634 or above calories for K-6
    - 785 or above calories for 4-12

Slide 9: Food Purchasing to Lower Fat

- Communicate with vendors and request foods with less fat or low-fat products.
- The food label and nutrient analysis is also important to request from the vendor and allows you to look at the nutrition facts label.
- Bid specifications can be rewritten to reflect the need for lower fat products.
- Purchase lean meats, chicken, turkey and fish. Trim all visible fat. Use lean ground beef (95%) lean. Serve high-fat meats (hot dogs, sausage, bacon, etc.) in moderation.

Slide 10: Recipe Modification

- **Eliminate** some fat in the recipe; eliminate butter, oil and margarine. Skin chicken before cooking. Eliminate deep fat frying.
- **Reduce** the amount needed or substitute another product (applesauce, prune blend, etc.) for ¼ or ½ of the fat in the recipe. Drain the fat from meats. Use non-stick cooking spray instead of shortening in baking pans. Skim the fat from soups.
- **Substitute** reduced fat or fat free mayo and salad dressings. Use skim cheeses (mozzarella) in place of cheddar. Use whole grain breads instead of muffins, croissants and doughnuts.
- **Change** one ingredient at a time and be sure to have students taste test the product.
- Distribute and review **H-F2** ***Making School Meals Healthier – Fat*** with participants.

Slide 11: Food Preparation

- USDA has provided recipes that are lower in fat. Using cooking methods that reduce fat (baking, boiling, broiling) instead of frying is a great option.

- Using standard serving sizes to ensure correct portion size helps to control the amount.
- **Activities:**
  - Distribute and complete the **H-F3** ***Modify These School Lunch Menus for Fat*** worksheet.
    - Have participants work in small groups.
    - Discuss possible modifications for reducing fat in the school lunch menus. Instructor note: Write suggestions on flip chart page for each menu. **H-F3a** will provide answers for the instructor.
  - Distribute **H-F4** ***Modify This Recipe for Fat***.
    - Have participants work in small groups.
    - Discuss possible modifications for reducing fat in the school lunch menus. Instructor note: Write suggestions on flip chart page for each menu. **H-F4a** will provide answers for the instructor.
  - End this part of the session with by distributing and completing **H-F5** ***My School Foodservice Plan for Reducing Fat.*** Have participants record their ideas for change in their school foodservice. Remember to make practical, acceptable, and gradual changes.

Slide 12: Pop – America's Drink

- **Demonstration**
  - Display a can of regular (not diet) pop.
  - Show clear glass with 12 level teaspoons of sugar.
  - Ask participants-Does this can of pop have more sugar then you thought?
- During processing 9-12 teaspoons of sugars or other sweeteners are added.
- Sugars added to food add only carbohydrates and calories but no other nutrients. They should be consumed in moderation.
- Explain that there are no other nutrients found in pop!

Slide 13: Sugars in Moderation

- Sugars should be consumed in moderation. Sugar and high sugar foods supply calories but may be limited in nutrients like vitamins

and minerals and often are accompanied by fat (desserts, ice cream, etc.).

- Frequent eating of sugary foods and snacks do lead to dental caries (cavities). That is the major problem with sugary foods.
- They provide extra calories with few nutrients. Increased sugar intake has been speculated to cause obesity, diabetes, heart disease, and hyperactive behaviors. There is no proof of cause and effect, however, increased consumption of sugar and calories leads to obesity, a risk factor for diabetes and heart disease. There is a direct link with tooth decay.
- With the increased consumption of pop in the United States, sugar is often accompanied by caffeine.
- Caffeine is a stimulant. A 60 pound child consuming 2 caffeinated sodas is equal to the caffeine in 8 cups of coffee for 175 pound man. This contributes to restlessness, sleeplessness, etc.

Slide 14: Finding Sugar in Food

- There are many words that mean sugar that are commonly added to foods as a sweetener. These include:
  - Table sugar-sucrose
  - High fructose corn syrup
  - Corn sweetener
  - Glucose (dextrose)
  - Fructose (fruit sugar)
  - Maltose
  - Lactose (milk sugar)
  - Honey and syrups
  - Raw sugar and molasses
  - Brown sugar

Slide 15: Link to Foodservice

- Review **H-F6** ***Making Schools Healthier – Sugar/Salt/Sodium*** (sugar portion only) with participants.
- Ideas to reduce sugar in school meals
  - Offer low-sugar cereals at breakfast
  - Purchase fruit in light syrup, juice or water pack
  - Offer vanilla wafers, ginger snaps or graham crackers as cookie choices
  - Mix sugared and low sugar cereals
  - Offer fruit for dessert

Slide 16: Salt and Sodium

- Sodium and sodium chloride (salt) occur naturally in foods, usually in small amounts.
- Most Americans consume more salt than they need. Excess salt comes from processed foods and salt that is added during the cooking process.
- Foods with added salt include cured and processed meat, cheese, most snacks, ready to eat cereal, frozen entrees and dinners, packaged mixes, canned soups and salad dressing.
- Long term consumption may contribute to high blood pressure in some individuals. ND school lunch guidelines recommend that sodium should be kept at an average of 1200-2000 mg per school lunch.

Slide 17: Link to Foodservice

- Review **H-F6** ***Making Schools Healthier – Sugar/Salt/Sodium*** (salt and sodium portion) with participants.
  - Remove salt shakers from cafeteria
  - Limit use of salty meats (bacon, ham, luncheon meats, etc)
  - Use fresh or frozen vegetables instead of canned
  - Limit soy sauce & BBQ sauce
  - Serve school-made soup instead of canned

Slide 18: Eliminate

- Review **H-F6** ***Making Schools Healthier – Sugar/Salt/Sodium*** (salt and sodium portion) with participants.
- Eliminate
  - Salt in recipes
  - High salt seasonings
  - Salt added to water when cooking pasta, potatoes, or vegetables

Slide 19: Substitute

- Review **H-F6** ***Making Schools Healthier – Sugar/Salt/Sodium*** (salt and sodium portion) with participants.
- Substitute
  - Herbs, spices, garlic or onion powder for salt, onion salt and garlic salt
  - Sodium free or reduced sodium versions of seasonings, soups, etc.

Slide 20: Preparation Practices

- Review **H-F6** ***Making Schools Healthier – Sugar/Salt/Sodium*** (salt and sodium portion) with participants.

- Don’t add baking soda to vegetables. Baking soda helps retain color, but contains sodium and destroys vitamin C.
- Use taste testing panels to test herbs and spices added to foods
- Make cakes, pancakes and desserts from scratch rather than using prepared mixes

♦ **PERFORMANCE CHECK**

- Distribute **H-F7** ***My Plan to Prepare Food with Less Sugar, Salt and Sodium in School Meals***. Encourage participants to select ways they can effectively reduce sugar, salt and sodium in the school meals they serve.

♦ **Closure**

- Remember to make changes in foodservice gradually. By starting slowly, keeping the changes simple, and introducing new menu items with popular menu items, you will find applying the Dietary Guidelines easy.

♦ **Independent Practice**

- If participants are interested in nutrient analysis for their school, encourage them to contact the state office-Child Nutrition and Food Distribution Program to find out about the USDA approved software.