



No Time To Train

Short Lessons for School Nutrition Assistants

Combine Multiple Servings – by Weight

Lesson Overview

Lesson Participants: School Nutrition Assistants/Technicians

Type of Lesson: Short face-to-face training session

Time Needed to Conduct the Lesson: 25 minutes

Lesson Description: This lesson explains the steps for combining two or more weighted servings for the purpose of determining the amount of food to purchase and prepare. An instructor-led activity is used to guide participants through an exercise to combine multiple servings. The lesson is designed for managers to teach school nutrition assistants/technicians.

Lesson Objectives:

At the end of this lesson, the participant will be able to:

1. Combine serving sizes to determine the amount of food to purchase and prepare.
2. Calculate multiple serving sizes by weight for grade groups.

Get Ready to Train

Note: This lesson is one of three lessons on combining multiple servings.

The format for the **No Time to Train** lessons includes an overview, preparation checklist, lesson at a glance with timeline for conducting the lesson, references, and an instructor's script. The manager/instructor will use the script to present the lesson to the participants. The script gives directions to the manager/instructor—**DO, SAY, ASK, LISTEN, AND ACTIVITY**—to deliver the lesson.

No special audiovisual or electronic equipment is needed to conduct the lesson. The lesson can be presented in the cafeteria, media center, or classroom.

Preparation Checklist

Directions: Use the Preparation Checklist to prepare for the training session. Track your progress by checking off tasks as they are completed.

Done	Lesson Tasks
<input checked="" type="checkbox"/>	
	Gather Materials
	Materials Needed:
<input type="checkbox"/>	• Instructor’s Script
<input type="checkbox"/>	• Black or white board; overhead or flip chart; chalk or markers
<input type="checkbox"/>	• Handout 1: Sample Food Production Record
<input type="checkbox"/>	• Handout 2: Combine Multiple Servings—by Weight
<input type="checkbox"/>	• Handout 3: Combine Multiple Servings—by Weight with Key Answers
<input type="checkbox"/>	• Pencils and calculators (one for each participant)
<input type="checkbox"/>	• Session Evaluation form (one for each participant)
	Prepare for Lesson
	Before the Training:
<input type="checkbox"/>	• Make copies of Handouts 1, 2 and 3 (one for each participant).
<input type="checkbox"/>	• Make copies of Session Evaluation form (one for each participant).
	On Training Day:
<input type="checkbox"/>	• Reproduce Handout 2: Combine Multiple Servings—by Weight on the black or white board or flip chart for demonstration purposes.
<input type="checkbox"/>	• Place pencils and calculators on the tables (one for each participant)
<input type="checkbox"/>	• Distribute Handouts 1 and 2 to each participant.
<input type="checkbox"/>	• Distribute Handout 3 after activity (one for each participant).
	On the Instructor’s Table:
<input type="checkbox"/>	• Instructor’s Script
<input type="checkbox"/>	• Handout 1: Sample Food Production Record
<input type="checkbox"/>	• Handout 2: Combine Multiple Servings—by Volume
<input type="checkbox"/>	• Handout 3: Combine Multiple Servings—by Volume with Key Answers
<input type="checkbox"/>	• Session Evaluation form

Lesson at a Glance
(25 minutes)

Time	Topic	Task	Materials
6 minutes	Introduction and Overview	Instructor introduces the topic.	Instructor’s Script
12 minutes	Objective 1: Combine serving sizes to determine the amount of food to purchase and prepare. Objective 2: Calculate multiple serving sizes by weight for grade groups.	Distribute Handout 1. Instructor guides participants through a Sample Food Production Record. Distribute Handout 2. Use Handout 1 to complete exercise. Participants will calculate and fill in provided blanks on Handout 2. Distribute Handout 3. Instructor leads a discussion on the exercise completed.	Handout 1: Sample Food Production Record Handout 2: Combine Multiple Servings—by Weight Handout 3: Combine Multiple Servings—by Weight with Key Answers
2 minutes	Wrap up and Review	Volunteers summarize the lesson by answering questions.	
2 minutes	Session Evaluation	Conduct a short evaluation of the lesson.	Session Evaluation form

Note to Instructor: The *Food buying guide for child nutrition programs* (Food Buying Guide) is a “must” reference to determine the contribution foods make toward the meal pattern requirements. The resource helps foodservice personnel to purchase the right amount of food and serve reimbursable meals (food-based menu planning).

References:

National Food Service Management Institute, & U. S. Department of Agriculture, Food and Nutrition Service. (2005). *Food buying guide for child nutrition program instructor manual*. University, MS: Author.

U. S. Department of Agriculture, Food Nutrition Service. (2007 January). *The road to SMI success-a guide for school foodservice directors*. Retrieved September, 24, 2008, from <http://www.fns.usda.gov/tn/Resources/roadtosuccess.html>

U. S. Department of Agriculture, Food and Nutrition Service. (2008). *A menu planner for healthy school meals...to help you plan, prepare, serve, and market appealing meals*. Retrieved September 24, 2008, from http://www.fns.usde.gov/tn/Resources/menuplanner_chapter7.pdf



U. S. Department of Agriculture, Food and Nutrition Service. (2008). *Food buying guide for child nutrition programs*. Washington, DC. Retrieved September 18, 2008, from <http://www.fns.usda.gov/tn/Resources/foodbuyingguide.html>



No Time To Train – Short Lessons for School Nutrition Assistants
Combine Multiple Servings – by Weight

Instructor's Script



SAY:

Today, we will talk about and practice combining multiple servings when the food is portioned by weight. It is important to know how to combine multiple servings so we can accurately determine the amount of food to purchase and prepare.

The example we will use is ham with water added. All serving sizes must be converted to one common serving size prior to determining the total amount of ham needed in purchase units (pounds).



ASK:

Why do you think ham with water added is portioned by weight?



LISTEN:

Listen to responses.

Suggested Answer: Ham with water added contributes to the meat/meat alternate (M/MA) component of the meal pattern; therefore, it is portioned by weight.



ASK:

When multiple serving sizes are used, why is it necessary to convert the serving sizes prior to determining the amount of food to purchase and prepare?



LISTEN:

Listen to responses.

Suggested answer: It is necessary to convert the serving sizes into one common unit prior to determining the amount to purchase or prepare because we do not buy separate pounds or purchase units of ham with water added for each portion size. We combine all the needed servings and purchase the required number of pounds or cases to serve everyone.



ACTIVITY:

Using **Handout 1: Sample Food Production Record** instructor and participants will complete an exercise on **Handout 2: Combine Multiple Servings—by Weight**.



DO:

Distribute **Handout 1: Sample Food Production Record** and **Handout 2: Combine Multiple Servings—by Weight**. Use the overhead, black/white board, or flip chart with **Handout 2** reproduced on it to guide participants through the steps.



SAY:

The child nutrition program sets the requirements for the divisions of age/grade groups and the serving size of the meal items. The serving sizes reflect age appropriate nutrients and calories.

Let's look at the handouts. **Handout 1** is a **Sample Food Production Record**. The other is **Handout 2: Combine Multiple Servings by Weight**.

The food production record directs which foods to prepare and provides forecasted numbers of servings needed with serving sizes by age or grade level. The information needed to project the amount of food to prepare using the *Food Buying Guide for Child Nutrition Programs* or the product label is included, too.

The menu planner or manager has recorded the necessary information on the **sample food production record**. The school nutrition assistant is responsible for preparing the ham with water added and calculating the number of cases needed to serve this meal. However, we must first determine the number of pounds needed. Ham with water added is purchased in 20 lb cases.

We will use **Handout 2**, an exercise that will help combine serving sizes. We need to determine the total number of pounds of ham with water added that are required and divide by the case weight to determine how many cases of product are needed.



DO:

Use the overhead, black/white board or flip chart with **Handout 2** reproduced on it to guide participants through the steps.



ASK:

In **Handout 1**, what are the divisions in **Grade Groups** for portion sizes of ham with water added?



LISTEN:

Listen to responses.

Answers: K-3, 4-8, 9-12, and adult, respectively.



SAY:

Write the **Grade Groups** into the first blank column of the exercise.



DO:

While participants are completing their exercise, write the **Grade Groups** on the demonstration exercise.



ASK:

Looking at **Handout 1**, how many **Projected Student Servings** and **Projected Adult** and **À la Carte Servings** are needed for the grade groups, adult, and à la carte servings and what two rows need to be added together?



LISTEN:

Listen to responses.

Answers: 450, 211, and 344 servings, respectively.



SAY:

Use **Handout 2** to write the **Projected Total Servings Needed** into the second blank column of the exercise.



DO:

While participants are completing their exercise, write the **Projected Total Servings Needed** on the demonstration exercise.



ASK:

What serving size is needed for Grade Groups K-3, 4-8, 9-12, and adults?



LISTEN:

Listen to responses.

Answers: 1.5 oz M/MA, 2.0 oz M/MA, and 3.0 oz M/MA, respectively.

Note: Remember to use this information on the exercise, not the actual weight that will be portioned. *Food Buying Guide for Child Nutrition Programs* Yield Data Tables have already factored in the higher required actual serving size.



SAY:

Write these serving sizes on the **Serving Size Needed** column of the exercise.



DO:

While participants are completing their exercise, write the serving sizes on the demonstration exercise.



SAY:

The next thing to do is to multiply each line as directed on the exercise.

**DO:**

Multiply each line as directed on the exercise:

Grade Groups	Projected Total Servings Needed	x	Serving Size Needed	=	Total Servings Needed
K-3	450	x	1.5 oz M/MA*	=	675 1.0 oz M/MA*
4-8	211	x	2.0 oz M/MA*	=	422 1.0 oz M/MA*
9-12 and Adult	344	x	2.25 oz M/MA*	=	1032 1.0 oz M/MA*
* Meat or Meat Alternate					2129 1 oz meat/meat alternate servings

**SAY:**

It is now time to use the Food Buying Guide for determining how much ham with water added to buy.

**DO:**

In **Handout 2**, illustrate steps 1-6 on the demonstration sheet as you read the text below.

**SAY:**

Step 1: We move the 2129 total 1.0 oz M/MA servings to the table **Method 1 for Calculating the Amount of Food to Purchase** under **Column A**. Follow the arrow.

Step 2: Fill in the yield information from the excerpt Food Buying Guide page 1-49, Section 1- Meat/Meat Alternates from Column 3 (**13.1 lb**) and Column 4 (**1.0 oz**).

- Column 3 – Servings per purchase Unit, EP **13.1 lb**
- Column 4 – Serving Size per Meal Contribution **1.22 oz ham water added** (provides **1 oz** cooked lean meat)

Then, write the information into the table **Method 1 for Calculating the Amount of Food to Purchase** under **Column B**.

- 13.1, 1.0 oz M/MA per lb of ham with water added.

Step 3: On the **Method 1 for Calculating the Amount of Food to Purchase** table in **Column C**, divide A by B, which then equals C ($A \div B = C$).

- $2129 \div 13.1 = 162.5$ lb of ham with water added

Step 4: Round up your answer in **Column D**.

- 162.5 rounded up = 163 lb of ham with water added

Step 5: Divide by the case weight to determine the number of cases needed.

- $163 \text{ lb} \div 20 \text{ lb per case} = 8.15$ or 9 cases rounded up.

**DO:**

Distribute **Handout 3: Combine Multiple Servings—by Weight with Key Answers**.

**SAY:**

Let's be sure you have the correct answers on **Handout 2**. Use **Handout 3** to verify your answers are correct.

**ASK:**

Do you have any questions about the exercise?

**LISTEN:**

Listen to responses. Answer questions to the best of your ability. If there are questions you can't answer, tell participants you will find out the answer and let them know later. If you need assistance in finding answers, please call the National Food Service Management Institute at 800-321-3054.

**SAY:**

This lesson explains the steps for combining two or more weighted serving sizes for the purpose of determining the amount of food to purchase and prepare. Through the exercise, we have learned to calculate serving sizes by weight for grade groups and the total servings needed of the product in cases to purchase and prepare.

**DO:**

Distribute the Session Evaluation form.

**SAY:**

Thank you for participating in the lesson today. Please take a few minutes to complete the Session Evaluation form. Thank you for your input.

Handout 1: Sample Food Production Record

Menu Item Used	Recipe # or Product Code	Grade Groups	Serving Size Needed (Wt/Vol/Ct)	Projected Student Servings	Projected Adult and A La Carte Servings	Projected Total Servings Needed	Amount Needed per 100 servings from FBG Yield Data Table Column 5	Total Amount of Food Prepared in Purchase Units Column 8 x Column 9
Ham, Water Added*	Smokey's 737	K-3	1.5 oz M/MA* actual weight 1.84 oz	450	0	450	See <i>Food Buying Guide</i> page 1-49	
		4-8	2.0 oz M/MA* actual weight 2.4 oz	211	0	211		
		9-12 and Adult	3.0 oz M/MA* actual weight 3.6 oz	325	19	344		

* Meat or Meat Alternate

** According to the *Food Buying Guide*, 1.22 oz of ham with water added is required to provide 1 oz of meat/meat alternate. That is the reason the actual weight in addition to the meat/meat alternate value are listed in the Portion Size in Weight/Volume column. The information regarding the actual weight is not used in calculating the amount of ham with water added to purchase and prepare. This work has already been done for you in the Yield Data Tables of the *Food Buying Guide*. The information on the actual weight is used for the actual portioning of the ham with water added.

Handout 2: Combine Multiple Servings – by Weight

Serving Size Conversion for Multiple Serving Sizes															
Grade Groups	Projected Total Servings Needed	x	Serving Size Needed	=	Total Needed										
		x		=											
		x		=											
		x		=											
<p>When the serving sizes are in ounces, the total number of servings needed has been converted and this number used in Column A of Method 1 or 2.</p> <p>When the serving sizes are in fractions of a cup, one additional step is needed. Divide the total number of cups by the serving size from Column 4 of the <i>Food Buying Guide</i> to get the total number of servings needed. This number is used in Column A of Method 1 or 2.</p>				<p>Additional Step for Cups:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 5%; text-align: center;">÷</td> <td style="width: 40%;"></td> <td style="width: 5%; text-align: center;">=</td> <td style="width: 10%;"></td> </tr> <tr> <td>Total Number of Cups</td> <td style="text-align: center;">÷</td> <td>FBG Column 4 Serving Size</td> <td style="text-align: center;">=</td> <td>Total Servings</td> </tr> </table>			÷		=		Total Number of Cups	÷	FBG Column 4 Serving Size	=	Total Servings
	÷		=												
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Method 1 for Calculating the Amount of Food to Purchase			
Source: Menu and Food Production Plan or Converted Servings	Source: Food Buying Guide	Divide	Round Up
A. Number of Servings Needed	B. Number of Servings Per Purchase Unit from <i>Food Buying Guide</i> Column 3	C. Divide $A \div B = C$	D. Round Up to Ensure Sufficient Product is Purchased and Prepared

Step 5: Divide by the case weight to determine the number cases needed.

_____ lb ÷ 20 lb per case = _____ cases rounded up.

Handout 2: Combine Multiple Servings – by Weight (continued)

This is an excerpt from the *Food Buying Guide for Child Nutrition Programs*, Section 1, Meat/Meat Alternates page 1-49, Pork, Mild Cured, Fully Cooked, chilled or frozen. Ham Water added.

Section 1—Meat/Meat Alternates					
1 Food As Purchased, AP	2 Purchase Unit	3 Servings per Purchase Unit, EP	4 Serving Size per Meal Contribution	5 Purchase Units for 100 Servings	6 Additional Information
PORK, MILD CURED, Fully Cooked, chilled or frozen³² (continued)					
Pork, Mild Cured, Fully Cooked, chilled or frozen Ham Water added ³²	Pound	13.1	1.22 oz ham water added (provides 1 oz cooked lean meat)	7	1 lb AP = 0.82 lb cooked lean meat (Protein Fat Free value of 17.0)
Smoked Rolled Fully cooked (Like IMPS #505 Style C) USDA Commodity	Pound	8.74	1.12 oz ham water added (provides 1-1/2 oz cooked lean meat)	11.5	

Handout 3: Combine Multiple Servings – by Weight with Key Answers

Serving Size Conversion for Multiple Serving Sizes															
Grade Groups	Projected Total Servings Needed	x	Serving Size Needed	=	Total Needed										
K-3	450	x	1.5 oz M/MA*	=	675, 1.0 oz M/MA*										
4-8	211	x	2.0 oz M/MA*	=	422, 1.0 oz M/MA*										
9-12 and Adult	344	x	3.0 oz M/MA*	=	1032, 1.0 oz M/MA*										
<p>When the serving sizes are in ounces, the total number of servings needed has been converted and this number used in Column A of Method 1 or 2.</p> <p>When the serving sizes are in fractions of a cup, one additional step is needed. Divide the total number of cups by the serving size from Column 4 of the <i>Food Buying Guide</i> to get the total number of servings needed. This number is used in Column A of Method 1 or 2.</p> <p>*Meat or meat Alternate</p>					<p>2129 Total 1.0 oz M/MA* servings</p> <p>Additional Step for Cups:</p> <table border="1"> <thead> <tr> <th></th> <th>÷</th> <th></th> <th>=</th> <th></th> </tr> </thead> <tbody> <tr> <td>Total Number of Cups</td> <td>÷</td> <td>FBG Column 4 Serving Size</td> <td></td> <td>Total Servings</td> </tr> </tbody> </table>		÷		=		Total Number of Cups	÷	FBG Column 4 Serving Size		Total Servings
	÷		=												
Total Number of Cups	÷	FBG Column 4 Serving Size		Total Servings											

Method 1 for Calculating the Amount of Food to Purchase			
Source: Menu and Food Production Plan or Converted Servings	Source: Food Buying Guide	Divide	Round Up
A. Number of Servings Needed	B. Number of Servings Per Purchase Unit from <i>Food Buying Guide</i> Column 3	C. Divide $A \div B = C$	D. Round Up to Ensure Sufficient Product is Purchased and Prepared
2129 1.0 oz M/MA* servings	13.1, 1.0 oz M/MA* per lb of ham with water added	$2129 \div 13.1 = 162.5$ lb of ham with water added	162.5 lb rounded up = 163 lb of ham with water added

Step 5: Divide by the case weight to determine the number cases needed.

- $163 \text{ lb} \div 20 \text{ lb per case} = 8.15$ or 9 cases rounded up.



Handout 3: Combine Multiple Servings – by Weight (continued)

This is an excerpt from the *Food Buying Guide for Child Nutrition Programs*, Section 1, Meat/Meat Alternates page 1-49, Pork, Mild Cured, Fully Cooked, chilled or frozen. Ham Water added.

Section 1—Meat/Meat Alternates					
1 Food As Purchased, AP	2 Purchase Unit	3 Servings per Purchase Unit, EP	4 Serving Size per Meal Contribution	5 Purchase Units for 100 Servings	6 Additional Information
PORK, MILD CURED, Fully Cooked, chilled or frozen³² (continued)					
Pork, Mild Cured, Fully Cooked, chilled or frozen Ham Water added ³²	Pound	13.1	1.22 oz ham water added (provides 1 oz cooked lean meat)	7.7	1 lb AP = 0.82 lb cooked lean meat (Protein Fat Free value of 17.0)
Smoked Rolled Fully cooked (Like IMPS #505 Style C) USDA Commodity	Pound	8.74	1.83 oz ham water added (provides 1 1/2 oz cooked lean meat)	11.5	



National Food Service Management Institute
The University of Mississippi

Session Evaluation

Instructions:

Completely fill in the circle of your answer. Use a #2 pencil.

Please select only one response for each statement. Do not fold or crease this sheet.

Title of Meeting: _____		Trainer's Code: _____	
Session Topic: _____		Date: _____	
Time Slot: _____	Location: _____	Length of Event (hrs/min): _____	

Attendee Status:

- | | | |
|--|---|--|
| <input type="radio"/> District director | <input type="radio"/> Major city director | <input type="radio"/> Private consultant/trainer |
| <input type="radio"/> State agency staff | <input type="radio"/> Site-level manager | <input type="radio"/> Foodservice assistant |
| <input type="radio"/> Educator | <input type="radio"/> Other (please list) _____ | |

Reaction to this Session					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Please read the following statements related to the session. Rate your level of agreement by using the scale 5 (Strongly Agree) to 1 (Strongly Disagree).					
1. The session objectives were clearly presented.	⑤	④	③	②	①
2. The session objectives were achieved.	⑤	④	③	②	①
3. I can apply what I learned in this session to my job.	⑤	④	③	②	①
4. Attending the session increased my skill on the topic.	⑤	④	③	②	①
5. Attending the session increased my knowledge on the topic.	⑤	④	③	②	①
6. I would recommend this session to others.	⑤	④	③	②	①
7. Overall, the session met or exceeded my expectations.	⑤	④	③	②	①

Comments about this Session
<p>The information I found MOST useful was:</p> <hr/> <hr/> <hr/>
<p>Please share any additional comments:</p> <hr/> <hr/> <hr/>

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