MEASURING SUCCESS WITH STANDARDIZED RECIPES
Region One ESC
ACKNOWLEDGEMENT STATEMENT

You understand and acknowledge that:

- The training you are about to receive does not cover the entire scope of the program; and that

- You are responsible for knowing and understanding all handbooks, manuals, alerts, notices and guidance, as well as any other forms of communication that provide further guidance, clarification or instruction on operating the program.
STANDARDIZED RECIPES
OBJECTIVES:

- Define and identify the parts of a standardized recipe
- Identify common measures used in recipes
- Identify common abbreviations used in recipes
- Identify the difference between measuring and weighing
- Identify portion control techniques
ADJUSTING STANDARDIZED RECIPES OBJECTIVES:

- Adjust standardized recipes using the factor method
- Increase the yield of a standardized recipe
- Decrease the yield of a standardized recipe
STANDARDIZED RECIPES

What is a standardized recipe?
DEFINITION

A Standardized recipe is one that has been tried, adapted, and retried several times for use by a food service operation and has been found to produce the same good results and yield every time.
Benefits

- Consistent Food Quality
- Predictable Yield
- Customer Satisfaction
- Consistent nutrient content
- Food cost control
Benefits Con’t

- Efficient purchasing procedures
- Inventory Control
- Increased employee confidence
- Reduced record keeping
- Successful Completion of State/Federal reviews
IMPORTANCE OF STANDARDIZED RECIPES

- Cost
- Nutrients per Serving
- Customer Satisfaction
STANDARDIZED RECIPE COMPONENTS

- Recipe title
- Recipe category
- Ingredients
- Weight/Volume of each ingredient
- Preparation instructions
- Cooking temperature and time
- Serving size
- Recipe yield
- Equipment and utensils to be used
OTHER POSSIBLE COMPONENTS

- Contribution to the New Meal Pattern Menu Planning System
  - Identifies the component (Meat/Meat Alternate, Vegetable by sub group, fruit, grains) the recipe contributes to and is applicable when using New Meal Pattern
OTHER POSSIBLE COMPONENTS

- State/Federal reviews
- Nutrient analysis
- Marketing guide
- Food safety guidelines (HACCP, CCP’s)
- Recipe variations
- Alternative ingredient
- Optional ingredients
Parts of a Standardized Recipe

- Name of recipe
- Ingredient list
- Weights or measures of each ingredient
- Column for writing recipe adjustments
- Preparation instructions/directions
- Portion size and serving utensil information
REVIEW THE RECIPE

1. Recipe title
2. Recipe category
3. Ingredients
4. Weight/volume for each ingredient
5. Preparation instructions (directions)
6. Cooking temperature and time, if appropriate
7. Serving size
8. Recipe yield
9. Equipment and utensils to be used.
1. **Review Recipe Title**

- Each recipe should have a title
- It should be descriptive of the product and easily understood by everyone who is working in the operation
- It should be appealing to your customers
2. **Review the Recipe Category**

- Recipes may be categorized by type such as:
  - Grains,
  - Desserts,
  - Main dishes,
  - Salads/salad dressings,
  - Sandwiches
  - Breakfast
  - Sauces and gravies
  - Soups
  - Vegetables
3. Review Ingredients

- Ingredient name should be clear so that product type and preparation technique are listed.
- Fresh, Frozen, Canned
- Peeled, grated, minced, diced
- List ingredients in the order of their use in preparing the recipe
4. **Review weight/volume for each ingredient**

- A decision to whether weights, volumes, or both will be used to describe the amount of each ingredient.
- If the ingredient quantity is not in the preferred weight or volume, conversions will need to be made before the recipe can be prepared.
- See next slide to see those columns.
## Stir-Fry (Chicken, Beef, Pork)

**Meat • Vegetable**

### Directions

1. Dissolve cornstarch in soy sauce. Add spices.
2. Heat chicken stock to a boil and slowly stir in cornstarch mixture. Return to a simmer.
3. Cook for 3 to 5 minutes, until thickened. Remove from heat.
4. Saute sliced carrots in oil for 4 minutes. Add onions, cook for 1 more minute. Add broccoli and cook for 2 more minutes. Remove to steam table pan. Keep warm.
5. Saute chicken in oil for 3 to 5 minutes until no signs of pink remain. Add chicken to vegetables in steam table pan. Add sauce and mix to coat chicken and vegetables. Heat to serving temperature.

### Ingredients and Measurements

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>50 Servings</th>
<th>100 Servings</th>
<th>For ___ Servings</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-sodium soy sauce</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cornstarch</td>
<td>4 oz</td>
<td>1/2 cup 2 Tbsp</td>
<td>8 oz</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Ground ginger</td>
<td></td>
<td>1 tsp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Granulated garlic</td>
<td></td>
<td>3 Tbsp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White pepper</td>
<td></td>
<td>1 Tbsp 1 tsp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-sodium chicken stock, non-MSG</td>
<td></td>
<td>2 qt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh mixed vegetables:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Fresh broccoli, chopped</td>
<td>5 lb 10 oz</td>
<td>2 gal</td>
<td>11 lb 4 oz</td>
<td></td>
</tr>
<tr>
<td><em>Fresh carrots, peeled, 1/4</em> slices</td>
<td>5 lb 10 oz</td>
<td>1 gal 2 cups</td>
<td>11 lb 4 oz</td>
<td></td>
</tr>
<tr>
<td>*Onions, diced</td>
<td>1 lb 4 oz</td>
<td>1 qt</td>
<td>2 lb 8 oz</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td>2 qt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>†Frozen mixed Oriental vegetables</td>
<td>12 lb 8 oz</td>
<td>3 gal 2 qt</td>
<td>25 lb</td>
<td></td>
</tr>
<tr>
<td>Vegetable oil</td>
<td></td>
<td>1/2 cup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skinless, boneless chicken breasts, cut 2&quot; x 2&quot;</td>
<td>9 lb</td>
<td>1 cup</td>
<td>18 lb</td>
<td></td>
</tr>
<tr>
<td>Vegetable oil</td>
<td></td>
<td>2 cups</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*See Marketing Guide.
†If using Oriental vegetables, add frozen vegetables to sauteed chicken in Step 5.
5. **Review Preparation Instructions**

- Detailed Instruction should be included with each recipe to indicate how ingredients are to be combined.
- Directions should list, in order, steps to be followed.
- Food Safety guidelines
- Proper thawing
- Internal cooking
- Holding
- Serving
- Storage temperature
6. **Review Cooking Temperature and Time**

- Cooking temperature and time should be identified on the recipe.
- Adjustments may be needed in the cooking temperature and time depending on equipment.
- The final internal temperature also should be identified.
- The Food and Drug Administration (FDA) Food Code provides guidelines for cooking temperatures and times and final internal temperatures.
7. **Review Serving Size**

- The size of an individual serving should be listed on the recipe.
- The weight of one serving will be identified.
- The serving size such as $\frac{1}{2}$ cup or $\frac{1}{8}$ pie.
8. Review Recipe Yield

- Recipe yield refers to the amount of product that will be obtained when preparing a recipe.
- Recipe yield should be identified in total weight and/or volume, as well as a more general description such as 25 servings or 4 (12”x20”x4”) pans.
Kitchens come equipped with a variety of equipment:
- Convection oven
- Conventional oven
- Steamer
- Steam jacketed kettle

When reviewing a recipe, the exact piece of equipment for preparation will need to be identified.
Prepare the Recipe

- Take note of variations during the preparation of the recipe
- Record this information directly on the recipe
- Cooking time to reach internal temperature and quality may vary slightly depending on type and age of equipment
Verify Yields

- Includes verifying ingredient, recipe, and serving yields
- Child Nutrition Directors will need to work with their vendors to make sure product specifications are being met
- A serving utensil should be identified for each product.
- Weights of these actual servings should be compared to the calculated serving weight to ensure portioning is being done correctly
Record Changes

- Notes of any changes or concerns should be recorded on the recipe during the verification phase.
- The more detailed the information is on the recipe, the more assurance of consistent quality product.
PRODUCT EVALUATION PHASE

- Will help determine acceptability of the recipe and will provide objective information that can be used to further improve the recipe
- Recipe evaluation should include
  - Manager
  - Foodservice Staff members
  - Customers
  - Students
  - Teachers
  - Administrators
  - Parents
TWO TYPES OF EVALUATION

- Formal
- Informal
INFORMAL EVALUATION

- Informal Evaluation involves only the school foodservice managers and employees
- During this time the product is prepared for the first time and assessment is made of whether efforts to standardize the recipe should continue
- See appendix, next slide
## Checklist Appendix C Page 52

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
<th>Action Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the visual appearance of the product acceptable?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the flavor of the product one that students might enjoy?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the ingredients in the recipe easily obtained?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the cost per serving of the recipe within foodservice department guidelines?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the labor time to make the product within foodservice department guidelines?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the recipe acceptable enough to continue with formal evaluation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is equipment available to prepare this item?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do employees possess the skills to prepare this item?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the recipe within nutrition guidelines/goals?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Decision Guidelines

1. If the answer is yes to all of the above questions, then proceed to formal evaluation of the recipe.

2. If the answer is no to one or two of the above questions, return to the recipe verification phase, make necessary corrections to the draft recipe, and do another informal evaluation.

3. If the answer is no to three or more of the above questions, strong consideration should be given to not continuing with standardization of this recipe.
INFORMAL EVALUATION OF THE RECIPE DECISIONS

- After review of Appendix C,
- The product was found to be totally unacceptable based on several of the informal evaluation criteria
- The decision may be made to discontinue any further work on the recipe
- If rated acceptable, the recipe may go back to the verification phase to allow for changes
- If all evaluation criteria were rated as acceptable in the informal evaluation, then we move forward to formal evaluation
FORMAL EVALUATION

- Occurs when the foodservice staff believes a reap has potential for service in the operation.

- Procedures for conducting a formal evaluation of the recipe include:
  - Select a group(s) of people to taste the sample recipe.
  - Choose an evaluation form.
  - Prepare the sample recipe.
  - Set up the sampling area.
  - Have a participants taste and evaluate the food.
  - Summarize the results.
# RESULTS – EVALUATION SHEET (p.53)

## Food Product Evaluation Form
*(For Foodservice Staff, Students, and Teachers)*

Recipe name: ________________________________

Please rate the following traits of this product using the scale provided.

<table>
<thead>
<tr>
<th></th>
<th>Very Undesirable</th>
<th>Moderately Undesirable</th>
<th>Neither Desirable nor Undesirable</th>
<th>Moderately Desirable</th>
<th>Very Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The appearance of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The taste of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The temperature of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The texture of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Total Score</strong>*</th>
<th></th>
<th>Mean Score**</th>
</tr>
</thead>
</table>

*Sum of ratings for five traits (appearance, taste, temperature, texture, overall acceptability)

**Total score divided by the number of traits rated

Comments:

________________________________________________________________________

________________________________________________________________________
Food Product Evaluation Form
(For Elementary Students)

Recipe Name______________________________

Please read the following questions and circle your answer. For younger students, staff will need to read the questions to the student.

1. Do you like the way this food looks?
   a. Yes
   b. No
   c. Don’t know

2. Do you like the taste?
   a. Yes
   b. No
   c. Don’t know

3. Would you eat this food item if it were served in your school cafeteria?
   a. Yes
   b. No
   c. Don’t know

Comments:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
# Evaluation – Product Summary (p. 55)

## Product Evaluation Summary

<table>
<thead>
<tr>
<th>Traits</th>
<th>Evaluator #1</th>
<th>Evaluator #2</th>
<th>Evaluator #3</th>
<th>Evaluator #4</th>
<th>Evaluator #5</th>
<th>Mean Scores&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texture (moistness, firmness)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall acceptability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scores**

<table>
<thead>
<tr>
<th></th>
<th>Evaluator #1</th>
<th>Evaluator #2</th>
<th>Evaluator #3</th>
<th>Evaluator #4</th>
<th>Evaluator #5</th>
<th>Mean score&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean score&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<sup>a</sup>Average of all evaluator ratings for a trait or an average of total scores or mean scores (sum of values in the row divided by number of evaluators)

<sup>b</sup>Sum of all trait ratings (appearance, taste, temperature, texture, overall acceptability) for an individual evaluator

<sup>c</sup>Average of trait ratings for an individual evaluator (total score divided by number of traits rated)
Determine future plans for the recipe based on evaluation results

- Based on formal evaluation results the recipe will be:
  - Accepted
  - Rejected
  - Changed
For Example: completed Evaluation Form (P. 56)

- For vegetable Lasagna indicates a possible concern for the moistness of the product.
- Texture = 3 not very positive
- What’s next?
  - Review the recipe and preparations procedures
EXAMPLE FOOD PRODUCT EVALUATION FORM (P. 57)

- The texture of the food (moistness, firmness)
- Total Score of 24
- Mean Score 4.8
## Sample: Food Product Evaluation Form (P. 58)

- **Total Score**: 19
- **Mean Score**: 3.8

### Completed Evaluation Form—Evaluator #3

**Food Product Evaluation Form**  
*(For Foodservice Staff, Students, and Teachers)*

Recipe name: Vegetable Lasagna

Please rate the following traits of this product using the scale provided:

<table>
<thead>
<tr>
<th>Trait</th>
<th>Very Undesirable</th>
<th>Moderately Undesirable</th>
<th>Neither Desirable nor Undesirable</th>
<th>Moderately Desirable</th>
<th>Very Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The appearance of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The taste of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The temperature of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The texture of the food (moistness, firmness)</td>
<td>1</td>
<td>2</td>
<td><strong>3</strong></td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The overall acceptability of the food</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total Score**  19  
**Mean Score**  3.8

*Sum of ratings for five traits (appearance, taste, temperature, texture, overall acceptability)

Comments:
Determine future plans for the recipe based on evaluation results

- Group gathers to decide to
- Reject
- Accept
- Change
  - Get as much feedback as possible from staff and students. Not too much feedback from a head cook that you know hates to cook from scratch.
QUANTITY ADJUSTMENT PHASE

- When a recipe has been evaluated positively in the evaluation phase
- but is not in the desired quantity
- we then move to the quantity adjustment phase of recipe standardization
# Comparison of Standardized Recipe Adjustment Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Initial Recipe</th>
<th>Final Recipe</th>
</tr>
</thead>
</table>
| Factor method               | ◆ Can be used for any recipe  
◆ Easy to use                                                                      | ◆ Math skills required                                                        | ◆ Can start with any recipe and desired yield                                  | ◆ Final recipe can yield any number of servings desired                        |
| Direct reading tables method| ◆ Minimal math skills needed                                                 | ◆ Direct reading tables must be available  
◆ Must know how to read tables  
◆ Can only be used for yields in multiples of 25 | ◆ Must have yield of 25 servings or multiples of 25 servings                   | ◆ Yield of 25 servings or multiples of 25 servings (i.e., 200, 175, 500)         |
| Percentage method           | ◆ Further adjustments to a single recipe are easy after initial ingredient percentages are calculated | ◆ Many steps in process  
◆ Math skills required  
◆ Must use weights for all ingredients  
◆ Must calculate and adjust for handling loss | ◆ Can start with any recipe and yield  
◆ Initial recipe ingredients must be in weights | ◆ Yield can be any amount desired  
◆ All final ingredients are in weights |
| Computerized recipe adjustment | ◆ Adjustments easy after recipe entered on computer  
◆ No math skills needed                                                       | ◆ Computer programs can be expensive  
◆ Some programs require ingredients to be entered in weights only  
◆ Ingredient quantities may be listed in decimals | ◆ Can start with any recipe and desired yield                                  | ◆ Final recipe can yield any number of servings desired                        |
ADVANTAGES AND DISADVANTAGES

- There are advantages and disadvantages to using these methods
- The food service Director should decide which method to use and use consistently
FACTOR METHOD
Of recipe adjustment
FACTOR METHOD

- Involves mathematical calculations and is the most commonly used method of manual adjustment
- The factor method consists of 3 basic steps
Basic Steps

1) Determine the “factor” to be used

2) Multiply each ingredient quantity by the “factor”

3) Change amounts into more common measurements
**Determine the “factor” to be used**

- The factor is a multiplier that will be used to increase or decrease the quantity of ingredients in recipe.
- The factor is determined by dividing the desired yield (in number of servings) by the current recipe yield (in number of servings).
- Desired yield / current yield = Factor
EXAMPLE:

- If a manager wishes to make 250 servings and the current recipe produces 100 servings
- Divide 250 by 100; the factor would be 2.5
- \( \frac{250}{100} = 2.5 \)
MULTIPLY EACH INGREDIENT QUANTITY BY THE “FACTOR”

- Each ingredient quantity is multiplied by the factor to determine the ingredient quantity needed.
- Ingredient quantities given as fractions would need to be converted to decimals prior to doing this calculation.
- Appendix D (p.62)

<table>
<thead>
<tr>
<th>Converting Fractions to Decimals</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅛</td>
</tr>
<tr>
<td>¼</td>
</tr>
<tr>
<td>⅓</td>
</tr>
<tr>
<td>⅜</td>
</tr>
<tr>
<td>½</td>
</tr>
<tr>
<td>⅝</td>
</tr>
<tr>
<td>⅔</td>
</tr>
<tr>
<td>¾</td>
</tr>
<tr>
<td>⅞</td>
</tr>
</tbody>
</table>
If the goal is to make 250 servings and the base recipe yields 100 servings, the factor is 2.5

**Example**

Lemon juice: \[0.5 \text{ cup} \times 2.5 = 1.25 \text{ cups lemon juice}\]
(Note: Change 1/2 cup to the decimal .5 before calculating.)

Sour cream: \[8 \text{ oz} \times 2.5 = 20 \text{ oz sour cream}\]
(Note: Change 1 TBSP = 1 tsp chopped parsley, the math is as follows:

Parsley: \[4 \text{ tsp} \times 2.5 = 10 \text{ tsp parsley}\]
CHANGE AMOUNTS INTO MORE COMMON MEASUREMENTS

- The result of the mathematical calculations is a quantity that is hard to measure or not commonly used.
- These quantities may need to be converted to a more common measurement.
- Rounding to the nearest common measure also can occur.
Appendix D (pp. 62-63)

**Rounding Rules**

**Weights**

If the total amount of an ingredient is

<table>
<thead>
<tr>
<th>Round it to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 oz ................................</td>
</tr>
<tr>
<td>2 to 10 oz ...................................</td>
</tr>
<tr>
<td>10 oz to 2 lb 8 oz ..........................</td>
</tr>
<tr>
<td>2 lb 8 oz to 5 lb ............................</td>
</tr>
<tr>
<td>5 lb and more ...............................</td>
</tr>
</tbody>
</table>

**Measures**

If the total amount of an ingredient is

<table>
<thead>
<tr>
<th>Round it to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 Tsp .............................</td>
</tr>
<tr>
<td>2 Tsp to ⅛ cup ..............................</td>
</tr>
<tr>
<td>⅛ cup to ¼ cup ..............................</td>
</tr>
<tr>
<td>⅛ cup to 2 cups .............................</td>
</tr>
<tr>
<td>2 cups to 2 qt ...............................</td>
</tr>
<tr>
<td>2 qt to 4 qt .................................</td>
</tr>
<tr>
<td>1 gal to 2 gal ...............................</td>
</tr>
<tr>
<td>2 gal and more ..............................</td>
</tr>
</tbody>
</table>

---

**Chart for Converting Ounces to Decimal Part of a Pound**

<table>
<thead>
<tr>
<th>Ounces</th>
<th>Decimal Part of lb</th>
<th>Ounces</th>
<th>Decimal Part of lb</th>
<th>Ounces</th>
<th>Decimal Part of lb</th>
</tr>
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<td>0.375</td>
<td>12</td>
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<tr>
<td>¼</td>
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<td>6⅛</td>
<td>0.381</td>
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<td>0.585</td>
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<tr>
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<td>0.594</td>
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<tr>
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<td>0.979</td>
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<td>1.000</td>
</tr>
<tr>
<td>⅔</td>
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<td>10⅝</td>
<td>0.654</td>
<td>16⅝</td>
<td></td>
</tr>
<tr>
<td>⅔</td>
<td>0.672</td>
<td>10⅞</td>
<td>0.667</td>
<td>16⅞</td>
<td></td>
</tr>
<tr>
<td>⅔</td>
<td>0.672</td>
<td>11</td>
<td>0.688</td>
<td>16⅚</td>
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<tr>
<td>⅔</td>
<td>0.703</td>
<td>11⅛</td>
<td>0.719</td>
<td>16⅞</td>
<td></td>
</tr>
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<td>⅔</td>
<td>0.719</td>
<td>11⅜</td>
<td>0.734</td>
<td>17</td>
<td></td>
</tr>
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<td>0.729</td>
<td>11⅝</td>
<td>0.750</td>
<td>17⅛</td>
<td></td>
</tr>
<tr>
<td>⅔</td>
<td>0.734</td>
<td>11⅞</td>
<td>0.766</td>
<td>17⅜</td>
<td></td>
</tr>
</tbody>
</table>
FOR EXAMPLE

- Lemon juice is listed as 1.25 cups: the more common measurement would be 1 ¼ cup

- The sour cream could be changed to 1 lb 4 oz (or 1.25 lb) (Note: 16 oz = 1 lb) (4 oz/16 oz = .25)

- The parsley might be changed to 3 Tbsp + 1 tsp for ease in measuring
INFORMATION FOR ADJUSTING RECIPES

- Several categories of ingredients require special attention when adjusting.
- These ingredients may not need to be adjusted proportionately to the increase in other ingredients.
- They include:
  - Herbs
  - Spices, leavening agents
  - Thickening agents' (flour, cornstarch, eggs)
  - Liquid (water, juice)
Other factors affecting recipes

- Exposed surface area
- Evaporation
- Handling loss
- Only by preparing the recipe and evaluating the product can a determination of changes needed be made.
- Equipment, 60 gallons of soup needed but you have a 50 gallon steam jacketed kettle
- It is preferred to make 2 batches of 40 gallons of soup
NOW LETS PRACTICE

Recipe Adjustment
Example #1: (P. 20)

For the Cream of Chicken Soup recipe below, determine the amount of each ingredient needed to make 175 servings.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>50 Servings (Recipe Amount)</th>
<th>Converted Quantities</th>
<th>Factor</th>
<th>175 Servings (Calculated Amount)</th>
<th>175 Servings (Common Measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margarine</td>
<td>12 oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flour</td>
<td>2½ cups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken stock</td>
<td>2 qt + 2 cups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, low fat</td>
<td>2 gal + 2 qt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooked chicken</td>
<td>3 lb 2 oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Answer Key**

**Example #1**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>50 Servings (Recipe Amount)</th>
<th>Converted Quantities</th>
<th>Factor</th>
<th>175 Servings (Calculated Amount)</th>
<th>175 Servings (Common Measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margarine</td>
<td>12 oz</td>
<td>12 oz or .75 lb</td>
<td>3.5</td>
<td>42 oz or 2.62 lb</td>
<td>2.62 lb or 2 lb 10 oz</td>
</tr>
<tr>
<td>Flour</td>
<td>2½ cups</td>
<td>2.5 cups</td>
<td>3.5</td>
<td>8 ¾ cups</td>
<td>8 ¾ cups</td>
</tr>
<tr>
<td>Chicken stock</td>
<td>2 qt + 2 cups</td>
<td>10 cups</td>
<td>3.5</td>
<td>35 cups</td>
<td>2 gal + 3 cups</td>
</tr>
<tr>
<td>Milk, low fat</td>
<td>2 gal + 2 qt</td>
<td>10 qt</td>
<td>3.5</td>
<td>35 qt</td>
<td>8 gal + 3 qt</td>
</tr>
<tr>
<td>Cooked chicken</td>
<td>3 lb 2 oz</td>
<td>3.125 lb or 50 oz</td>
<td>3.5</td>
<td>10.94 lb or 175 oz</td>
<td>10.94 lb or 10 lb 15 oz</td>
</tr>
</tbody>
</table>
**Example #2**

For the Broccoli Salad recipe below, determine the amount of each ingredient needed to make 225 servings.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>100 Servings (Recipe Amount)</th>
<th>Converted Quantities</th>
<th>Factor</th>
<th>225 Servings (Calculated Amount)</th>
<th>225 Servings (Common Measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh broccoli</td>
<td>13 lb 8 oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mayonnaise</td>
<td>2 qt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>2 lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White vinegar</td>
<td>$\frac{1}{2}$ cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk, low fat</td>
<td>$\frac{1}{2}$ cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walnuts, chopped</td>
<td>1 qt 3½ cups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Example #2:**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>100 Servings (Recipe Amount)</th>
<th>Converted Quantities</th>
<th>Factor</th>
<th>225 Servings (Calculated Amount)</th>
<th>225 Servings (Common Measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh broccoli</td>
<td>13 lb 8 oz</td>
<td>13.5 lb</td>
<td>2.25</td>
<td>30.375 lb</td>
<td>30 lb 6 oz</td>
</tr>
<tr>
<td>Mayonnaise</td>
<td>2 qt</td>
<td>2 qt</td>
<td>2.25</td>
<td>4.5 qt</td>
<td>4 qts + 1 pt</td>
</tr>
<tr>
<td>Sugar</td>
<td>2 lb</td>
<td>2 lb</td>
<td>2.25</td>
<td>4.5 lb</td>
<td>4 lb 8 oz</td>
</tr>
<tr>
<td>White vinegar</td>
<td>½ cup</td>
<td>.5 cup</td>
<td>2.25</td>
<td>1.125 cups</td>
<td>1 cup + 2 Tbsp</td>
</tr>
<tr>
<td>Milk, low fat</td>
<td>⅓ cup</td>
<td>.333 cup</td>
<td>2.25</td>
<td>.759 cup</td>
<td>¾ cup</td>
</tr>
<tr>
<td>Walnuts, chopped</td>
<td>1 qt + ¾ cups</td>
<td>7.5 cups</td>
<td>2.25</td>
<td>16.875 cups</td>
<td>4 qt + ½ cup</td>
</tr>
</tbody>
</table>
Benefits Computerized Recipe Adjustment

- Recipe adjustment is done much faster and more accurately, especially when different portion sizes are served to various age/grade groups.
- Menu planning is more flexible because menus can be analyzed and modified easily.
- Food information is specific to school foodservice programs.
- Menus can be analyzed and evaluated for specific nutrients.
Disadvantages of computerized recipe adjustment programs include:

- Some programs require all ingredients to be entered as weight.
- Some programs will not round the adjusted quantity and thus may give unrealistic measurements.
- Time and resources will be needed to enter all current recipes and train employees on software use.
# Apple Cobbler 100 – ½ Cup

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Measures</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>020051 WHEAT FLOUR, WHITE, ALL-PURPOSE, ENR, BLEACHED...</td>
<td>4 lbs + 8 ozs</td>
<td>1. For pastry topping: Combine flour and salt. Mix in shortening until size of small peas.</td>
</tr>
<tr>
<td>002407 SALT, TABLE...</td>
<td>1 Tbsp + 1 tsp</td>
<td>2. Add water and mix just until dry ingredients are moistened. Cover and set aside for step 10.</td>
</tr>
<tr>
<td>004549 SHORTENING INDUSTRIAL, LARD &amp; VEG OIL...</td>
<td>2 lbs + 8 ozs</td>
<td>3. Filling: Drain apples, reserving juice. Set apples aside for step 5.</td>
</tr>
<tr>
<td>014429 WATER, MUNICIPAL...</td>
<td>2 2/3 cups</td>
<td>4. Add water to reserved apple juice. Combined it should be 2 QT.</td>
</tr>
<tr>
<td>700912 JUICE FROM DRAINED #10 CAN &amp; WATER AS NE...</td>
<td>2 SEE INSTRUCTIONS</td>
<td>5. Mix cornstarch with about ¼ of the liquid mixture.</td>
</tr>
<tr>
<td>020027 CORNSTARCH...</td>
<td>8 ozs</td>
<td>6. Bring remaining liquid mixture to boil. Add about ½ of the sugar. Gradually add cornstarch mixture to boiling liquid. Cook, stirring constantly, until thickened. Mixture will be very thick, but will thin after steps 7 and 8.</td>
</tr>
<tr>
<td>019335 SUGARS, GRANULATED...</td>
<td>3 lbs</td>
<td>7. Remove from heat. Blend remaining sugar, cinnamon, and nutmeg thoroughly into mixture.</td>
</tr>
<tr>
<td>002010 CINNAMON, GROUND...</td>
<td>2 Tbsp + 2 tsp</td>
<td>8. Add apples to thickened mixture. Stir lightly. Do not break up fruit.</td>
</tr>
<tr>
<td>002025 NUTMEG, GROUND...</td>
<td>1 Tbsp + 1 tsp</td>
<td>9. Continue cooking until the filling is bubbly. Remove from heat and cool for 10 minutes before serving.</td>
</tr>
<tr>
<td>050356 APPLES, CANNED, UNSWEETENED, SLICED, IN...</td>
<td>4 #10 Cans</td>
<td></td>
</tr>
</tbody>
</table>

**HACCP Process:** #2 Same Day Service

**Recipe Subgroups:**

**Attributes:**
When using software programs for adjusting recipes

- Does the program allow printing of recipes in a format that is usable by foodservice staff members?
- Will the program adjust the recipe for various portion sizes for various age/grade groupings?
- Does the program allow the manager to enter any ingredient amounts? Does it force use of one unit of measure?
- If fractions are used in recipes, does the program allow entering and printing of ingredient amounts in fractions
- How easy is the program to learn
How much time is required to enter recipes into the system?

Will the software allow the recipe to be calculated in “batches” or several smaller quantities?

Can the program be interfaced with vendor software for purchasing and recipe costing?

Note: It is highly recommended that staff learn the process of standardization manually and master that before moving forward with software. This will help staff gain a better understanding of the process.
CLASS ACTIVITIES
Recipe Standardization Video
Discussion Questions

- The video does not tell what really caused Kathy and her staff to be short 50 servings of the Fiesta Casserole.

- Discussion: What do you think may have caused the shortage.
TEST

Let's see what you have learned so far!
Recipe Standardization Test

1. A standardized recipe is:
   a. A recipe developed by USDA.
   b. Any published quantity recipe.
   c. A recipe that is tried and adapted to your operation.
   d. All of the above.

2. A standardized recipe will produce a consistent yield each time the recipe is followed.
   a. True
   b. False

3. The recipe standardization process typically starts with which phase?
   a. Verifying the recipe.
   b. Evaluating the product.
   c. Adjusting the quantity.

4. USDA recipes need to be standardized for each school foodservice operation.
   a. True
   b. False

5. A recipe calls for 2 lb of chopped onion, which is referred to as the:
   b. As purchased portion (AP).
   c. Yield.

6. Evaluation of recipe occurs after the recipe is standardized.
   a. True
   b. False

7. Using three 9-lb packages of ground beef when the recipe calls for 30 lb of ground beef is:
   a. The appropriate amount to use.
   b. Too little meat to use; additional meat should be obtained.
   c. Too much meat to use; some meat should be held for use in another recipe.

8. Serving incorrect portions of food items could result in loss of USDA meal reimbursement.
   a. True
   b. False

9. Using standardized recipes can result in:
   a. Better control of inventory.
   b. Better control of costs.
   c. Fewer mistakes.
   d. All of the above.
**Answer Key**

1. A standardized recipe is:
   c. A recipe that is tried and adapted to your operation; a recipe does not become standardized until it has been tested and adapted to your operation; published quantity recipes are not standardized.

2. Standardized recipes will produce consistent yield each time when the recipe is followed.
   a. True. Once a recipe is standardized, it will produce consistent yield each time, assuming the recipe is followed (i.e., correct ingredients are used in correct quantities and directions are followed).

3. The recipe standardization process typically starts with which phase?
   b. Verifying. The recipe standardization process starts with verifying the recipe, which includes reviewing the recipe and verifying the yield.

4. USDA recipes need to be standardized.
   a. True. USDA recipes are quantity recipes that have been tested; they are not standardized until they have been tested and adapted to your operation.

5. A recipe calls for 2 lb of chopped onion, which is referred to as the:
   a. Edible portion (EP). The quantity of food product that is ready to eat is termed the edible portion; this is the quantity of onion after it is cleaned and chopped.

6. Evaluation of recipe occurs after the recipe is standardized.
   b. False. Evaluation of the recipe should occur during, not after, the recipe standardization process.

7. Using three 9-lb commodity packages of ground beef when the recipe calls for 30 lb of ground beef is:
   b. Too little meat to use, additional meat should be obtained; three 9-pound packages contain only 27 total pounds of meat; more ground beef would be needed.

8. Serving incorrect portions of food items can result in loss of USDA meal reimbursement.
   a. True. Guidelines exist for what constitutes a reimbursable meal; serving less than expected quantities of food can result in loss of meal reimbursement.

9. Using standardized recipes can result in:
   d. All of the above. Using standardized recipes results in a consistent product, which means better control of inventory and costs, and fewer mistakes by production staff.
CLASS ACTIVITIES
Testing your knowledge
PRACTICE PRACTICE PRACTICE

- Increasing the yield of a recipe
- In groups of 2, increase the recipe yield to 325
- To be distributed
MORE PRACTICE

- DECREASING THE YIELD OF A RECIPE

- Instructor will hand out next recipe to decrease the yield of a recipe
THE END!
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