



Adams County/Ohio Valley School District
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Informational Packet

Attention: Child Nutrition Candidate

Attached you will find informational sheets that cover basic skill knowledge for the area of food service in *Use and Care of Hand Tools and Utensils; Standard Recipe Use; and Sanitation*. With the new regulations for health and sanitation, all employees of this department must know, understand and be compliant with county, state, and federal laws.

If you will study the informational sheets enclosed in this packet to the level of being comfortable with the knowledge of each category, you will do fine on the assessment questions. The testing is very detailed and intensive; however, the information covered in the test does not waver from the informational packet.

In order to survive in today's commercial food service arena, the only solution is to stay updated with the latest knowledge in the area. The Adams County/Ohio Valley School District Child Nutrition Department is entering the level of computerization for better communication of required data. This is a learning adventure for all of those that are involved, but hopefully will improve the operation for the future.

If you elect to join our staff, you will be proud of the continual evaluations and improvements that you will make for meeting the goal of serving our students a nutritional, appealing meal as our contribution to their education.

We very much appreciate your interest in our program and wish you the best of luck in your assessment process.

Use and Care of Hand Tools and Utensils

I. Knives and Sharpening Tools

- a. **Bread Knife** – to slice bread or cake (cutting edge is usually serrated to create a saw-like motion), blade is usually about 10”



- b. **Boning Knife** – to remove bone from meat, blade is usually about 6”



- c. **Butcher Knife** – to cut all types of meat, blade is usually 8”-12”



- d. **French Knife** – to slice, cut, and shred raw fruits and vegetables, to slice hot or warm meat, to chop small quantities of food (i.e.-parsley, onions, nuts), to dice and mince ingredients, blade is usually 6”-10” sometimes called a “Cook’s Knife” (This is also called a chef’s knife and is the most common)



- e. **Paring Knife** – to peel fruits and vegetables, to cut or slice fruits and vegetables, blade is usually 3½”-4”



- f. **Utility Knife** – to core lettuce, to pare and section fruits, blade is usually 6”-10” (This is also called a salad knife)



- g. **Slicer Knife** – to slice all types of meat, to slice tomatoes and lettuce wedges, specific name of slicer indicates uses, i.e.-ham slicer, blade is usually 8”-12” (Plain or wavy edge available)



- h. **Steel** – to hone or sharpen knife’s cutting edge (ceramic sharpening steels will actually perform a sharpening function)



II. Parts of a knife (see page 5)

- | | |
|-----------------|-----------|
| a. Tip | e. Heel |
| b. Point | f. Shank |
| c. Back | g. Rivet |
| d. Cutting edge | h. Handle |

III. Parts of a steel (see page 5)

- | | |
|----------|-----------|
| a. Tip | c. Guard |
| b. Shaft | d. Handle |

IV. Rules to follow when sharpening knives

*The method of sharpening a French knife is used, angle to stone will vary for all knives.

- Hold the knife at a constant 20° angle to the stone
- Always sharpen in the same direction to create saw-like ridges in the knife’s edge
- Make the strokes on each side in equal numbers and of equal pressure, use full length of stone to maintain even surface
- Use a medium stone to sharpen most knives, if a knife is particularly dull use a coarse stone first
- As a general rule, make 5 strokes on each side of blade

V. Care of knives

*Use extreme care when handling knives

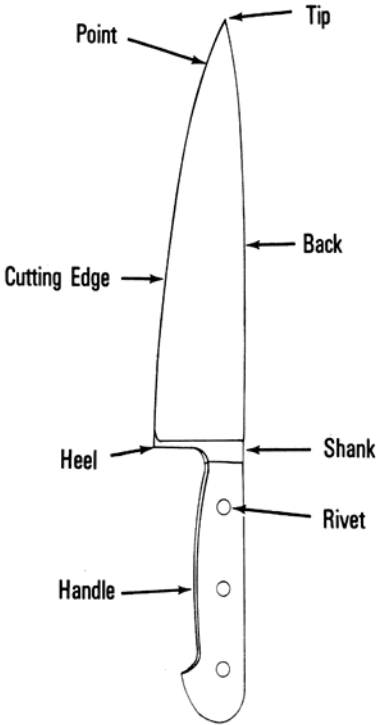
- a. Wash knives by themselves, not with other utensils
*NEVER place knives in water and leave unattended.
- b. Place knives one at a time in sink, wash each individually
- c. Dry each knife separately
- d. Store in a knife rack or a special holder in a drawer in the area in which it is most used – DO NOT store knives loose in drawer as this may dull the cutting edge and create a safety hazard.
- e. Use the knife ONLY for jobs intended for
i.e. - Knives are not designed to pry lids open
- f. Use a cutting board, never cut on metal

VI. Knife safety practices

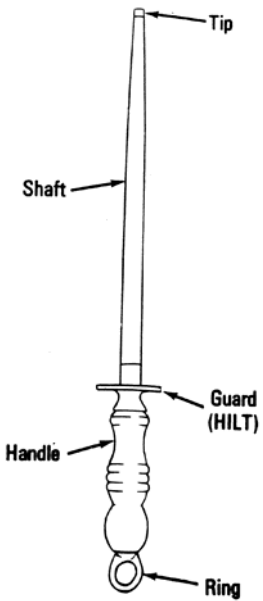
*Never leave knives unattended in work area

- a. A sharp knife is safer than a dull knife
- b. Keep knife handle free of grease or other slippery materials
- c. If you drop a knife, do not attempt to catch it
- d. Cut away from your body and hands
- e. Place items to be cut on a cutting board, do not hold in hand
- f. Place knife on table and allow others to pick it up instead of handing it to them
- g. Keep your eyes on your work
- h. Carry a knife point down at your side

Parts of a knife



Parts of a steel



VII. Baking tools and utensils

- a. **Baking Pan** – to bake foods ---Full size: 18"x26"x1"x3½"
Half size: 18"x13"x2¼"



- b. **Baker's Scales** – to accurately weigh ingredients, there are 4 parts....**scoop**-to hold dry ingredients, **counter balance**-to balance the scoop, **ounce weight**-to weigh fractional ounces up to 16oz., **additional weights**-to weigh larger amounts, also called balance scales, they may be used in all food production areas that require ingredients to be weighed



- c. **Dough Cutter** – to cut dough, can also be used to scrape table tops



- d. **Muffin Tin** – to bake muffins



- e. **Pastry Brush** – to brush on liquids



- f. **Pie or Cake Knife** – to cut and serve pie or cake



- g. **Rolling Pin** – to roll dough to desired thickness



- h. **Sheet Pan**- to bake foods such as sheet cakes and large volumes of cookies and pastries, also referred to as a bun pan..... Full size: 18"x26"x1"
Half size: 18"x13"x1"



VIII. Cooking Tools and Utensils

- a. **Double Broiler** – to cook foods that scorch easily



- b. **Saucepan** – to cook small amounts of food on top of a range



- c. **Sauce Pot** – to cook foods on top of a range, a large surface area is needed when preparing sauces



- d. **Sauté Pan** – to cook small amounts of food quickly



- e. **Steam Table Pan** – to cook and hold food for serving

Full size: 12"x20"x2½"x4"

Half size: 12"x10"x2½"x4"x6"

Available: thirds, fourths, sixths, eighths, etc.



- f. **Stock Pot** – to cook large quantities of food on top of a range, a stock pot has a larger capacity but is not as heavy as a sauce pot



- g. **Roasting Pan** – to roast meats



IX. Food preparation tools and utensils

- a. **Box Grater** – to grate or shred small amounts of food



- b. **China Cap** – to strain fine particles from liquids



- c. **Colander** – to strain liquids from foods



- d. **French Wire Whip** – to combine dry ingredients with liquids, this type is made from rigid wire



- e. **Meat Thermometer** – to determine internal temperature when roasting meat



- f. **Piano Wire Whip** – to incorporate air into liquids and thin mixtures, this type is made from flexible wire, full in design



- g. **Strainer** – to strain foods



- h. **Vegetable Peeler** – to peel vegetables, also used to make thin slices or curls



X. Food Handling Tools and Utensils

- a. **Disher** – to portion and serve food; for portion control, the number on the disher indicates *servings per quart*



Disher Measurements

Number (portions/quart)	Measure
6	$\frac{2}{3}$ cup
8	$\frac{1}{2}$ cup
10	6 tablespoons = $\frac{3}{8}$ cup
12	$\frac{1}{3}$ cup
16	$\frac{1}{4}$ cup
20	3 $\frac{1}{5}$ tablespoon
24	2 $\frac{2}{5}$ tablespoons
30	2 $\frac{1}{5}$ tablespoons
40	1 $\frac{1}{2}$ tablespoon

b. Flat Spatula – to ice cakes



c. Food Tongs – to handle food



d. Hotcake or Meat Turner – to turn food



e. Kitchen Fork – to turn meat or hold when slicing



f. Offset Spatula – to mix, spread, or scrape food



g. Perforated Ladle – to strain solids from liquids



h. Plastic Scraper – to scrape down bowls



- i. **Rubber Scraper** – to remove food from cans, jars, and bowls



- j. **Sandwich Spreader** – to spread dressing or filling on bread



- k. **Skimmer** – to remove food particles that rise to the top of stocks, sauces and deep fat frying



- l. **Slotted Kitchen Spoon** – to serve cut vegetables



- m. **Solid Kitchen Spoon** – to fold, stir, or serve food



- n. **Solid Ladle** – to stir, mix, or serve soups and sauces; for portion control, the number on the ladle indicates *amount of serving*

Ladle Measurements



Size	Measure
1 ounce	1/8 cup
2 ounce	1/4 cup
4 ounce	1/2 cup
6 ounce	3/4 cup
8 ounce	1 cup

- o. **Solid Spoodle/Ladon** – to portion control serving sizes not needing drainage



- p. **Perforated Spoodle/Ladon** – to portion control serving sizes needing strained of liquids



XI. Measuring and Weighing Tools and Utensils

- a. **Portion Scale** – to weigh food such as ingredients in recipes or for portion control



- b. **Graduated Dry Measuring Cup Set** – to measure dry foods in one cup or less amounts (may also measure shortening), available in fractional amounts of $\frac{1}{4}$ c., $\frac{1}{3}$ c., $\frac{1}{2}$ c., and one cup



- c. **Graduated Liquid Measure Set** – to measure liquid in fluid ounces and fractional amounts, available in cup, pint, and quart sizes



- d. **Large Volume Dry Measure** – to measure large quantities of dry ingredients, available in pint, quart, half-gallon, and gallon sizes (***has NO pour spout***)



- e. **Large Volume Liquid Measure** – to measure large quantities of liquid, available in pint, quart, half-gallon, and gallon sizes (*has pour spout*)



- f. **Measuring Spoon Set** – to measure small amounts of liquid or dry ingredients, available in sets including one tablespoon, one teaspoon, ½ teaspoon, and ¼ teaspoon



XII. Rules to observe in the use of hand tools and utensils

- a. Use only the items needed for the job being performed
- b. Use only the items intended for the job performed
- c. Use correct size containers for amount to be prepared
- d. Plan work in order to have correct hand tools and utensils available when needed
- e. Store in proper area(s)
- f. Store bottom side up to prevent dust from getting inside and moisture from accumulating
- g. Clean after each use
- h. Report any unusable tools to supervisor

Standard Recipe Use

I. Terms and Definitions

- a. **Adjusting** – changing or altering to fit what is needed
- b. **AP** – *as purchased* amounts by weight or measure
- c. **Convert** – to change or exchange for something equal in value
- d. **EP**- *edible portion* amounts by weight or measure
- e. **Equivalent** – equal in quantity or value
- f. **Fluid Ounce** – a liquid measure of one ounce
- g. **Fraction** – a quantity less than a whole number
- h. **Increase** – to make larger
- i. **Ingredients** – food, spices, and flavorings to be combined to produce a specific product
- j. **Measure** – to obtain a specific amount of food by volume
- k. **Method** – the step by step directions in a recipe
- l. **Name** – product being prepared
- m. **Notes** – suggestions for variations in uses, substitutions, preparations, or methods in the recipe when appropriate
- n. **Portions** – the number and size of servings
- o. **Quality** – the established proper characteristics of the product
- p. **Quantity** – the exact amount of ingredients needed
- q. **Recipe** – a list of ingredients and instructions for preparing a certain product
- r. **Reduce** – to lessen in anyway, i.e.- size, weight, or amount
- s. **Standardized** – uniform, something that does not vary
- t. **Standardized Recipe** – a recipe that has been tested to be of good quality, and if followed exactly, will give the same product every time
- u. **Substitute** – something used in place of another item
- v. **Utensils** – useful tools or instruments needed to produce recipes
- w. **Weigh** – to determine a specific amount of food by using scales
- x. **Yield** – the quantity or amount the recipe will produce

II. Procedures to follow when using a standard recipe

- a. Read recipe through once, carefully
- b. Review terms and abbreviations, if unfamiliar, identify them before beginning
- c. Check the amount the recipe yields, if produces desired yield then proceed, if not, increase or decrease recipe as needed
- d. Recheck calculations if necessary
- e. Assemble all ingredients, to ensure that all ingredients in the correct quantities are available
- f. Collect needed hand tools and utensils, make sure other needed equipment will be available
- g. Check time required for preparation and plan so product will be finished at the proper time
- h. Weigh or measure each ingredient listed in recipe before proceeding
- i. Follow procedure in order written

III. Abbreviations for weights and measures used in standard recipes

- a. **Ounce** – oz.
- b. **Pound** – lb. or #
- c. **Teaspoon** – t. or tsp.
- d. **Tablespoon** – T. or tbsp.
- e. **Cup** – C. or c.
- f. **Pint** – pt.
- g. **Quart** – qt.
- h. **Gallon** – gal.

IV. Equivalent of weights and measures used in standard recipes

1 tablespoon (T. or tbsp.)	=	3 teaspoons (t. or tsp.)
1 cup (C. or c.)	=	16 tablespoons
1 pint (pt.)	=	2 cups
1 quart (qt.)	=	2 pints
1 gallon (gal.)	=	4 quarts
1 pound (lb. or #)	=	16 ounces (oz.)

* There are 8 fluid ounces in one cup, not to be confused with 16 ounces per pound.
Conversion tables are used to change weights to measures or measures to weights.

8 fluid ounces (fl. oz.) (i.e.-water)	=	1 cup (C. or c.) liquid
16 fluid ounces	=	2 cups liquid
16 <i>weighted</i> ounces (i.e.-flour)	=	4 cups
One pound (lb. or #) dry (i.e.-breadcrumbs)	=	4 cups dry

*One pound of brown sugar *does not* equal 4 cups brown sugar

V. Reasons for accurate weighing and measuring

*If the recipe yield is for 50 three ounce portions, the ingredients in the recipe should be correctly weighed, measured, and prepared or the yield will not be 50 three ounce portions.

- a. Prevents food waste – i.e.-preparation of too much or too little of a product
- b. Controls quality – prevents guessing and gives consistency to flavor and taste
- c. Controls quantity – means of portion control and ensures proper yield
- d. Saves time

VI. Use of conversion tables in adjusting standard recipes

- a. Converts easily from weight to measure or measure to weight when only one is given on a recipe
- b. Provides accuracy for calculations
- c. Saves time
- d. Provides equivalent weight and measure
- e. Gives AP (as purchased) or EP (edible portion) weight and measure on raw foods
 - A complete conversion table of food weights and measures should be available in the kitchen for daily use.

VII. Converting weights and measures

- a. Multiply both sides of table for the desired weight or measure

***Example:** 1oz. of an ingredient =2tbsp.

Recipe calls for 3oz. (multiply both sides by 3)

1oz.	=	2tbsp.
3 x 1oz.	=	3 x 2tbsp.
3oz.	=	6tbsp.

Recipe calls for 8tbsp. (multiply both sides by 4)

1oz.	=	2 tbsp.
4 x 1oz.	=	4 x 2tbsp.
4oz.	=	8tbsp

Recipe calls for 1tbsp. (multiply both sides by 1/2)

1oz.	=	2tbsp.
1/2 x 1oz.	=	1/2 x 2tbsp.
1/2oz.	=	1tbsp.

OR (divide both sides by 2)

1oz.	=	2tbsp.
1oz. / 2oz.	=	1tbsp. / 2tbsp.
1/2oz.	=	1tbsp.

- b. Convert measures or weight to the largest measure or weight possible

***Example:** Multiply to the desired weight or measure, and then convert to the largest weight or measure possible

Recipe increased from 100 portions to 300 portions (to get 300 portions, multiply *everything* by 3)

2c. x 3 = 6c. = 3pt. = 1qt., 1pt.
2pt. x 3 = 6pt. = 3qt.
4qt. x 3 = 12qt. = 3gal.
12oz. x 3 = 36oz. = 2lb. 4oz. or 2¼lb.

VIII. Formula for adjusting yield on a standard recipe

- a. Divide the required number of servings by the original number in recipe
b. Multiply each ingredient by the resulting answer, often referred to as the new over old method (**required number divided by the number the recipe needs to be converted to**)

***Example:** To adjust a recipe from 50 servings to 25

25 servings (*required*) / 50 servings (*recipe written for*) = ½ x each ingredient

***Example:** To adjust a recipe from 100 servings to 300

300 servings (*required*) / 100 servings (*recipe written for*) = 3 x each ingredient

IX. Reasons for checking recipe calculations

- a. Calculation errors
- i. When reduced
 - ii. When enlarged
 - iii. When converted
- b. Inaccurate recipes
- i. Overproduction
 - ii. Underproduction
 - iii. Spoilage of food

X. Procedures for assembling supplies

- a. Use a tray or cart to assemble supplies
- b. Make one trip to storeroom for dry goods
- c. Make one trip to cooler for perishable foods
- d. Roll food bins to area of preparation (i.e.-flour, sugar, etc.- use open containers first)

XI. Ways to coordinate use of needed equipment

- a. Collect all needed small equipment
- b. Arrange for use of large equipment – searching for equipment can slow work flow and increase chance of error and loss of time
 - i. Coordinate with other departments using the same piece of equipment
 - ii. Discuss with other departments the length of time needed for each piece of large equipment

XII. Steps for organizing work

- a. Know and observe the rules for safety and sanitation
- b. Understand duties or assignments
- c. Know reasons for and contents of standard recipes
- d. Check recipe calculations if recipe is adjusted
- e. Follow procedures for assembling supplies
- f. Coordinate use of needed equipment
- g. Allot time for required duties or assignments

XIII. Methods of work simplification

- a. Make rhythmic and smooth flowing motions
- b. Make both hands productive at the same time
- c. Make hand and body motions few, short, and simple
- d. Maintain comfortable working positions and conditions
- e. Locate materials and equipment for efficient sequence of motions
- f. Locate activity in normal work area when possible
- g. Store materials in an orderly manner

XIV. Guidelines for timing food preparation

- a. Prepare foods first that require the longest production time
- b. Avoid preparing foods so far in advance that quality is lost
- c. Organize work schedule so that adequate time can be given to each item
- d. Complete all foods at required time

XV. Contents of a standard recipe

Name: Spaghetti Sauce

Yield: 1 gallon **Portion:** 30 servings, 4oz. each

Utensils: French knife, sauté pan, spoon, saucepot

Ingredients	Quantity	Method
Olive oil	½ c.	1.) Sauté onions in olive oil for about 10minutes , stirring frequently 2.) Remove onions to saucepot 3.) In same pan, sauté ground beef 4.) Pour off grease and add beef to saucepot 5.) Place all ingredients in saucepot, stir and simmer at or below 200° F for 4 hours 6.) Salt and pepper to taste and hold for service
Onions, chopped	1 lb.	
Beef, ground	2 lb.	
Tomatoes, crushed	1- No. 10 can	
Tomato purée	2 qt.	
Garlic, powdered	1 tbsp.	
Sweet basil leaves, crushed	2 tbsp.	
Oregano leaves, crushed	2 tbsp.	
Bay leaves, whole	2	

Note: Serve over spaghetti

Study Sheet #1 – Identify contents of a standard recipe

Below is a list of words that are headings for various contents of a recipe. Using the recipe provided, identify the contents of a standard recipe by placing the number designated on the recipe next to the appropriate heading

- | | |
|--|---|
| <p>_____ 1. Method</p> <p>_____ 2. Yield</p> <p>_____ 3. Portion</p> <p>_____ 4. Ingredients</p> | <p>_____ 5. Note</p> <p>_____ 6. Quantity</p> <p>_____ 7. Utensils</p> <p>_____ 8. Name</p> |
|--|---|

a. : Spaghetti Sauce

b. : 1 gallon **c.** : 30 servings, 4oz. each

d. : French knife, sauté pan, spoon, saucepot

e.	f.	g.
Olive oil	½ c.	1.) Sauté onions in olive oil for about 10minutes , stirring frequently 2.) Remove onions to saucepot 3.) In same pan, sauté ground beef 4.) Pour off grease and add beef to saucepot 5.) Place all ingredients in saucepot, stir and simmer at or below 200° F for 4 hours 6.) Salt and pepper to taste and hold for service
Onions, chopped	1 lb.	
Beef, ground	2 lb.	
Tomatoes, crushed	1- No. 10 can	
Tomato purée	2 qt.	
Garlic, powdered	1 tbsp.	
Sweet basil leaves, crushed	2 tbsp.	
Oregano leaves, crushed	2 tbsp.	
Bay leaves, whole	2	

h. : Serve over spaghetti

Study Sheet #2 – Convert weights and measures using conversion table

Use the following information to complete the chart below. Convert to the smallest number of weights or measures.

***Example:** 18oz. should read 1lb. 2oz.

Food	Weight	Measure
Baking soda	6oz.	1c.
Cornmeal	1lb. 5oz.	1qt.
Milk	1lb.	1pt.
Mustard	8oz.	1pt.
Rolled Oats	3oz.	1c.
Pickle Relish	10½oz.	1pt.
Vinegar	1lb.	1pt.

Food	Weight	Measure
Baking soda	1. _____	3c.
Cornmeal	2lb. 10oz.	2. _____
Milk	3. _____	1½ pt.
Mustard	32oz.	4. _____
Rolled Oats	12oz.	5. _____
Pickle Relish	6. _____	3pt.
Vinegar	7. _____	1qt.

Study Sheet #3 – Reduce a recipe

The following recipe yields 100 portions, 5oz. each. Reduce the recipe to 50 servings. Convert to accurate measure or weight.

Creamed Chicken

Ingredient	Amount 100	Amount 50	Accurate amount 50
Flour	2lb.	1. _____	2. _____
Chicken fat	7c.	3. _____	4. _____
Chicken stock (hot)	6½qt.	5. _____	6. _____
Salt	3oz.	7. _____	8. _____
Milk (hot)	4qt.	9. _____	10. _____
Chicken (cooked, cubed)	10lb.	11. _____	12. _____

Study Sheet #4 – Increase a recipe

The following recipe yields 100 rolls. Increase the recipe to double the yield to make 200 rolls. Convert to the nearest accurate weight or measure.

* **Example:** 18oz. = 1lb. 2oz.

Plain Rolls

Ingredient	Yield: 100 rolls	Yield:200 rolls	Accurate wt. or measure
Milk	1¼qt.	1. _____	2. _____
Sugar	4oz.	3. _____	4. _____
Salt	2oz.	5. _____	6. _____
Fat	12oz.	7. _____	8. _____
Yeast, compressed	3oz.	9. _____	10. _____
Water, lukewarm	1c.	11. _____	12. _____
Flour	4lb. 12oz.	13. _____	14. _____

Study Sheet Answers

Study Sheet #1

- 1.) g
- 2.) b
- 3.) c
- 4.) a
- 5.) h
- 6.) f
- 7.) d
- 8.) a

Study Sheet #2

- 1.) 18oz. = 1lb. 2oz.
- 2.) 2qt. or $\frac{1}{2}$ gal.
- 3.) $1\frac{1}{2}$ lb. or 1lb. 8oz.
- 4.) 4pt. = 2 qt.
- 5.) 4c. = 2pt.
- 6.) $31\frac{1}{2}$ oz. = 1lb. $15\frac{1}{2}$ oz.
- 7.) 2lb.

Study Sheet #3

- | | |
|------------------------------|-------------------------|
| 1.) 1lb. | 7.) $1\frac{1}{2}$ oz. |
| 2.) 1lb. | 8.) $1\frac{1}{2}$ oz. |
| 3.) $3\frac{1}{2}$ c. | 9.) 2qt. |
| 4.) 1pt. + $1\frac{1}{2}$ c. | 10.) $\frac{1}{2}$ gal. |
| 5.) $3\frac{1}{4}$ qt. | 11.) 5lb. |
| 6.) 3qt. + 1c. | 12.) 5lb. |

Study Sheet #4

- | | |
|-------------------------------|--------------------------------------|
| 1.) $2\frac{1}{2}$ qt. | 8.) $1\frac{1}{2}$ lb. or 1lb. 8oz. |
| 2.) $\frac{1}{2}$ gal. + 1pt. | 9.) 6oz. |
| 3.) 8oz. | 10.) 6oz. |
| 4.) $\frac{1}{2}$ lb. | 11.) 2c. |
| 5.) 4oz. | 12.) 1pt. |
| 6.) $\frac{1}{4}$ lb. | 13.) 8lb. 24oz. |
| 7.) 24oz. | 14.) 9lb. 8oz. or $9\frac{1}{2}$ lb. |

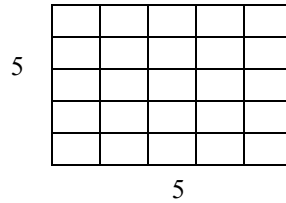
Portioning Diagram

Appropriate dimensions of serving sizes from different pan sizes

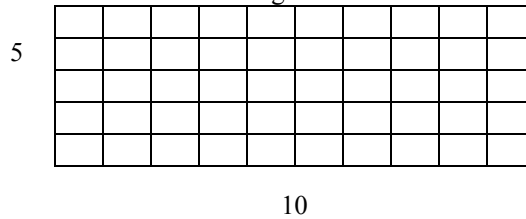
Pan	Approx. pan size	Number and approximate size of servings per pan		
		25	50	100
Baking or steamtable	12"x 20"x 2½"	2"x 3¾"	2"x 2"	
Sheet or bun	18"x 26"x 1"	3¼"x 5"	3¼"x 2½"	1¾"x 2½"

Cutting diagrams for portioning

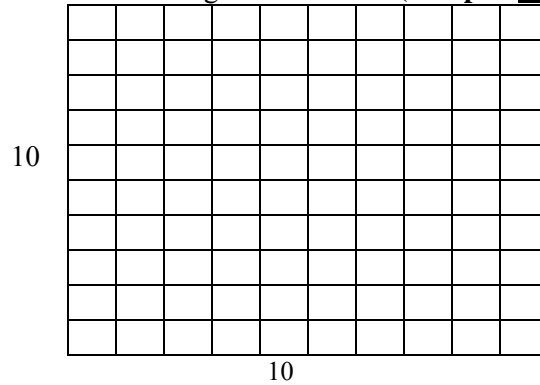
For 25 servings—cut 5x5



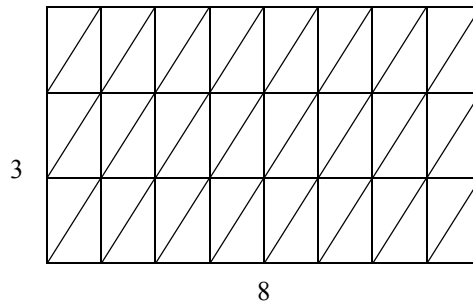
For 50 servings--cut 5 x 10



For 100 servings—cut 10 x 10 (**bun pan only**)



For 48 servings—cut 3x8 then diagonally



Steamtable pan capacity

The steamtable pan capacity chart shows the approximate capacity in volume measure of common sizes of steamtable pans, and the approximate number of servings that can be obtained from various sizes of portioning utensils. The information in the chart is based on a full size 12”x 20” straight sided steamtable pan filled to the brim. Pan depths are for 2¼”, 4”, and 6” steamtable pans.

Measures given in the chart are approximate and may vary according to manufacturer’s specifications, pan fill, and type of food. Pans made by different companies may have slightly different total capacities. If used for transporting foods, the steamtable pans will have lids and might not be filled to the brim. The number of servings may vary according to the type of food being served. Some foods cling to the bottom and sides of the pan, reducing the number of servings.

Use the chart as a guide to help estimate the number of steamtable pans needed for the serving period, and to approximate the yield of a full steamtable pan.

Pan Size	Approx. Capacity	Serving Size	Ladle (fluid oz.)	Scoop Number	Approx. no. of servings
12”x20”x2½”	2gal.	½c.	4oz.	8	64
		¾c.		10	85
		⅓c.	3oz.	12	96
		¼c.	2oz.	16	128
12”x20”x4”	3½gal.	½c.	4oz.	8	112
		¾c.		10	149
		⅓c.	3oz.	12	168
		¼c.	2oz.	16	224
12”x20”x6”	5gal.	½c.	4oz.	8	163
		¾c.		10	213
		⅓c.	3oz.	12	240
		¼c.	2oz.	16	320

Sanitation

I. Terms and definitions

- a. **Bacteria** – microscopic organisms that are everywhere in our surroundings and multiply under certain conditions and cause food to spoil
- b. **Celsius** – metric temperature scale related to the Fahrenheit scale by the formula. ... $5/9$ ($^{\circ}$ Fahrenheit - 32°) = $^{\circ}$ Celsius
- c. **Clean** – free of visible soil
- d. **Cleaning** – the physical removal of soil from a surface
- e. **Communicable** – capable of being transmitted from one human being to another
- f. **Contagious** – capable of being transmitted by contact
- g. **Contamination** – the presence of harmful substances or organisms, especially in food
- h. **Cross-Contamination** – the transfer of harmful microorganisms from one food to another by means of a non-food surface (i.e.-hands, utensils, cutting boards)
- i. **Danger Zone** – the temperature range between 40° and 140° F (4.48° and 60° C) within which most bacteria experience their best growth and reproduction
- j. **Fahrenheit** – a temperature scale related to Celsius by the formula..... $9/5$ ($^{\circ}$ Celsius + 32°) = $^{\circ}$ Fahrenheit
- k. **FIFO** – “first in, first out”- a stock rotation rule for the storage of food
- l. **Food-Borne Illness** – disease occurring as a result of consuming contaminated food
- m. **Food Poisoning** – a general term for intoxication or infection caused by consumption of contaminated food
- n. **Hygiene** – practices necessary for establishing and maintaining good health
- o. **Infection** – disease caused by invasion of living organisms, multiplying in the body
- p. **Intoxication** – disease caused by consumption of poisons, which may be chemical, naturally occurring in food, or produced by microorganisms
- q. **Microorganisms** – forms of life that can be seen only with the aid of a microscope, i.e.-bacteria, viruses, yeasts, algae, and single-celled organisms
- r. **Organism** – an individual living thing
- s. **Outbreak** – a sudden rise in the incidence of a disease
- t. **Pasteurization** – a process that kills disease-causing bacteria in food
- u. **Potentially Hazardous Food** – any food that consists in whole or in part of milk or milk products, eggs, meat, poultry, fish, shellfish, edible crustacean, or other ingredients, in a form capable of supporting growth of microorganisms
- v. **Sanitary** – free of disease causing organisms and other harmful substances
- w. **Sanitation** – the creation and maintenance of conditions favorable to good health
- x. **Sanitizing Solution** – cleaning compound that reduces bacterial count to a safe level
- y. **Spoilage** – damage to the edible quality of food through improper handling, contamination, or natural processes of aging
- z. **Toxin** – a poison produced by a living organism
- aa. **Vermin** – animals obnoxious to humans, especially small, numerous, hard to control animals-i.e.-rats, mice, and various insects

II. Regulatory agencies that deal with sanitation

- a. Food and Drug Administration (FDA)
- b. U.S. Department of Agriculture (USDA)
- c. U.S. Center for Disease Control (CDC)
- d. Environmental Protection Agency (EPA)
- e. State and local agencies

III. Areas of food service inspection

- a. Food care
- b. Personnel
- c. Equipment and utensils
- d. Cleaning, sanitization, and storage of equipment and utensils
- e. Sanitary facilities and controls
- f. Construction and maintenance of physical facilities
- g. Compliance procedures

IV. Food infection, food poisoning, and chemical food poisoning

- a. **Food Infection**
 - i. Caused by bacteria
 - ii. Set up as an infection
- b. **Food Poisoning**
 - i. Caused by toxins
 - ii. Released into the food by bacteria
- c. **Chemical Food Poisoning**
 - i. Caused by chemicals

V. Growth and prevention of diseases-causing bacteria

- a. Bacteria require warmth with a temperature range between 40°F and 140°F
- b. Bacteria growth can be effectively controlled either by lowering the temperature of food below 40°F or by raising the temperature above 140°F
- c. Bacteria die at temperatures in excess of 165°F
- d. Bacteria require a minimum amount of moisture to grow, lowering the moisture content can help preserve food to be stored for an extended period of time (i.e.-dried fruits and vegetables, rice, flour, and powdered eggs)
- e. Bacteria can grow in all foods, however, there are methods that can be used to prevent bacterial growth in some foods (i.e.-**pickling** increases acid content, **curing** increases salt content, and **candied fruit** increases sugar content)

VI. Common kitchen pests and their homes

- a. **Fly**
 - i. Rotting fruit and vegetables
 - ii. Garbage cans
 - iii. Outside environments
 - iv. Waste
- b. **Roach**
 - i. Standing water
 - ii. Pipes and drains
 - iii. Dark areas

- c. **Ant**
 - i. Sweet food or juice
 - ii. Meat
- d. **Rodent**
 - i. Decaying food
 - ii. Rubbish pile
- e. **Mosquito**
 - i. Drains
 - ii. Grease barrels
 - iii. Standing water

VII. Methods of pest control to eliminate sources of pest entry

- a. Remove spoiled fruit and vegetables from kitchen
- b. Discard all spoiled food
- c. Remove standing water
 - i. Floor
 - ii. Table top
- d. Clean counter tops regularly
- e. Clean drains daily
- f. Keep lids on garbage containers
- g. Keep doors closed and screened
- h. Keep windows closed and screened
- i. Report structure maintenance problems to supervisor (i.e.-loose tiles, baseboards)

VIII. Personal habits the child nutrition worker should observe

- a. Wash hands often (i.e.-after using restroom, after eating, upon reporting to work)
- b. Respect smoking rules (i.e.-smoke in designated areas, wash hands when through)
- c. Report all skin infections to supervisor (i.e.-cuts, sores, rash, pimples, boils)

IX. Appearance requirements for the child nutrition worker

- a. Clean clothes
 - i. Uniform
 - ii. Underclothes
 - iii. Apron
 - iv. Socks
- b. Hair restraint
- c. Hair off collar
- d. Moderate jewelry
- e. Clean shoes
- f. Daily bath or shower
- g. Clean-shaven

X. Personal habits the child nutrition worker should avoid

- a. Sneezing and coughing – use handkerchief to reduce the spread of germs
- b. Scratching head
- c. Picking nose
- d. Wiping mouth with fingers
- e. Smoking in non-designated areas
- f. Fixing hair with hands
- g. Biting fingernails
- h. Eating in non-designated areas
- i. Nibbling while on duty

XI. Common potentially hazardous foods

- a. Milk and milk products
- b. Eggs
- c. Meats
- d. Poultry
- e. Fish
- f. Shellfish

XII. Standards for safeguarding foods

- a. Use wholesome food from approved sources
- b. Protect food from spoilage during preparation, service, and storage
- c. Use clean equipment
- d. Use refrigeration (**Caution:** Avoid alternating refrigeration and heating)
- e. Store and use toxic agents and poisons away from foods
- f. Discard questionable foods (Check with supervisor before discarding)
- g. Maintain all potentially hazardous food at safe temperatures except during necessary preparation and service
- h. Cook foods to recommended internal temperatures
- i. Batch cook and serve cooked foods immediately or store in shallow containers in refrigerator
- j. Wash all raw fruits and vegetables in running water before using

XIII. Ware washing

- a. **Equipment washing**
 - i. Hand tools
 - ii. Small equipment and utensils
 - iii. Pots and pans
- b. **General procedure**
 - i. Soak
 - ii. Wash
 - iii. Rinse
 - iv. Sanitize
 - v. Air dry
 - vi. Store in proper place

- c. Use and care of supplies**
 - i. Use according to directions
 - ii. Store in proper area
 - iii. Keep covered and labeled
 - iv. Consult supervisor when in doubt about use
- d. Sanitizing solutions**
 - i. Purpose – to sanitize clean surfaces
 - ii. Proportions (immersion type)
 - 1. Iodine – 12.5 parts per million
 - 2. Bleach – 1 teaspoon per gallon (¼c. per 3 gallons)
 - 3. Chlorine – 50 parts per million
 - 4. Quats – 200 parts per million (these are surface active disinfectants derived from ammonia)

XIV. Sanitation facility checklist – should be checked and reported to head cook

- a.** Hoods and filters
- b.** Light fixtures
- c.** Sinks
- d.** Drains
- e.** Trash receptacles
- f.** Floors
- g.** Walls
- h.** Ceilings
- i.** Windows
- j.** Door handles
- k.** Ventilating systems
- l.** Storage areas
- m.** Overhead utility pipes
- n.** Shelves
- o.** Food contact equipment

XV. Reasons for in-house sanitation

- a.** Cafeteria
 - i. Attracts guests/customers
 - ii. Gains confidence of guests/customers
 - iii. Provides for safety of guests/customers
 - iv. Provides for better working conditions for employees
- b.** Work area(s)
 - i. Eliminates unsanitary conditions
 - ii. Eliminates food-diseased materials
 - iii. Eliminates kitchen pests
 - iv. Provides for safety of guests
 - v. Provides for better working conditions for employees

XVI. Storage and usage practices for housekeeping supplies

- a. Store all house keeping supplies away from food
- b. Floor brush
 - i. Store on floor brush holders
 - ii. Use on dry surfaces
- c. Buckets, pails, and wringers
 - i. Empty after each use
 - ii. Rinse after each use
- d. Mops – never let mops stand in kitchens or dining rooms
 - i. Wring out after each use
 - ii. Store on hooks
 - iii. Replace mop heads as often as necessary

XVII. Wash Pots and pans

- a. **Equipment and supplies**
 - i. Detergent
 - ii. Sanitizer
 - iii. Brush
 - iv. Scraper
- b. **Procedure** – use manufacture’s directions for proper amount of product to use
 - i. Presoak dirty equipment and tools in water with mild detergent
 - ii. Fill sinks with water and cleaning agents
 - 1. Sink #1 – add detergent to water
 - 2. Sink #2 – add rinse water
 - 3. Sink #3 – add sanitizer or maintain temperature at 170°F
 - 4. Check temperatures

<u>Sink #1</u>	<u>Sink #2</u>	<u>Sink #3</u>
Wash	Rinse	Sanitizing Solution
110°F	130°F	OR 170°F

- c. **Wash in sink #1**
 - i. Inside, outside, and bottom – wash with brush and scraper
 - ii. Change water often
- d. **Rinse in sink#2**
 - i. Keep rinse sink’s water free from suds and grease
 - ii. Change water often
- e. **Sanitize in sink #3**
 - i. Immerse for one-half minute
- f. **Remove from water**
- g. **Drain**
- h. **Air dry on a clean rack**
- i. **Store upside down or cover**

Food-Borne Illnesses

Illness	Cause	Foods Frequently Involved	Principles of Control
Botulism	Deadly toxin of a spore-forming bacterium whose source is the soil. The toxin is produced under conditions that exclude air, it can be destroyed by boiling food for 15minutes	Under processed, home canned, non-acid food, under processed smoked fish	Do not serve home canned foods to the public. Keep smoked fish strictly refrigerated at temperatures below 38°F, preferably in the freezer. Never taste suspect food, boil for 15 minutes and discard
Perfringens	Large numbers of a spore-forming bacterium. Its source is the intestinal tract of humans and animals, soil, and kitchen dust. Meat may be contaminated when purchased	Meat and gravy, especially when prepared in advance and held warm for several hours. Since the bacterium is very common. Cooked foods are readily contaminated again through contact with soiled cutting boards and other equipment, reheated foods, and leftovers	Serve meat and gravy soon after cooking, if items must be cooked in advance chill quickly and keep refrigerated at safe temperatures. Keep equipment in sanitary condition
Salmonella	Large numbers of salmonella bacteria. Its source is the intestinal tract of humans and animals, meat, poultry, egg shells, and products made from these foods may already be contaminated salmonellae when they reach the kitchen. Seafood from sewage polluted waters are contaminated	Improperly handled and cooked protein foods, especially those that are apt to be contaminated when they reach the kitchen. All items that have contact with fecal matter via human hands or of animal origin, unwashed human hands, feces from rodents or insects, contaminated foods that are exposed for several hours to warm temperatures	Purchase meat, poultry, eggs, and shellfish that have been inspected or certified for wholesomeness, control rodents and insects, wash hands after using the bathroom and after handling raw meat and poultry, keep equipment in sanitary condition, keep cold food cold and hot food hot, cool food rapidly to safe temperature
Staph	Bacterium of human origin. Its main sources are the nose, throat, and infected lesions. TOXIN IS NOT DESTROYED BY ORDINARY COOKING METHODS!!	Protein foods, especially item that are handled a great deal and by careless employees who have unsanitary working habits, staph contaminated foods that are exposed for several hours to warm temperatures	Food handlers must be free from infected sores and respiratory illnesses and must practice sanitary working habits, including frequent washing of hands, keep cold food cold and hot food hot, cool rapidly to safe temperature

Temperatures for Food Safeness

GUIDE TO TEMPERATURES

Cook to safe internal temperatures:
165°F - most bacteria killed
Use a probe thermometer to check internal food temperatures

Recommended internal temperatures:
Eggs at least 155°F
Pork at least 155°F
Poultry 165°F
Beef
ground, medium well at least 155°F
ground, well 170°F

Danger Zone

40° - 140°F

40°F Thaw frozen foods at this temperature
35° - 40°F Set refrigerator temperature to ensure proper food temperature

212°F Water boils at sea level

180° - 195°F Required for non-chemical sanitizing dishwashers

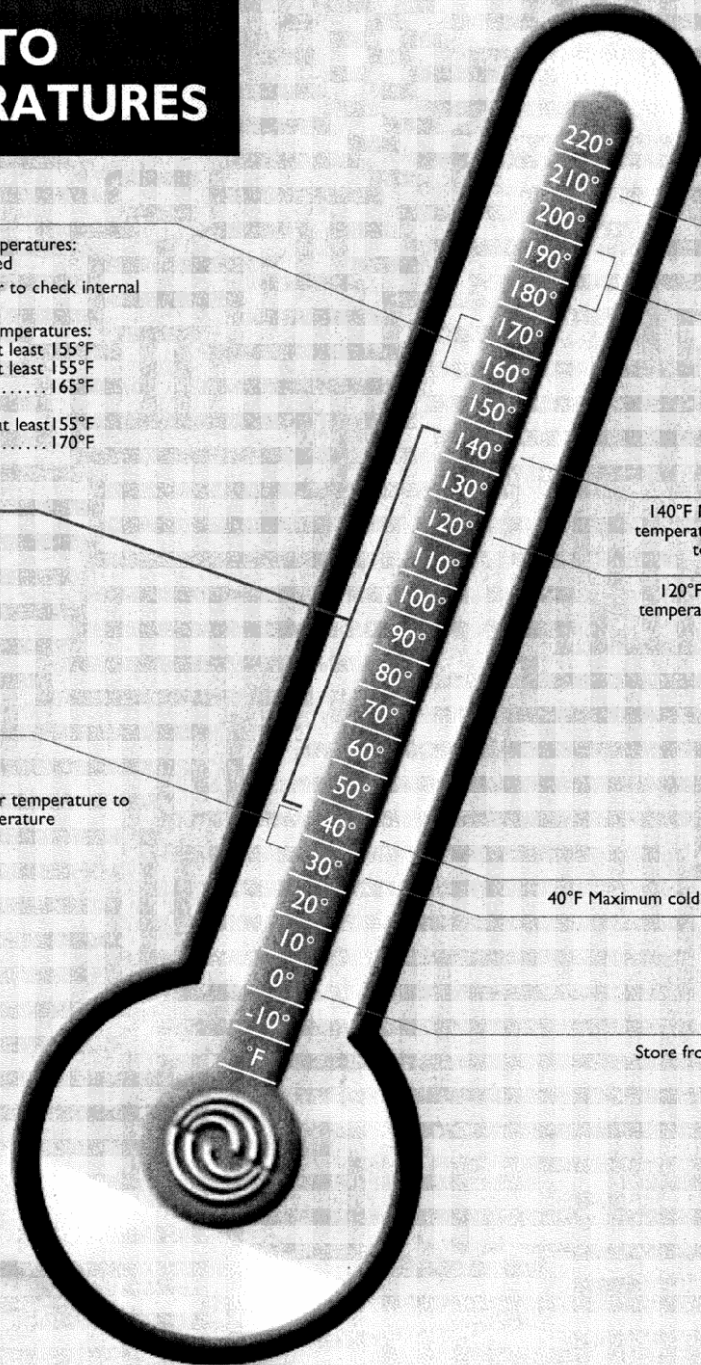
140°F Minimum hot-holding temperature. Including ready-to-eat and buffet style

120°F Minimum hot water temperature in a food facility

40°F Maximum cold holding temperature

32°F Water freezes

Store frozen foods below 0°F



The Enhanced Food-Based Menu Planning Approach

The Enhanced Food-Based Menu Planning Approach is a variation of the Traditional Menu Planning Approach. It is designed to increase calories from low-fat food sources in order to meet the Dietary Guidelines. The five food components are retained, but the component quantities for the weekly servings of vegetables and fruits and grains/breads are increased.

ENHANCED FOOD-BASED MENU PLANNING APPROACH-MEAL PATTERN FOR LUNCHESES					
MINIMUM REQUIREMENTS					OPTION FOR
FOOD COMPONENTS AND FOOD ITEMS	AGES 1-2	PRESCHOOL	GRADES K-6	GRADES 7-12	GRADES K-3
Milk (as a beverage)	6 fluid ounces	6 fluid ounces	8 fluid ounces	8 fluid ounces	8 fluid ounces
Meat or Meat Alternate (quantity of the edible portion as served):					
Lean meat, poultry, or fish	1 ounce	1½ ounces	2 ounces	2 ounces	1½ ounces
Alternate protein products ¹	1 ounce	1½ ounces	2 ounces	2 ounces	1½ ounces
Cheese	1 ounce	1½ ounces	2 ounces	2 ounces	1½ ounces
Large egg	½	¾	1	1	¾
Cooked dry beans or peas	¼ cup	3/8 cup	½ cup	½ cup	3/8 cup
Peanut butter or other nut or seed butters	2 tablespoons	3 tablespoons	4 tablespoons	4 tablespoons	3 tablespoons
Yogurt, plain or flavored, unsweetened or sweetened	4 ounces or ½ cup	6 ounces or ¾ cup	8 ounces or 1 cup	8 ounces or 1 cup	6 ounces or ¾ cup
The following may be used to meet no more than 50% of the requirement and must be used in combination with any of the above: Peanuts, soy nuts, tree nuts, or seeds, as listed in program guidance, or an equivalent quantity of any combination of the above meat/meat alternate (1 ounce of nuts/seeds equals 1 ounce of cooked lean meat, poultry or fish).	½ ounce =50%	¾ ounce =50%	1 ounce =50%	1 ounce =50%	¾ ounce =50%
Vegetable or Fruit: 2 or more servings of vegetables, fruits or both	½ cup	½ cup	¾ cup plus an extra ½ cup over a week ²	1 cup	¾ cup
Grains/Breads(servings per week): Must be enriched or whole grain. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or ½ cup of cooked rice, macaroni, noodles, other pasta products or cereal grains	5 servings per week ² ~ minimum of ½ serving per day	8 servings per week ² ~ minimum of 1 serving per day	12 servings per week ² ~ minimum of 1 serving per day ³	15 servings per week ² ~ minimum of 1 serving per day ³	10 servings per week ² ~ minimum of 1 serving per day ³

¹ Must meet the requirements in appendix A of 7 CFR 210.

² For the purposes of this table, a week equals five days.

³ Up to one grains/breads serving per day may be a dessert.

The Enhanced Food Based Menu Planning Approach is designed to meet the nutritional standards set forth in program regulations.