

Information Cards

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Child Care Meal Patterns

What are meal patterns?

The following two pages show the meal patterns you will use in planning and preparing child care meals through USDA's Child and Adult Care Food Program (CACFP).

A meal pattern is the set of food components, food items, and minimum quantities required for a breakfast, supplement (snack), or lunch or supper for a specific age group of children.

What are the age groups for child care meal patterns?

An important step in planning and preparing meals through CACFP is determining the age group (or groups) you will be serving and selecting the correct meal pattern for these children.

The age groups are designed to reflect the differing nutritional needs of children. For children ages 1 through 12 years old, child care meal patterns for CACFP are divided into three age groups. In years, they are:

- Ages 1 through 2
- Ages 3 through 5
- Ages 6 through 12



CHILD CARE MEAL PATTERNS

The following meal patterns show food components and minimum required portion sizes by age.

BREAKFAST	Ages 1-2	Ages 3-5	Ages 6-12
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MILK (must be fluid milk)	1/2 cup	3/4 cup	1 cup
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JUICE -or- FRUIT -or- VEGETABLE	1/4 cup	1/2 cup	1/2 cup
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GRAINS/BREADS

A serving is a bread or bread alternate and/or cereal

Bread, enriched or whole grain	1/2 slice	1/2 slice	1 slice
--------------------------------------	-----------	-----------	---------

Cereal, enriched or whole grain Cold dry cereal (1)	1/4 cup*	1/3 cup**	3/4 cup***
--	----------	-----------	------------

-or-

Hot cooked cereal.....	1/4 cup	1/4 cup	1/2 cup
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SUPPLEMENT (SNACK)	Ages 1-2	Ages 3-5	Ages 6-12
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Select 2 of the 4 components shown. If you select milk as one of the components, you may not serve fruit juice as the other.

MILK (must be fluid milk)	1/2 cup	1/2 cup	1 cup
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MEAT or MEAT ALTERNATE

Meat, poultry, or fish, (cooked, lean meat without bone)	1/2 oz	1/2 oz	1 oz
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Cheese.....	1/2 oz	1/2 oz	1 oz
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Egg	1/2	1/2	1
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Cooked dry beans or peas.....	1/8 cup	1/8 cup	1/4 cup
-------------------------------	---------	---------	---------

Peanut butter or other nut or seed butters	1 Tbsp	1 Tbsp	2 Tbsp
Nuts and/or seeds (2)	1/2 oz	1/2 oz	1 oz
Yogurt, plain or sweetened (3)	2 oz	2 oz	4 oz
JUICE -or- FRUIT -or- VEGETABLE	1/2 cup	1/2 cup	3/4 cup

GRAINS/BREADS

A serving is bread or bread alternate and/or cereal

Bread, enriched or whole grain	1/2 slice	1/2 slice	1 slice
Cereal, enriched or whole grain			
Cold dry cereal (1)	1/4 cup*	1/3 cup**	3/4 cup***
-or-			
Hot cooked cereal	1/4 cup	1/4 cup	1/2 cup

LUNCH OR SUPPER

MILK	1/2 cup	3/4 cup	1 cup
(must be fluid milk)			

MEAT or MEAT ALTERNATE

Meat, poultry, or fish, (cooked, lean meat without bone)	1 oz	1 1/2 oz	2 oz
Cheese	1 oz	1 1/2 oz	2 oz
Egg	1	1	1
Cooked dry beans and peas	1/4 cup	3/8 cup	1/2 cup
Peanut butter or other nut or seed butters	2 Tbsp	3 Tbsp	4 Tbsp
Nuts and/or seeds (2)	1/2 oz	3/4 oz	1 oz
Yogurt, plain or sweetened (3)	4 oz	6 oz	8 oz

VEGETABLE and/or FRUIT

Serve two different vegetables and/or fruits to equal $\frac{1}{4}$ cup $\frac{1}{2}$ cup $\frac{3}{4}$ cup

GRAINS/BREADS

Serve a bread or bread alternate to equal $\frac{1}{2}$ slice $\frac{1}{2}$ slice 1 slice

NOTES:

(1) If you are serving cold dry cereal for a breakfast or supplement:

- * For ages 1-2, serve: $\frac{1}{4}$ cup (volume) or $\frac{1}{3}$ oz (weight), whichever is less.
- ** For ages 3-5, serve: $\frac{1}{3}$ cup (volume) or $\frac{1}{2}$ oz (weight), whichever is less.
- *** For ages 6-12, serve: $\frac{3}{4}$ cup (volume) or 1 oz (weight), whichever is less.

(2) If you are serving nuts and seeds: This portion can meet only one-half of the total serving of the meat/meat alternate requirement for lunch or supper. Nuts or seeds must be combined with another meat/meat alternate to fulfill the requirement.

For determining combinations:

1 oz of nuts or seeds = 1 oz of cooked lean meat, poultry, or fish

CAUTION:

Children under 4 years of age are at the highest risk of choking. For this age group USDA recommends that nuts and/or seeds be ground or finely chopped and served to children in prepared food.

(3) Commercially prepared yogurt is now permitted as a meat/meat alternate. You may serve 4 oz (weight) or $\frac{1}{2}$ cup (volume) of plain, sweetened, or flavored yogurt to fulfill the equivalent of 1 oz of the meat/meat alternate component.

For younger children, 2 oz (weight) or $\frac{1}{4}$ cup (volume) fulfills the equivalent of $\frac{1}{2}$ oz of the meat/meat alternate requirement.

Acceptable Grains/Breads

What makes a product acceptable to serve as a grains/breads item for CACFP?

The first thing to remember is that a full serving of a grains/breads product must contain at least 14.75 grams (.52 oz) of *whole-grain or enriched flour or meal*.

- A full serving is required for children 6 years of age and older.
- A half serving is the minimum required for children under 6 years of age.

How will you know a particular product contains enough whole-grain or enriched flour or meal?

There are a number of different ways. The one you choose will depend on whether you are using a recipe or buying a commercial product.

If you are using your own recipe...

... you can calculate this yourself as shown on pages 8 and 9.

If you are using a USDA standardized recipe from this package...

... refer to the crediting of each recipe. Look, for example, at Pineapple Scones, Recipe A-1. Under the heading “SERVING,” you will see the following: “1 scone provides the equivalent of 1½ slices of bread.”

If you are buying a commercial product...

- ... the manufacturer can supply you with this information;
- ... or you can consult USDA guidance materials, such as the lists shown on page 10. These lists show equivalent minimum serving sizes for a wide variety of purchased food items.

How will you use the USDA lists of equivalent minimum serving sizes for purchased items?

For each group of foods, you will find minimum weights for a full serving, a half serving, and a one-quarter serving. Cornbread, for example, is listed in Group C.

Here's how you will use this information:

If you are serving a child 6 years or older, you need to provide a *full serving*. Looking at the column at right, you see that a full serving of cornbread needs to weigh at least 31 grams (or 1.1 oz) to contain the required 14.75 grams of whole-grain or enriched flour or meal.

If you are serving a child younger than 6 years old, you need to provide at least a *half serving*. You see that a *half serving* of cornbread must weigh at least 16 grams (or .6 oz).

What else is important to know about grains/breads?

When making decisions about which recipes to use and which products to buy, keep in mind the following important considerations:

- 1) USDA recommends that cookies, granola bars, and similar foods be served in a *supplement* (snack) no more than *twice* a week.
- 2) Doughnuts, coffee cakes, and sweet rolls are allowed as a bread item in *breakfasts and supplements* only.
- 3) French, Vienna, Italian, and Syrian breads are commercially prepared products that often are made with *unenriched* flour. Check the label or ask the manufacturer to be sure the product is made with *enriched* flour.
- 4) The amount of *dried* bread in a half serving of stuffing should weigh at least 10 grams (.4 oz).
- 5) Whole-grain, enriched, or fortified breakfast cereals (cold, dry, or cooked) are traditionally served as a breakfast item, but may be served in meals other than breakfast.

CALCULATING THE GRAIN CONTRIBUTION IN A RECIPE

You have a recipe that will make 25 corn muffins. Since it is not a USDA standardized recipe, you do not know what one muffin will contribute to meeting the grains/breads requirement. How will you calculate this?

1. *Start with basic information about minimum requirements:*

ONE full serving of a grains/breads product must contain at least 14.75 grams (.52 oz) of whole-grain or enriched flour or meal.

2. *List the ingredients per 25 servings and the quantity of grain stated in pounds.*

Your recipe calls for 8 ounces all-purpose flour and 3 ounces yellow cornmeal for 25 servings.

3. *Multiply the quantity of grains by the number of grams per pound (454 grams = 1 pound.)*

You convert ounces to pounds. Using Information Card 18, you see that 8 oz = .5 lb and 3 oz = .1875 lb. You multiply .5 by 454 and .1875 lb by 454. This tells you how many grams of flour and cornmeal are in 25 servings. Add grams of flour and grams of cornmeal, and you get total grams of grains (312.125 grams).

4. *Divide the total grams of grains by 25 servings.*

This tells you the number of grams per serving of whole-grain or enriched flour in each muffin (12.485 grams).

5. Divide the number of grams per serving by 14.75. (A FULL serving of grains/breads requires 14.75 grams of whole-grain or enriched flour or grain.) You will get .8464 grams.

Round DOWN to the nearest $\frac{1}{4}$ of a serving.

This tells you what one muffin contributes to meeting the requirement for one full serving of enriched or whole-grain flour, cereal, or meal. Completing the calculations, as shown below, you determine that one of these corn muffins will provide the equivalent of $\frac{3}{4}$ slice of bread.

Whole-grain or enriched flour and/or meal	Quantity needed for 25 servings (in pounds)	Multiplied by 454 grams (g) (1 lb = 454 g)
All-purpose flour	8 oz = .5 lb	.5 x 454 = 227
Yellow cornmeal	3 oz = .1875 lb	.1875 x 454 = 85.125

CALCULATIONS:

1. To get total grams of grain in 25 servings, you add:

$$227 \text{ plus } 85.125 = 312.125$$

2. To get grams of grain in each muffin, you divide:

$$312.125 \text{ by } 25 = 12.485$$

3. To determine grain contribution, you divide:

$$12.485 \text{ by } 14.75 = .8464$$

4. You round DOWN to the nearest $\frac{1}{4}$ of a serving:

$$.8464 \text{ rounds down to } .75 \left(\frac{3}{4}\right) \text{ of a serving}$$

5. You have determined that 1 serving (1 muffin) provides the equivalent of $\frac{3}{4}$ slice of bread.

A half serving is the minimum required for children under 6 years of age. For children 6 years of age and older, a full serving is required.

A GUIDE TO EQUIVALENT MINIMUM SERVING SIZES

The following charts show minimum serving sizes for a wide variety of purchased products. Keep in mind that a half serving is the minimum required for children under 6 years of age. For children 6 years of age and older, a full serving is required.

GROUP A

MINIMUM SERVING SIZE FOR GROUP A

- | | |
|--|---|
| • Bread type coating | 1 serving = 20 gm or 0.7 oz |
| • Bread sticks (hard) | $\frac{3}{4}$ serving = 15 gm or 0.5 oz |
| • Chow mein noodles | $\frac{1}{2}$ serving = 10 gm or 0.4 oz |
| • Crackers (saltines and snack crackers) | $\frac{1}{4}$ serving = 5 gm or 0.2 oz |
| • Croutons | |
| • Pretzels (hard) | |
| • Stuffing (dry) | |

Note: Weights apply to bread in stuffing.

SUMMARY: When you buy items from Group A, a full serving should have a minimum weight of 20 gm (or 0.7 oz). A *half serving* should have a minimum weight of 10 grams (0.4 oz).

GROUP B

MINIMUM SERVING SIZE FOR GROUP B

- | | |
|--|---|
| • Bagels | 1 serving = 25 gm or 0.9 oz |
| • Batter type coating | $\frac{3}{4}$ serving = 19 gm or 0.7 oz |
| • Biscuits | $\frac{1}{2}$ serving = 13 gm or 0.5 oz |
| • Breads (white, wheat, whole wheat, French, Italian) | $\frac{1}{4}$ serving = 6 gm or 0.2 oz |
| • Buns (hamburger and hot dog) | |
| • Crackers (graham crackers - all shapes, animal crackers) | |
| • Egg roll skins | |
| • English muffins | |
| • Pita bread (white, wheat, whole wheat) | |
| • Pizza crust | |
| • Pretzels (soft) | |
| • Rolls (white, wheat, whole wheat, potato) | |
| • Tortillas (wheat or corn) | |
| • Tortilla chips (wheat or corn) | |
| • Taco shells | |

SUMMARY: When you buy items from Group B, a full serving should have a minimum weight of 25 grams (0.9 oz). A *half serving* should have a minimum weight of 13 grams (0.5 oz).

GROUP C

MINIMUM SERVING SIZE FOR GROUP C

- | | |
|--|---|
| <ul style="list-style-type: none"> • Cookies (plain) • Cornbread • Corn muffins • Croissants • Pancakes • Pie crust (dessert pies, fruit turnovers, and meat/meat alternate pies) • Waffles | <p>1 serving = 31 gm or 1.1 oz</p> <p>$\frac{3}{4}$ serving = 23 gm or 0.8 oz</p> <p>$\frac{1}{2}$ serving = 16 gm or 0.6 oz</p> <p>$\frac{1}{4}$ serving = 8 gm or 0.3 oz</p> |
|--|---|

SUMMARY: When you buy items from Group C, a full serving should have a minimum weight of 31 grams (1.1 oz). A *half serving* should have a minimum weight of 16 grams (0.6 oz).

GROUP D

MINIMUM SERVING SIZE FOR GROUP D

- | | |
|--|--|
| <ul style="list-style-type: none"> • Doughnuts (cake and yeast raised, unfrosted) • Granola bars (plain) • Muffins (all, except corn) • Sweet roll (unfrosted) • Toaster pastry (unfrosted) | <p>1 serving = 50 gm or 1.8 oz</p> <p>$\frac{3}{4}$ serving = 38 gm or 1.3 oz</p> <p>$\frac{1}{2}$ serving = 25 gm or 0.9 oz</p> <p>$\frac{1}{4}$ serving = 13 gm or 0.5 oz</p> |
|--|--|

SUMMARY: When you buy items from Group D, a full serving should have a minimum weight of 50 grams (1.8 oz). A *half serving* should have a minimum weight of 25 grams (0.9 oz).

GROUP E

MINIMUM SERVING SIZE FOR GROUP E

- | | |
|---|--|
| <ul style="list-style-type: none"> • Cookies (with nuts, raisins, chocolate pieces and/or fruit purees) • Doughnuts (cake and yeast raised, frosted or glazed) • French toast • Grain fruit bars • Granola bars (with nuts, raisins, chocolate pieces and or/fruit) • Sweet rolls (frosted) • Toaster pastry (frosted) | <p>1 serving = 63 gm or 2.2 oz</p> <p>$\frac{3}{4}$ serving = 47 gm or 1.7 oz</p> <p>$\frac{1}{2}$ serving = 31 gm or 1.1 oz</p> <p>$\frac{1}{4}$ serving = 16 gm or 0.6 oz</p> |
|---|--|

SUMMARY: When you buy items from Group E, a full serving should have a minimum weight of 63 grams (2.2 oz). A *half serving* should have a minimum weight of 31 grams (1.1 oz).

GROUP F**MINIMUM SERVING SIZE FOR GROUP F**

- Cake (plain, unfrosted) 1 serving = 75 gm or 2.7 oz
- Coffee cake $\frac{3}{4}$ serving = 56 gm or 2 oz
- $\frac{1}{2}$ serving = 38 gm or 1.3 oz
- $\frac{1}{4}$ serving = 19 gm or 0.7 oz

SUMMARY: When you buy items from Group F, a full serving should have a minimum weight of 75 grams (2.7 oz). A *half serving* should have a minimum weight of 38 grams (1.3 oz).

GROUP G**MINIMUM SERVING SIZE FOR GROUP G**

- Brownies (plain) 1 serving = 115 gm or 4 oz
- Cake (all varieties, frosted) $\frac{3}{4}$ serving = 86 gm or 3 oz
- $\frac{1}{2}$ serving = 58 gm or 2 oz
- $\frac{1}{4}$ serving = 29 gm or 1 oz

SUMMARY: When you buy items from Group G, a full serving should have a minimum weight of 115 grams (4 oz). A *half serving* should have a minimum weight of 58 grams (2 oz).

GROUP H**MINIMUM SERVING SIZE FOR GROUP H**

- Barley 1 serving = $\frac{1}{2}$ cup cooked (or 25 gm dry)
- Breakfast cereals (cooked)
- Bulgur or cracked wheat
- Macaroni (all shapes)
- Noodles (all varieties)
- Pasta (all shapes)
- Ravioli (noodle only)
- Rice (enriched white or brown)

SUMMARY: When you buy items from Group H, a full serving should have a minimum of $\frac{1}{2}$ cup cooked product (25 grams dry). A *half serving* should have a minimum of $\frac{1}{4}$ cup cooked product (or 13 grams dry).

GROUP I**MINIMUM SERVING SIZE FOR GROUP I**

- Ready-to-eat breakfast cereal (cold dry) 1 serving = $\frac{3}{4}$ cup or 1 oz, whichever is less

SUMMARY: When you serve items from Group I, a full serving should measure $\frac{3}{4}$ cup or weigh 1 ounce, whichever is less. A *half serving* should measure $\frac{3}{8}$ cup or weigh 0.5 ounce, whichever is less.

Keeping Food Safe to Eat

Here are eight important guidelines for keeping the food you serve safe to eat. Below are more details on each.

1. Know and follow health department codes.
2. Handle and store food properly.
3. Practice good personal hygiene.
4. Keep equipment and facilities clean and sanitized.
5. Keep hot foods above 140°F.
6. Cook or heat food to the recommended temperature.
7. Cool food quickly.
8. Keep cold foods below 40°F.

1. Know and follow health department codes.

Food handling, sanitation, and safety in child care centers are regulated by state, county, and city health department codes. Become familiar with the local regulations to prevent food-borne illness.

2. Handle and store food properly.

Be aware of the condition in which perishable foods are delivered. Be sure frozen foods are frozen solid and refrigerated foods feel cold. Certain factors can shorten a food's useful life, such as too much handling or improper temperature control before delivery.

Don't permit juices from raw meat, poultry, or seafood to touch ready-to-eat foods, such as salad greens, either in the refrigerator or during prepa-

ration. Store these raw foods on the refrigerator's *bottom shelf* to prevent their juices from coming in contact with other foods.

Date incoming food items to help rotate stock properly. Placing oldest food in front will help you make sure these foods are used on a "First-In, First-Out" basis (FIFO).

3. Practice good personal hygiene.

ALL employees need to practice good personal hygiene. Be sure to:

- Restrain hair by using a hairnet or hat.
- Wash hands frequently — between *each* step of food preparation. Use a *separate* hand sink, not sinks used for food preparation or dishwashing.
- Wash hands properly with *soap* and *hot* water.
- Use *disposable* towels for drying hands.
- Cough or sneeze into *disposable* tissues ONLY, and wash hands afterwards. Do not sneeze or cough on food. Always wash hands after touching *hair* or *face*.

Employees with an infected cut or a skin infection should not be permitted to work with food. All superficial cuts should be covered with a bandage and disposable glove.

Persons with colds, or other communicable diseases, should not be permitted to work in food preparation areas.

4. Keep equipment and facilities clean and sanitized.

- Keep all equipment — such as cutting boards, can openers, grinders, slicers — very clean. Also keep work surfaces clean. Sweep and mop food preparation area floors daily.
- Use utensils to pick up and handle food.
- If using hands instead of a utensil, wear *disposable* plastic gloves and do not touch *anything* unclean with the gloves. Throw the gloves away after using or touching anything other than food.
- Discard *disposable* towels after using. Launder fabric towels frequently with sanitizing agents such as chlorine bleach. Bacteria can “loiter” in towels and cloths.
- As a food safety precaution, you may want to use two sets of cutting boards: one for meats, one for vegetables and fruits. (It can be helpful to buy plastic cutting boards in different colors to help keep them straight.) Wash all cutting boards with hot soapy water between use. Air dry them, or sanitize in the dishwasher.
- Use the “three-sink” method (described below) to wash and sanitize dishes, pots, pans, and utensils.

WASH AND SANITIZE WITH THREE SINKS

Start with a *preliminary scraping and rinsing*, then carefully wash and sanitize as follows:

SINK 1: **WASH** with detergent in 110°F water

SINK 2: **RINSE** in *clean* 140°F water

SINK 3: **SANITIZE** by immersing in 170°F to 195°F water for at least 30 seconds, or for 1 minute in a 120°F solution of appropriate concentration of chlorine bleach (1 tablespoon per gallon of water).

Commercial sanitizers can be used instead of bleach. Check local health department codes for a list of sanitizing agents.

Air drying is recommended: drying with a towel swabs contaminants over the surface.

Recommended mechanical dishwasher temperatures are: 165°F to wash and 194°F to rinse/sanitize.

5. Keep HOT foods above 140°F.

Bacteria grow rapidly between 40°F and 140°F. Avoid holding foods in this temperature *danger* zone, and remember: room temperature is within this danger zone!

How quickly does bacteria grow? The following numbers will give you an idea.

BACTERIA DOUBLES...

At this temperature:	In this amount of time:
Body temperature	90°F every 30 minutes
	70°F every hour
	60°F every 2 hours
	50°F every 3 hours
	40°F every 6 hours
Freezing	32°F every 20 hours
	28°F every 60 hours

If you must delay serving a hot food, keep it at a holding temperature — 140°F. In addition, limit the amount of holding time: although steamtables are designed to maintain holding temperatures, do not hold food on a steamtable for more than 2 hours.

6. Cook food to the recommended temperature.

■ *Follow directions:* Follow the directions on food labels to make sure you use proper cooking methods, times, and temperatures. Also refer to recipes for other specific cooking instructions.

■ *Cook thoroughly.* Cook or reheat all foods to the temperature recommended by the label or recipe, or use guidelines on pages 103 through 105.

■ *Use a thermometer.* To be sure that meat and poultry are cooked all the way through, use a *meat thermometer* as follows:

Measure the total depth of the meat with the stem of the thermometer, then insert the stem halfway into the center. As you insert the stem, be careful that the tip of the thermometer is not touching bone, fat, or gristle. For poultry, insert the tip into the thick part of the thigh next to the body.

■ *Always cook all stuffing separately.* Do not bake on the inside of the bird.

■ *Cook meat and poultry completely at one time.* Partial cooking may encourage bacteria to grow before cooking is completed.

7. Cool food quickly.

■ Refrigerate or freeze leftovers in covered, shallow containers (less than 2 inches deep) within 2 hours after cooking.

■ **DO NOT ALLOW ANY FOODS TO COOL AT ROOM TEMPERATURE.**

■ Debone, and perhaps slice, large pieces of meat or poultry and divide them into smaller portions to be refrigerated or frozen.

- Divide large containers of soups, sauces, or vegetables so that the smaller portions will cool more quickly. Stirring throughout the chilling process will shorten the total cooling time. An ice bath will also hasten the process.
- Leave an airspace around containers or packages to allow circulation of cold air so that rapid cooling is ensured.
- Date foods so that the length of storage time is easily known. Avoid tasting old leftovers. *When in doubt, throw it out!*

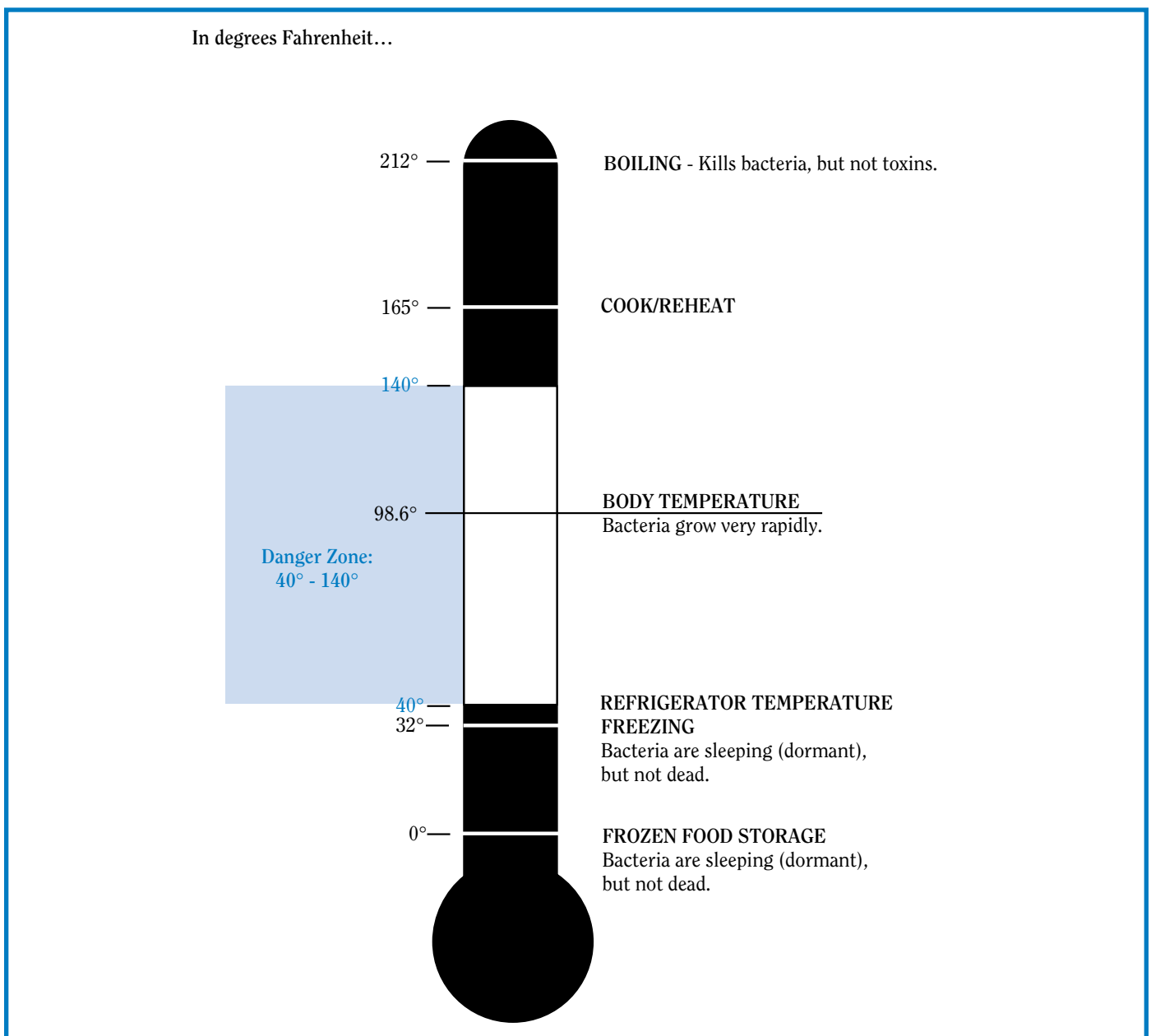
8. Keep cold foods below 40°F.

Check refrigerators and freezers frequently with an appliance thermometer. The *refrigerator* temperature *should be 40°F* or lower. The *freezer* temperature *should be 0°F* or lower. Keep a daily log of refrigerator and freezer temperature readings.

Also keep in mind the following about refrigerating, freezing, and thawing:

- *Refrigerating*: Since repeated handling can introduce bacteria into meat and poultry, prepackaged meat and poultry should remain in the original wrapping. When not prepackaged, meat should be loosely wrapped.
- *Freezing*: While “freezer burn” will not cause illness, it does make certain foods tough and tasteless. To avoid freezer burn, wrap freezer items in heavy freezer paper. Place new items to the rear of the freezer, and older items to the front. Date freezer packages to keep stock properly rotated. Follow the “First-In, First-Out” rule (FIFO).
- *Thawing*: Thaw frozen meat, poultry, and fish in the refrigerator until pliable (easy to separate). *Do not thaw foods at room temperature.*

Thermometer for Food Storage and Sanitation





Freezer Storage

- Freeze food items that you don't plan to use within 2 days.
- Date foods for frozen storage so that the oldest products can be used first.
- Be sure that thermometers are clearly visible, from the outside of the freezer, so that they can be read and recorded in a log daily.
- It is safe to freeze foods in their supermarket wrappings. For storage longer than 2 months, rewrap in foil, plastic, or freezer paper. Be sure to use oldest items first — in other words, follow the “First-In, First-Out” (FIFO) rule.
- Freezer-burned food is safe to eat; it is just of lesser quality. Remove visible freezer-burned portions and discard.
- Freezing *does not destroy bacteria*. They become active again once food is thawed.
- Always thaw *under refrigeration* at 40°F.

DEFROSTING FROZEN WHOLE TURKEYS

USDA's Meat and Poultry Hotline recommends the following thawing time, in the refrigerator, for frozen whole turkeys:

8 to 12 pounds....	1 to 2 days
12 to 16 pounds...	2 to 3 days
16 to 20 pounds...	3 to 4 days
20 to 24 pounds...	4 to 5 days

Be sure to place a tray under thawing meat to catch any drips to prevent contamination of foods in surrounding area.

To thaw in an emergency, thaw under cold RUNNING water:

8 to 12 pounds....	4 to 6 hours
12 to 16 pounds...	6 to 9 hours
16 to 20 pounds...	9 to 11 hours
20 to 24 pounds...	11 to 12 hours

Freezer Storage Chart

For best quality, store the following foods at 0°F, with adequate circulation. Store no longer than time listed below.

If you are storing this food item in the freezer:	Store no longer than...	If you are storing this food item in the freezer:	Store no longer than...
Bagels	2 months	Meat: fried chicken	4 months
Bread	3 months	Meat: chops, steaks, roasts	4 to 12 months
Bread dough	See use-by date	Meat: ground	3 to 4 months
Butter	6 to 9 months	Meat: ham, frankfurters	1 to 2 months
Cake, angel food	2 months	Meat, luncheon, in package	1 to 2 months
Cake, made from mix	4 months	Meat, luncheon, store-sliced	1 to 2 months
Cake, pound	6 months	Milk	3 months
Cheese, hard	6 months	Muffins	2 months
Cookie dough	2 months	Pancakes, waffles	2 months
Cookies	8 to 12 months	Pie, fruit	8 months
Egg whites	12 months	Pie, pumpkin	1 to 2 months
Fish, breaded	3 months	Quiche	2 months
Fish, raw	6 months	Ready-to-bake pie crust	2 months
Fruit: berries, melons	4 to 6 months	Rolls	2 months
Juice concentrates	6 to 12 months	Soups or stews	2 to 3 months
Margarine	12 months	Tortillas	4 months
Meat: whole chicken	12 months	Yogurt	1 to 2 months
Meat: chicken parts	9 months	Sausage, raw	1 to 2 months
Meat: chicken nuggets	1 to 3 months	Sausage, cooked	1 to 2 months
Meat: chicken casseroles	4 to 6 months	Vegetables, blanched or cooked	8 to 10 months

Refrigerator Storage

Food is kept in the refrigerator to preserve its freshness *and* to inhibit the growth of most bacteria.

Microorganisms that cause food spoilage can still grow and multiply slowly over time, so there is a *limit* to the length of time various foods will stay fresh.

Here are some important tips to use as a guide:

- *Keep a refrigerator thermometer in the refrigerator to be sure a 40°F temperature is maintained at all times.* Also, do not overload the refrigerator. This will inhibit the free flow of air, which is essential for proper cooling.
- *Check the refrigerator thermometer daily, and keep a log of your readings.*

- Cover all foods to be refrigerated. This keeps them from drying out and prevents contamination.
- Date all foods, for storage, so that oldest food products are used before the new.
- Keep the refrigerator clean. This will help prevent the spread of bacteria from spilled foods to other foods.

As a general rule...

Quality will *decrease* as storage time *increases*.

When in doubt, throw it out!

Refrigerator Storage Chart

For best quality, store the following foods at 40°F, with adequate circulation. Store no longer than the times listed below.

If you are storing this food item in the refrigerator:	Store no longer than...	If you are storing this food item in the refrigerator:	Store no longer than...
Bagels	1 to 2 weeks	Meat, chops, steaks, roasts	3 to 5 days
Barbecue sauce	4 months	Meats, cooked	3 to 4 days
Bread	7 to 14 days	Meat, ground	1 to 2 days
Butter	1 to 2 months	Meat, luncheon, store-sliced	3 to 5 days
Cakes	7 days	Meat, luncheon, in package	2 weeks
Catsup	6 months	Meat, luncheon, opened	3 to 4 days
Cheese, hard	3 to 4 weeks	Melons	4 to 5 days
Cheese, cottage	1 week	Milk	7 days
Cheese, cream	2 weeks	Muffins, fresh	7 days
Chicken or turkey, whole, raw ...	1 to 2 days	Mustard, prepared	1 year
Chicken nuggets	1 to 2 days	Pies, cream or pumpkin	3 to 4 days
Chicken casseroles	3 to 4 days	Pies, fruit	7 days
Cookies	2 months	Olives	2 weeks
Doughnuts	7 days	Pita bread, tortillas	4 to 7 days
Eggs, hard-cooked	1 week	Pancakes, waffles	3 to 4 days
Eggs in shell, raw	3 to 5 weeks	Pasta, cooked	1 to 2 days
Eggs, raw whites	2 to 4 days	Pickles	1 to 2 months
Eggs, raw yolks	2 to 4 days	Rolls	7 days
Fish, raw	1 to 2 days	Sausage, uncooked	1 to 2 days
Fish, cooked	3 to 4 days	Sausage, precooked	7 days
Frankfurters, sealed package	2 weeks	Salads, prepared tuna, chicken ..	3 to 5 days
Frankfurters, opened package ...	1 week	Salad dressings	3 months
Gravy and meat broth	1 to 2 days	Salsa	1 month
Juice concentrates	7 to 10 days	Sour cream	7 to 21 days
Margarine	4 to 5 months	Whipped topping	2 weeks
Mayonnaise	2 months	Yogurt	7 to 14 days

Thawing Frozen Meat and Ready-to-Cook Poultry

To avoid spoilage or serious food poisoning, meat and poultry must be properly handled during thawing, preparation, cooking, cooling, and serving.

Frozen meat and poultry must be kept hard-frozen at 0°F, or below, until it is removed for thawing and cooking.

Here are directions for thawing, along with some precautions:

1. Remove from freezer storage only the amount of meat or poultry needed for 1 day's use.
2. Thaw in refrigerator at 40°F. *Do not thaw at room temperature or in warm water.*
3. To shorten thawing time in refrigerator, remove from carton and thaw in original wrapper. If not individually wrapped, cover loosely or wrap. For easy handling, place blocks or packages of meat or poultry on trays. Space on shelves so that air can circulate around them.

Never allow drippings to come in contact with other foods.
4. Always wash hands and all surfaces *before* and *after* handling raw products.
5. Thaw meat cuts or poultry (except turkeys weighing 16 pounds or more) in refrigerator overnight (16 to 24 hours).

Thaw turkeys weighing 16 pounds or more in refrigerator for 2 to 3 days. (For more information on thawing turkeys, see Information Card 5, "Freezer Storage.")

As soon as poultry is pliable enough to remove giblets from cavity, proceed with cleaning, as described in Information Card 8, "Cleaning Ready-to-Cook Poultry."
6. Do not refreeze thawed meat or poultry.



Cleaning Ready-to-Cook Poultry

Here are directions for cleaning ready-to-cook poultry, along with some safety precautions:

1. Wash your hands. (Always be sure to do this *before* and *after* handling raw meats.)
2. Remove neck and giblets, which are usually packed in neck and body cavities. Rinse neck and giblets in cold running water. Drain.
3. If necessary, clean poultry, removing excess fat and any parts of lung, windpipe, or pinfeathers that may be present.
4. Rinse poultry, inside and out, in cold running water. Drain.
5. Cook poultry and giblets promptly (see Note #1 below). Cover loosely with waxed paper, and refrigerate, at 40°F.

Do not hold thawed poultry for longer than 24 hours before cooking.

8. Clean and sanitize table surfaces and any other equipment you have used while cleaning or preparing the poultry (see Note #2 below).

NOTE #1: Be sure to *thoroughly* clean and sanitize all surfaces and equipment you have used while cleaning or preparing raw poultry. Do this *before* you use them to handle cooked foods. (Review Information Card 3, “Keeping Food Safe to Eat.”)

Sanitize by using the 3-step washing method (described in Information Card 3) or by using a mechanical dishwasher.

It’s a good idea to keep separate cutting boards for preparing raw meats.

NOTE #2: The giblets may be simmered with neck and wing tips for making broth or gravy stock. The cooked meat from these parts may be cut up and added to gravy or stuffing.



Storing Vegetables and Fruits

All chilled and frozen fruits and vegetables are highly perishable.

When improperly stored, they deteriorate rapidly. For example, they will spoil rapidly if...

... *temperatures* are too high or too low.

... *humidity levels* are unfavorable.

... *air circulation* is inadequate.

... *storage areas* are unsanitary.

The spoilage is caused by bacteria or mold. The decay spreads rapidly. In addition to maintaining proper storage conditions, you can help prevent losses by using the oldest purchases first — in other words, by following the “First-In, First-Out” (FIFO) rule.

Some items should not be stored together.

This is because some foods can have an adverse effect on other foods. They may change the appearance of a food, its taste, or both. For example, if apples are stored with lettuce, the lettuce will turn brown. If peaches or ripe honeydew melons are stored with carrots, the carrots will become bitter.

If pears or apples are stored with potatoes, the potatoes will have an unpleasant earthy taste. And, if green peppers are stored with pineapple, the pineapple will have an off-flavor. On the next page, you will find a list of these and some other common foods that should not be stored together.

Some vegetables and fruits should be used within a few days. Others may be stored for weeks or months.

It's helpful to become familiar with how long individual foods can be successfully stored. Starting on page 29, you'll find a list of common vegetables and fruits, with accepted storage times and temperatures given for each.

Which Vegetables and Fruits Should Not Be Stored Together?

Do not store any of these foods*:	With any of these foods:	Adverse effect:
Apples, pears, bananas, peaches, plums, cantaloupes, ripe honeydew melons, avocados, and tomatoes...	Lettuce Carrots Cucumbers Green peppers Hubbard squash	will turn brown. will become bitter. color will fade. color will fade. color will fade.

Do not store this food:	With this food:	Adverse effect:
Pears, apples...	potatoes...	unpleasant earthy taste
Green peppers...	pineapple...	off-flavors

* These foods contain ethylene gas, which causes russetting (browning).

What Are Accepted Storage Temperatures and Times for Common Vegetables?

VEGETABLES	Accepted Storage Temperature	Length of Storage Time
Beans, green or wax	35° to 45°F	10 days
Beans, lima	32° to 35°F	7 to 14 days
Beets, bunch	32° to 35°F	10 to 14 days
Beets, tops removed	32° to 35°F	4 to 6 months
Broccoli	32° to 35°F	2 to 3 weeks
Brussels sprouts	32° to 35°F	3 to 6 weeks
Cabbage, early	32° to 35°F	3 to 6 weeks
Cabbage, late	32° to 35°F	3 to 4 months
Carrots, mature	32° to 35°F	3 to 5 months
Carrots, bunch	32° to 35°F	10 to 14 days
Cauliflower	32° to 35°F	2 to 4 weeks
Celery	32° to 35°F	2 to 3 months
Corn on the cob	32° to 35°F	4 to 8 days
Cucumbers	45° to 55°F	10 to 14 days
Eggplant	45° to 55°F	1 to 2 weeks
Greens	32° to 35°F	2 to 3 weeks
Kohlrabi	32° to 35°F	2 to 3 weeks
Lettuce, iceberg, wrapped	32° to 35°F	3 to 6 weeks
Lettuce, iceberg, naked	32° to 35°F	2 to 3 weeks
Lettuce, iceberg, table-ready	32° to 35°F	5 to 7 days
Lettuce, leaf, Romaine	32° to 35°F	5 to 8 days
Mushrooms	32° to 35°F	3 to 5 days
Okra	45° to 55°F	2 weeks
Onions, Bermuda	32° to 35°F	1 to 2 months
Onions, Green	32° to 35°F	10 days to 1 month
Onions, Spanish	32° to 35°F	3 to 6 months
Parsley	32° to 35°F	1 to 2 months
Parsnips	32° to 35°F	2 to 6 months
Peas, unshelled	32° to 35°F	1 to 2 weeks
Peppers, green	45° to 55°F	2 to 3 weeks
Potatoes, sweet	50° to 60°F	3 to 4 months
Potatoes, white	45° to 55°F	2 to 3 months
Potatoes, white, peeled	32° to 35°F	5 to 9 days

continued on next page

VEGETABLES

**Accepted Storage
Temperature**

**Length of
Storage Time**

Radishes, poly-bag	32° to 35°F	3 to 4 weeks
Radishes, table-ready	32° to 35°F	10 to 12 days
Radishes, winter	32° to 35°F	3 to 4 months
Rutabagas	32° to 35°F	4 to 6 months
Spinach	32° to 35°F	1 to 2 weeks
Squash, fall and winter	50° to 60°F	1 to 2 months
Squash, summer	45° to 55°F	2 to 3 weeks
Swiss chard	32° to 35°F	10 to 14 days
Tomatoes, firm ripe	45° to 55°F	4 to 7 days
Turnips	32° to 35°F	3 to 5 months

What Are Accepted Storage Temperatures and Times for Common Fruits?

FRUITS	Accepted Storage Temperature	Length of Storage Time
Apples	32° to 35°F	2 to 4 weeks
Bananas, green	56° to 58°F	7 to 10 days
Bananas, ripe	56° to 58°F	3 to 4 days
Berries,		
Strawberries	32° to 35°F	5 to 7 days
Blueberries	32° to 35°F	7 to 15 days
Cantaloupe, hard	32° to 35°F	1 to 2 weeks
Cantaloupe, ripe	32° to 35°F	5 to 14 days
Cherries, sweet	32° to 35°F	2 to 3 weeks
Cranberries, fresh	32° to 35°F	2 to 4 months
Grapefruit	45° to 55°F	4 to 6 weeks
Grapes	32° to 35°F	2 weeks
Honeydew	45° to 55°F	2 to 3 weeks
Lemons	45° to 55°F	2 to 3 weeks
Limes	45° to 55°F	6 to 8 weeks
Mangoes	50° to 55°F	2 to 3 weeks
Nectarines	32° to 35°F	2 to 4 weeks
Oranges, California, Arizona	35° to 45°F	3 to 8 weeks
Oranges, Florida, Texas	32° to 35°F	8 to 12 weeks
Peaches	35° to 45°F	2 to 4 weeks
Pears	32° to 35°F	2 to 8 months
Pineapple, green	45° to 55°F	2 to 4 weeks
Pineapple, ripe	45° to 55°F	2 weeks
Plums	32° to 35°F	2 to 4 months
Pumpkins	45° to 55°F	1 to 6 months
Rhubarb	32° to 35°F	2 to 4 weeks
Tangerines	32° to 35°F	2 to 4 weeks
Watermelon	32° to 35°F	2 to 3 weeks



What Foods Are Good Sources of Vitamin A, Vitamin C, Calcium, and Iron?

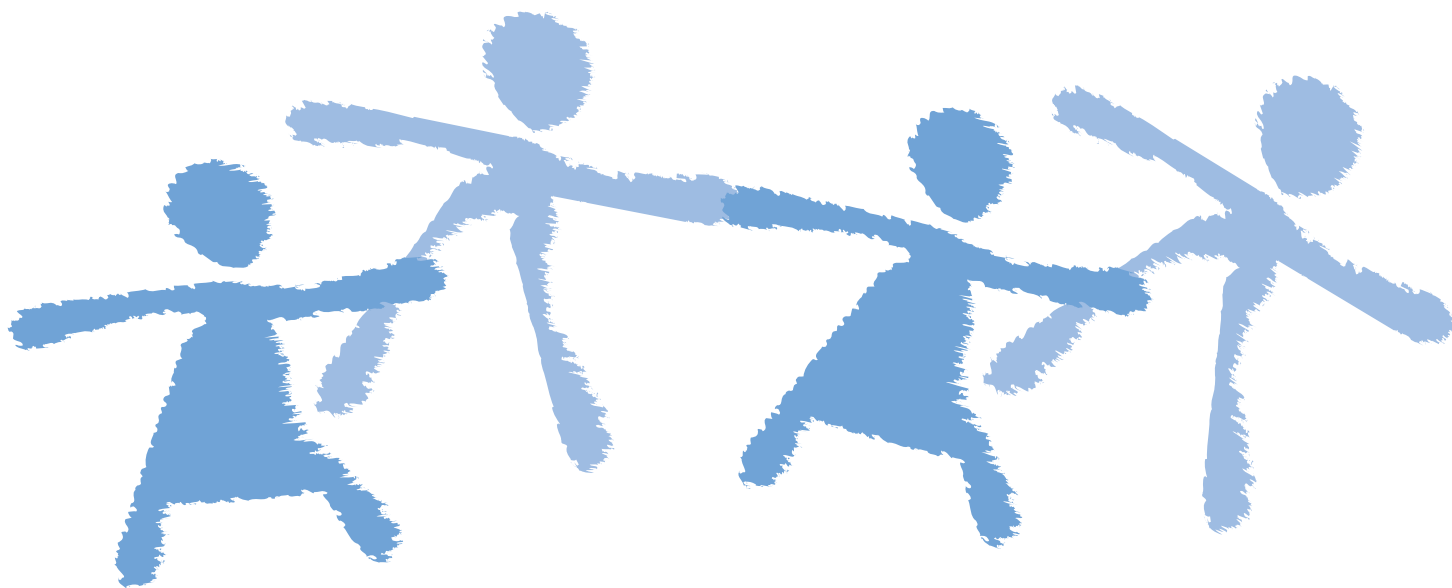
Children need many different nutrients to grow and be healthy. That's why it's important to include a variety of foods in the meals and snacks you serve.

This information card lists foods that are good sources of four key nutrients: Vitamin A, Vitamin C, Calcium, and Iron. A good food source contributes at least 10 percent of the Recommended Daily Allowance (RDA) for a particular nutrient.

Here's how to read the charts: Foods and serving sizes are listed in the first two columns. The third column shows what percentage of the RDA a serving provides, as follows:

Symbol: *For children ages 1 to 3 years old, 1 serving contains...*

- + GOOD ...10 to 24 percent of RDA
- ++ BETTER ...25 to 39 percent of RDA
- +++ BEST ...40 percent or more of RDA



FOODS THAT CONTAIN VITAMIN A

Food	Serving Size	% of RDA
<i>Meat/Meat Alternates:</i>		
Liver (beef calf, pork, chicken, or turkey), braised	1½ oz	+++
<i>Meat/Meat Alternates - Fish/Seafood:</i>		
Mackerel, canned	1½ oz	+
<i>Fruits:</i>		
<i>Apricots:</i>		
Canned, juice pack	2 halves	+
Dried, cooked, unsweetened	¼ cup	++
Dried, uncooked	5 halves	+
Cantaloupe	¼ cup diced	++
Cherries, red sour, fresh	¼ cup pitted	++
Honeydew	¼ cup	+
Mandarin orange sections	¼ cup	+
Mango, raw	¼ medium	+++
Nectarine	½ medium	+
Papaya	¼ cup	++
Peach, fresh	½ medium	+
Plums	¼ cup	+
Prunes	¼ cup cooked	+
Watermelon	1 cup	+
<i>Vegetables:</i>		
Asparagus, cooked	¼ cup	+
Beet greens, cooked	¼ cup	+++
Bok choy, cooked	¼ cup	+++
Broccoli, cooked	¼ cup	+
Carrots, raw or cooked	¼ cup	+++
Chicory greens, raw	¼ cup	+
Collards, cooked	¼ cup	+
Dandelion greens, cooked	¼ cup	+++
Endive, raw	¼ cup	+
Escarole, cooked	¼ cup	+

FOODS THAT CONTAIN VITAMIN A (continued)

Food	Serving Size	% of RDA
Looseleaf lettuce (red and green)	1/4 cup	+
Kale, cooked	1/4 cup	+++
Mustard greens, cooked	1/4 cup	+
Peas and carrots, cooked	1/4 cup	+++
Peppers, sweet red, raw	1/2 small	+++
Plaintain, cooked	1/2 medium	+
Pumpkin, cooked	1/4 cup	+
Romaine	1/4 cup	+
Spinach, cooked	1/4 cup	+++
Squash, winter (acorn, butternut, etc.)	1/4 cup	+++
Sweet potato	1/2 medium	+++
Swiss chard, cooked	1/4 cup	+
Tomato (juice, paste, or puree)	1/4 cup	+
Turnip greens, cooked	1/4 cup	+++
<i>Milk:</i>		
Milk, lowfat or skim	1/2 cup	+

Symbol: For children ages 1 to 3 years old, 1 serving contains...

- + GOOD ...10 to 24 percent of RDA
- ++ BETTER ...25 to 39 percent of RDA
- +++ BEST ...40 percent or more of RDA

FOODS THAT CONTAIN VITAMIN C

Food	Serving Size	% of RDA
<i>Meat/Meat Alternates:</i>		
Liver (beef or pork), braised	1½ oz	++
Liver (chicken)	¼ cup	+
<i>Meat/Meat Alternates - Fish/Seafood:</i>		
Clams, steamed or canned	1½ oz	+
Mussels, steamed or poached	1½ oz	+
<i>Fruits:</i>		
Apples		
Baked	½ medium	+
Raw	½ medium	+
Banana	½ medium	+
Blackberries, raw	¼ cup	++
Blueberries, raw	¼ cup	+
Cantaloupe	¼ cup	+++
Grapefruit	¼ medium	+++
Grapefruit juice	⅜ cup	+++
Grapefruit-orange juice	⅜ cup	+++
Grapefruit and orange sections	¼ cup	+++
Guava, raw	¼ cup	+++
Honeydew	⅜ cup	++
Kiwi	½ medium	+++
Kumquats	1 fruit	+
Mandarin orange sections	¼ cup	+++
Mango	¼ medium	+++
Nectarine	½ medium	+
Orange	½ medium	+++
Orange juice	⅜ cup	+++
Papaya	¼ cup	++
Peaches		
Frozen	¼ cup	+++
Fresh, raw	½ medium	+
Pears	½ medium	+
Pineapple, fresh or canned	¼ cup	+

FOODS THAT CONTAIN VITAMIN C (continued)

Food	Serving Size	% of RDA
Pineapple juice, canned	$\frac{3}{8}$ cup	++
Pineapple-grapefruit juice	$\frac{3}{8}$ cup	+++
Pineapple-orange juice	$\frac{3}{8}$ cup	+++
Plum, raw	$\frac{1}{2}$ medium	+
Raspberries	$\frac{1}{4}$ cup	++
Strawberries	$\frac{1}{4}$ cup	+++
Tangelos	$\frac{1}{2}$ medium	+++
Tangerine	$\frac{1}{2}$ medium	+++
Tangerine juice	$\frac{1}{2}$ cup	+++
Watermelon	$\frac{1}{2}$ cup	++
<i>Vegetables:</i>		
Asparagus, cooked	$\frac{1}{4}$ cup	+++
Beans, green or yellow, cooked	$\frac{1}{4}$ cup	+
Beans, lima, cooked	$\frac{1}{4}$ cup	+
Bean sprouts, raw or cooked	$\frac{1}{4}$ cup	+
Bok choy, cooked	$\frac{1}{4}$ cup	++
Broccoli, raw or cooked	$\frac{1}{4}$ cup	+++
Brussels sprouts, cooked	$\frac{1}{4}$ cup	+++
Cabbage, green, raw or cooked	$\frac{1}{4}$ cup	++
Cabbage, red, raw or cooked	$\frac{1}{4}$ cup	+++
Cauliflower, raw or cooked	$\frac{1}{4}$ cup	+++
Chard, cooked	$\frac{1}{4}$ cup	+
Chile peppers, cooked	$\frac{1}{4}$ cup	+++
Chicory, raw	$\frac{1}{2}$ cup	+
Chinese cabbage, cooked	$\frac{1}{4}$ cup	++
Collards, cooked	$\frac{1}{4}$ cup	+
Dandelion greens, raw	$\frac{1}{4}$ cup	+
Endive, raw	$\frac{1}{2}$ cup	+
Escarole, raw	$\frac{1}{2}$ cup	+
Kale, cooked	$\frac{1}{4}$ cup	+++
Kohlrabi, cooked	$\frac{1}{4}$ cup	+++
Mustard greens, cooked	$\frac{1}{4}$ cup	++
Okra, cooked	$\frac{1}{4}$ cup	+
Onions, medium, raw	$\frac{1}{2}$ medium	+

FOODS THAT CONTAIN VITAMIN C (continued)

Food	Serving Size	% of RDA
Parsnips, cooked	1/4 cup	+
Peas, cooked	1/4 cup	+
Peppers, green and red, raw/cooked	1/4 cup	+++
Plantain, green or ripe, boiled	1/2 medium	+++
Poke greens, cooked	1/4 cup	+++
Potato, baked or boiled	1/2 medium	++
Pumpkin, cooked	1/4 cup	+
Radishes, raw	3 large	+
Romaine, raw	1/2 cup	+
Rutabaga, cooked	1/4 cup	++
Snowpeas, raw or cooked	1/4 cup	+++
Spinach, cooked	1/4 cup	+
Squash, summer or winter, raw/cooked	1/4 cup	+
Sweet potato, baked, boiled, canned	1/2 medium	+++
Tomato	1/2 medium	++
Tomato juice	3/8 cup	+++
Tomato-vegetable juice	3/8 cup	+++
Turnip greens with turnips, cooked	1/4 cup	+
Turnips, cooked	1/4 cup	+
Watercress, raw	1/4 cup	+

To help the body take in more iron, include a good source of vitamin C with meals, especially if the meal does not include meat, fish, or poultry.

Symbol: ***For children ages 1 to 3 years old, 1 serving contains...***

- + GOOD ...10 to 24 percent of RDA
- ++ BETTER ...25 to 39 percent of RDA
- +++ BEST ...40 percent or more of RDA

FOODS THAT CONTAIN CALCIUM

Food	Serving Size	% of RDA
<i>Meat Alternates - Fish:</i>		
Mackerel, canned	1½ oz	+
Ocean perch, baked or broiled	1½ oz	+
Salmon, canned with bones	1½ oz	+
Sardines, canned with bones	1 each	+++
<i>Meat Alternates - Cheese:</i>		
Cottage cheese, lowfat	¼ cup	++
Natural cheese - blue, brick, Camembert, feta, Gouda, Monterey Jack, mozzarella, Muenster, provolone, and Roquefort	½ oz	+
Natural cheese - Gruyere, Swiss, Parmesan, and Romano	½ oz	++
Processed cheese - cheddar or Swiss	¾ oz	++
Ricotta cheese	¼ cup	++
Yogurt - flavored or with fruit, or plain	4 oz	++
<i>Meat Alternates - Nuts:</i>		
Almonds, unblanched, dry-roasted	1 oz	+
<i>Vegetables:</i>		
Broccoli, cooked	¼ cup	+
Spinach, cooked	¼ cup	+
Turnip greens, cooked	¼ cup	+
<i>Grains/Breads:</i>		
English muffin, plain/with raisins	½	+
Muffin, bran	½ medium	+
Pancakes, plain, fruit, buckwheat, or whole-wheat	4"	++
Waffles, bran, cornmeal, and/or fruit	4" square	+
Waffles, plain	4" square	++

FOODS THAT CONTAIN CALCIUM (continued)

Food	Serving Size	% of RDA
<i>Milk:</i>		
Buttermilk	1/2 cup	++
Chocolate milk	1/2 cup	++
Dry, nonfat milk, reconstituted	1/2 cup	++
Evaporated, whole or nonfat, diluted	1/2 cup	++
Lowfat or nonfat milk	1/2 cup	++
Whole milk	1/2 cup	++

Symbol: For children ages 1 to 3 years old, 1 serving contains...

- + GOOD ...10 to 24 percent of RDA
- ++ BETTER ...25 to 39 percent of RDA
- +++ BEST ...40 percent or more of RDA

FOODS THAT CONTAIN IRON

Food	Serving Size	% of RDA
<i>Meat/Meat Alternates:</i>		
Beef brisket	1½ oz	+
Beef, ground, extra lean, broiled	1½ oz	+
Beef liver	1½ oz	++
Beef, pot roast, braised	1½ oz	+
Beef, rib roast, roasted	1½ oz	+
Beef, shortribs, braised	1½ oz	+
Beef, steak, broiled	1½ oz	+
Beef, stew meat, simmered	1½ oz	+
Calf liver	1½ oz	+
Chicken or turkey liver	1½ oz	++
Liverwurst	1 oz	+
Pork liver	1½ oz	+++
Tongue, braised	1½ oz	+
Turkey, dark meat, roasted, no skin	1½ oz	+
<i>Meat/Meat Alternates - Eggs:</i>		
Large egg	1	+
<i>Meat/Meat Alternates - Fish/Seafood:</i>		
Clams, steamed or canned	1½ oz	+++
Mackerel, canned	1½ oz	+
Mussels, steamed	1½ oz	+
Oysters, steamed or canned	1½ oz	++
Shrimp, broiled or canned	1½ oz	+
Trout, baked or broiled	1½ oz	+
<i>Meat Alternates - Dry Beans, Peas, and Lentils:</i>		
Black-eyed peas (cowpeas)	¼ cup	+
Chickpeas (garbanzo beans)	¼ cup	+
Kidney beans	¼ cup	+
Lentils	¼ cup	+
Peas	¼ cup	+
Pinto beans	¼ cup	+
Soybeans	¼ cup	++
White beans	¼ cup	+

FOODS THAT CONTAIN IRON (continued)

Food	Serving Size	% of RDA
<i>Meat Alternates - Nuts and Seeds:</i>		
Pine nuts (pignolias)	1 Tbsp	+
Pumpkin or squash seeds, roasted	1 Tbsp	++
<i>Fruits:</i>		
Apples, dried, cooked	1/4 cup	+
Prunes, dry, cooked	1/4 cup	+
Raisins, seedless	1/4 cup	+
<i>Vegetables:</i>		
Beans, lima, cooked	1/4 cup	+
Beans, black, cooked	1/4 cup	+
Beet greens, cooked	1/4 cup	+
Black-eyed peas, cooked	1/4 cup	+
Chard, cooked	1/4 cup	+
Peas, cooked	1/4 cup	+
Spinach, cooked	1/4 cup	+
<i>Grains/Breads:</i>		
Bagel, plain, pumpernickel, or whole wheat	1/2 medium	+
Cereals, ready-to-eat, enriched	1/2 oz	++
Farina, regular or quick, cooked	1/3 cup	++
Muffin, bran	1/2 medium	+
Noodles, cooked	1/2 cup	+
Oatmeal, instant, enriched	1/3 cup	++
Pita bread, plain or whole wheat	1/2 small	+
Pretzel, soft	1/2	+
Rice, white, regular, cooked	1/3 cup	+

Symbol: For children ages 1 to 3 years old, 1 serving contains...

- + GOOD ...10 to 24 percent of RDA
- ++ BETTER ...25 to 39 percent of RDA
- +++ BEST ...40 percent or more of RDA

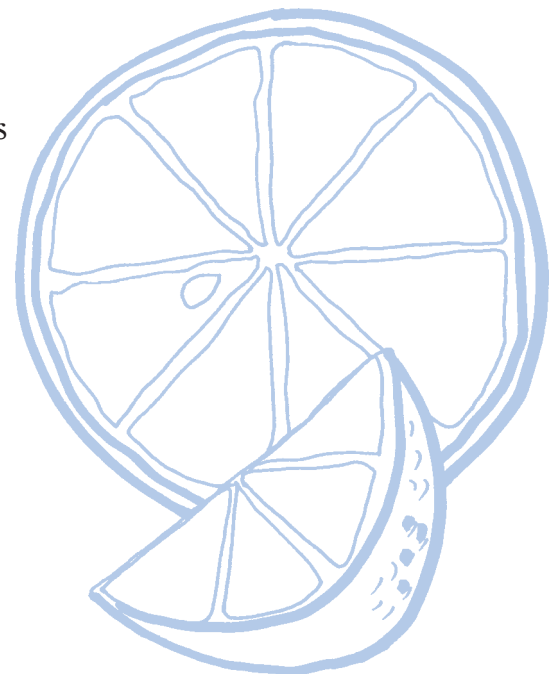
Suggested Finger Foods

Finger foods are foods cut into bite-size pieces that children can pick up with their fingers. Many fruits and vegetables — such as apple wedges, banana slices, cucumber sticks — are good as finger foods. So are bread and cereal items, such as bagel quarters and oat cereal rings; and meat/meat alternates, such as cubes of meat or cheese. These and other suggested finger foods are listed below. On pages 45 and 46 are tips on preparing foods as finger foods.

On page 44 and on other information cards is an important cautionary note about choking and a list of foods that may cause choking. Some of these foods can be offered to children if you change the form. You'll find several examples of the kinds of changes you can make.

Suggested finger foods include...

Apple wedges	Bagel quarters
Banana slices	Berries
Bread sticks	Broccoli flowerets
Cabbage wedges	Carrot sticks
Cauliflowerets	Cucumber sticks
Celery sticks	Cheese cubes
Cherry tomato halves	Cinnamon toast fingers
Dried apples	Dried cherries
Dried cranberries	Dried peaches
Dried pears	Dry cereal, such as oat rings
Fresh peach wedges	Fresh pear wedges
Fresh pineapple sticks	Graham cracker strips
Halved grapes	Halved meatballs
Hard-cooked egg halves	Grapefruit sections
Green pepper sticks	Green beans, whole
Jicama strips	Kohlrabi sticks
Meat cubes	Melon cubes
Nectarine wedges	Orange sections
Pizza wedges	Plums
Pretzels, hard or soft	Prunes, pitted
Raisins	Rice cakes
String cheese	Tangerine sections
Tomato wedges	Trail mix
Turnip sticks	Zucchini sticks



Keep in mind that young children — especially ages 2 to 3 years — are at risk of choking on food. They remain at risk until they can chew and swallow better by about age 4. *Always supervise children during meals and snacks.*

Foods that may cause choking include...

hot dogs	nuts and seeds	raw carrots
raisins	chunks of meat	peanut butter (spoonfuls)
whole grapes	marshmallows	round or hard candy
chips	popcorn	pretzels
raw celery	cherries with pits	large pieces of fruit with skin

Some foods can be offered if you change the form. For example...

- 1) Cut hot dogs lengthwise into thin strips.
- 2) Steam carrots or celery until slightly soft, then cut in sticks.
- 3) Cut grapes or cherries in small pieces.

PREPARING FINGER FOODS

Here are some suggestions for preparing a variety of finger foods. See Information Card 12 for serving size and yield.

Before proceeding with preparation, scrub fruits and vegetables thoroughly with a soft brush.

Apple wedges	Remove core. Slice into wedges about $\frac{1}{2}$ -inch thick. Serve peeled or unpeeled.
Banana slices	Peel bananas. Slice or serve as banana half, and teach the children how to peel the banana.
Berries	Select fruit with no soft decayed spots. Remove caps and stems.
Cabbage wedges	Steam or microwave until bright green. Slice into $\frac{1}{2}$ -inch wedges.
Carrot sticks	Scrape or peel. Cut off ends. Cut into sticks about $\frac{1}{4}$ -inch thick and $2\frac{1}{2}$ to 3 inches long.
Cauliflower florets	Break into single florets.
Celery sticks	Trim off root and blemishes. Cut into sticks about $\frac{1}{4}$ -inch thick and $2\frac{1}{2}$ to 3 inches long. Or, cut celery stalk into pieces $2\frac{1}{2}$ to 3 inches long. Fill with peanut butter (thinned with mayonnaise, honey, or lowfat margarine) or cream cheese (thinned slightly with milk). Minced pimentos may be added to cream cheese for color or extra flavor.
Cheese cubes	Cut cheese (such as cheddar, Edam, Gouda, Gruyere, Muenster, and Swiss) into 1-inch cubes.
Fresh grapes	May be served on the stem, snipped into small bunches, or removed from the stem. Halve the grapes to prevent choking in small children.
Fresh peach wedges	Select ripe peaches. Peel, or leave unpeeled, as desired. Remove pit and cut into $\frac{1}{4}$ -inch wedges.

Fresh pear wedges	Select ripe fruit. Remove core and soft places. Cut into $\frac{1}{4}$ -inch wedges.
Fresh pineapple sticks	Peel and core pineapple. Cut into sticks $\frac{1}{2}$ -inch thick and $2\frac{1}{2}$ to 3 inches long.
Grapefruit sections	Peel and section. Remove all seeds.
Green pepper sticks	Cut out stem and remove seeds. Cut into strips $\frac{1}{4}$ -inch wide and $2\frac{1}{2}$ to 3 inches long.
Kiwi	When ripe, kiwi are soft to the touch. May be peeled and then sliced or sectioned. Can be served halved, with peels intact; child will scoop out contents with a spoon. Can also be served unpeeled: the peels are edible.
Meat cubes	Cut thoroughly cooked meat (such as roast beef, meat loaf, chicken, roast veal, or lamb) into 1-inch cubes.
Melon cubes	Peel, remove seeds and fibers, and cut into $\frac{1}{2}$ -inch cubes.
Orange sections	Peel and section. Remove all seeds. Can also be cut into sections with peels intact (do this to make “orange smiles”).
Plums	Remove pit and cut into quarters.
Prunes	Remove pit or buy pitted prunes.
Tangerine sections	Peel and section. Be sure to remove all seeds.
Tomato wedges	Cut out core and cut into wedges.
Turnip sticks	Peel turnips. Cut into sticks $\frac{1}{2}$ -inch thick and 2 to $2\frac{1}{2}$ inches long.

Buying Fresh Vegetables

When ordering fresh vegetables, be as specific as you can about type, quantity, and quality. The following chart lists suggested purchase specifications for a variety of fresh vegetables.

Under *size and count* is sample language you might use when ordering a particular food. Under *serving size and yield*, you'll find information on yield indicated for a $\frac{1}{4}$ -cup serving. A $\frac{1}{4}$ -cup serving is used here for simplicity. Any serving size may be planned.

SUGGESTED PURCHASE SPECIFICATIONS AND YIELDS FOR FRESH VEGETABLES

Vegetable	Size and Count	Serving Size and Yield
Beans, green	Specify: 28-lb to 30-lb bushels or wirebound crates, U.S. No.1.	Cut 1 $\frac{1}{2}$ ": 11 $\frac{1}{4}$ -cup servings per lb (steamed).
Bok Choy	Specify: half crate, 30 lb to 40 lb.	13 $\frac{1}{4}$ -cup servings per lb (raw).
Broccoli Florets	Specify: packaging material with gas permeability that assures 2% oxygen exchange; sulfite-free product required; packed 4 3-lb bags per case.	2 medium stalks (about 1 lb) = about 6 cups florets; 17 $\frac{1}{4}$ -cup servings per lb (raw); 12 $\frac{1}{4}$ -cup servings per lb (cooked).
Cabbage	Specify: 10 to 12 count, 2 lb to 3 lb each head; U.S. No.1 in 50-lb to 60-lb crates.	Raw, shredded; 24 $\frac{1}{4}$ -cup servings per lb (raw); 9 $\frac{1}{4}$ -cup servings per lb (cooked).

Carrot Sticks	Specify: U.S. No. 1 carrots; 1 ¹ / ₈ " medium diameter, about 7 ¹ / ₂ " in length; 6 per lb; 50-lb mesh bag.	1 stick is 4" long by 1/2" wide; 6 sticks = 1/4 cup; 12 1/4-cup servings per lb (raw); 10 1/4-cup servings per lb (cooked).
Cauliflower	Specify: in cartons of 18 lb to 24 lb, or wirebound crates of 45 lb to 50 lb.	1 medium head = about 6 cups florets; 14 1/4-cup servings per lb (raw); 11 1/4-cup servings per lb (cooked).
Celery Sticks	Specify: 2, 2 ¹ / ₂ , or 3 dozen per crate; crates weigh 60 lb to 70 lb net.	1 stick is 3" long by 3/4" wide. 4 sticks = 1/4 cup; 14 1/4-cup servings per lb.
Collard Greens	Specify: 1 to 2 dozen bunches, 12 oz to 16 oz per bunch; also 1-lb to 2-lb bags (washed and cleaned) by the bushel or 17-lb case.	22 1/4-cup servings per lb (raw, with stems); 31 1/4-cup servings per lb (without stems); 6 1/4-cup servings per lb (cooked, without stems); 10 1/4-cup servings per lb (cooked, with stems).
Cucumbers	Specify: 2" minimum diameter. This information will be stamped on the basket. Cucumbers will vary from 2" to 2 ¹ / ₂ " in diameter and are about 7 ¹ / ₂ " long.	

Cucumbers (con't.)	<p><i>Slices:</i> 1/8"-thick slices</p> <p><i>Sticks:</i> Cut in thirds crosswise, then cut each third length- wise into fourths for sticks.</p>	<p>4 slices = 1/4 cup; 9 1/4-cup servings per lb.</p> <p>1 cucumber=12 sticks; 2 sticks = 1/4 cup; 9 1/4-cup servings per lb (peeled); 11 1/4-cup servings per lb (with peel).</p>
Jicama (Mexican Potato)	Purchase in 20-lb boxes.	11 1/4-cup servings per lb (peeled, raw).
Kale	Specify: 20-lb to 25-lb crates, cartons, or bushel baskets holding 24-count, U.S. No.1.	32 1/4-cup servings per lb (raw, with stems); 24 1/4-cup servings per lb (raw, stems removed); 11 1/4-cup servings per lb (with stems, cooked).
Kohlrabi	Specify: 1 dozen per box, 12 bunches per case.	9 1/4-cup servings (pared 2" x 4" sticks, raw); 5 1/4-cup servings per lb (pared, cooked).
Lettuce, Head (Iceberg)	Specify: 2 dozen heads; weight of 40 lb to 48 lb.	47 1/4-cup servings per lb.
Lettuce, Leaf	Specify: 2 dozen heads; weight of 18 lb.	1 large leaf=1/4 cup
Okra	Specify: 15-lb box or half bushel.	10 1/4-cup servings per lb (cooked).

Olives, Ripe	Large	8 olives = $\frac{1}{4}$ cup; 15 $\frac{1}{4}$ -cup servings per lb.
Onions	Specify: U.S. No. 1, medium size; 25-lb bag.	12 $\frac{1}{4}$ -cup servings per lb (diced, raw); 5 $\frac{1}{4}$ -cup servings per lb (sliced, grilled).
Peppers, Green	Specify: U.S. No. 1 grade preferred; 25 lb per carton.	1 lb = 7 to 9 medium; 13 $\frac{1}{4}$ -cup servings per lb (raw); 5 $\frac{1}{4}$ -cup servings per lb (grilled).
Potatoes, Sweet	Specify: U.S. No. 1, 3" to 9" long.	10 $\frac{1}{4}$ -cup servings per lb (diced, cooked).
Potatoes, White	Specify: 100 count, 6 oz to 10 oz each.	8 $\frac{1}{4}$ -cup servings per lb (pared, diced, cooked).
Radishes	Specify: U.S. No. 1, $\frac{1}{2}$ " diameter minimum; without tops; small size; 45 radishes per lb.	7 radishes = $\frac{1}{4}$ cup; 12 $\frac{1}{4}$ -cup servings per lb.
Spinach	Specify: Washed, 10-oz cello pack.	30 $\frac{1}{4}$ -cup servings per lb (raw, chopped); 7 $\frac{1}{4}$ -cup servings per lb (cooked).
Squash, Summer	Specify: 4" to 9" long, U.S. No. 1 zucchini, crooked, or straight neck.	14 $\frac{1}{4}$ -cup servings per lb (raw); 8 $\frac{1}{4}$ -cup servings per lb (cooked).
Tomatillos	Specify: 10-lb box.	11 $\frac{1}{4}$ -cup servings per lb (raw); 6 $\frac{1}{4}$ -cup servings per lb (cooked).

Tomatoes

Specify: 5 x 6 size, extra large, 30 pounds per container; tomato is $2\frac{3}{4}$ " by 3" diameter, $2\frac{1}{4}$ tomatoes per lb.

Wedges ($\frac{1}{2}$ "):
Specify: 5 x 6 size.

$\frac{1}{4}$ tomato = $\frac{1}{4}$ cup;
10 $\frac{1}{4}$ -cup servings per lb.

Slices:
Specify: 6 x 7 size; slice $\frac{1}{4}$ " thick.

$\frac{1}{4}$ tomato = $\frac{1}{4}$ cup;
8 $\frac{1}{4}$ -cup servings per lb.

Cherry:
Specify: Standard size, reasonably uniform in size.

4 tomatoes = $\frac{1}{4}$ cup (approximately);
10 $\frac{1}{4}$ -cup servings per lb (halved).

Turnips

Specify: U.S. No. 1; 25-lb or 50-lb bags or 43-lb to 47-lb cartons; in counts of 24 bunches.

11 $\frac{1}{4}$ -cup servings per lb (raw sticks);
8 $\frac{1}{4}$ -cup servings per lb (cooked).

Yucca

Specify: 20-lb box.

8 $\frac{1}{4}$ -cup servings per lb (cooked).



Buying Fresh Fruits

When ordering fresh fruits, be as specific as you can about type, quantity, and quality. The following chart lists suggested purchase specifications for a variety of fresh fruits.

Under *size and count* is sample language you might use when ordering a particular food. Under *serving size and yield*, you'll find information on yield indicated for a $\frac{1}{4}$ -cup serving. A $\frac{1}{4}$ -cup serving is used here for simplicity. Any serving size may be planned.

Where sizes are specified for fruits, they indicate numbers of fruit in a box. The higher the number, the smaller the fruit. (For example, 20 count specifies a larger fruit than 40 count.) Any fruit that is the same size as or larger than specified may be used.

SUGGESTED PURCHASE SPECIFICATIONS AND YIELDS FOR FRESH FRUITS

Fruit	Size and Count	Serving Size and Yield
Apples	Specify: size 138 to 150 or larger. Approximately $2\frac{3}{4}$ " x $2\frac{5}{8}$ " diameter = 4 to 5 apples per lb.	1 apple = $\frac{1}{2}$ cup; 17 $\frac{1}{4}$ -cup servings per lb.
Apricots	Specify: U.S. No.1 extra jumbo, 8 per lb.	$\frac{1}{2}$ apricot = $\frac{1}{4}$ cup; 10 $\frac{1}{4}$ -cup servings per lb (with skin).
Bananas	Purchase by count, 100 to 120 per 40-lb case; each fruit 6" to 7" long. <u>Petite:</u> 150 count per carton.	$\frac{1}{2}$ banana = $\frac{1}{4}$ cup; 6 $\frac{1}{4}$ -cup servings per lb.
Blueberries	Specify: U.S. No.1; sold in pints.	1 pint = 8 $\frac{1}{4}$ -cup servings.

Cantaloupe	Specify: size 15-count. Medium size 5½" diameter, 1 lb 10 oz per melon.	$\frac{1}{6}$ melon = $\frac{1}{4}$ cup; 1 melon = 6 $\frac{1}{4}$ -cup servings; 7 $\frac{1}{4}$ -cup servings per lb.
Clementines	Specify: 5-lb box, 30 count to 33 count.	7 $\frac{1}{4}$ -cup servings per lb.
Figs	Specify: small; purchase in 5-lb flats.	8 $\frac{1}{4}$ -cup servings per lb.
Grapefruit	Specify: U.S. No.1, size 32.	$\frac{1}{4}$ large = $\frac{1}{4}$ cup fruit and juice; 6 $\frac{1}{4}$ -cup servings per lb.
Grapes	Specify: variety desired; 23-lb lugs; seedless.	9 halved grapes = $\frac{1}{4}$ cup. 10 $\frac{1}{4}$ -cup servings per lb.
Honeydew	Specify: U.S. No.1; 18 count in 30-lb carton.	5 $\frac{1}{4}$ -cup servings per lb.
Kiwi	Specify: 39-count.	6 $\frac{1}{4}$ -cup servings per lb (peeled).
Nectarines	Specify: size 64, U.S. No. 1 extra-fancy; medium size, 3 fruit per lb.	1 nectarine = about 3 $\frac{1}{4}$ -cup servings; 10 $\frac{1}{4}$ -cup servings per lb.
Oranges	Specify: size 138 (Calif- ornia or Arizona) or size 100 (Florida or Texas).	1 orange = about 3 $\frac{1}{4}$ -cup servings; 6 $\frac{1}{4}$ -cup servings per lb.
Passion Fruit	Specify: 28-, 32-, 36-, 40- or 44-count pack.	3 $\frac{1}{4}$ -cup servings per lb (pulp only).

Peaches	Specify: size 80; small, 3 ³ / ₄ to 4 peaches per lb.	1 peach = about ¹ / ₄ cup; 10 ¹ / ₄ -cup servings per lb (pitted, with peel).
Pears, Bartlett	Specify: medium size 100; U.S. No. 1 grade standard, 2 to 3 pears per lb.	1 pear = about 3 ¹ / ₄ -cup servings; 11 ¹ / ₄ -cup servings per lb.
Pineapple	Specify: 20-lb cartons, count of 4, 5, 6, 7, or 8; or 40-lb cartons, count of 10, 12, 14, or 16; U.S. No. 1 fancy or No. 2.	4 ¹ / ₄ -cup servings per lb.
Plums	Specify: size 137, about 8 to 9 plums per lb.	1 plum = about ¹ / ₄ cup; 10 ¹ / ₄ -cup servings per lb (pitted).
<i>Purple</i>		
<i>Italian</i>	Medium size fruit: size 4 x 4.	9 ¹ / ₄ -cup servings per lb (pitted).
Pomegranates	Specify: size 32; 25-lb box or 2-layer lug.	2 ¹ / ₄ -cup servings per lb.
Raisins	Specify: bulk purchase or individual packages, 1 ¹ / ₂ oz each.	Yield of bulk: 2 ² / ₃ oz = about ¹ / ₂ cup. Yield of individual packages: about ¹ / ₄ cup of fruit.
Star Fruit (Carambola)	Packed in 20-, 25-, and 30-count cell box; weighs 20 lb.	11 ¹ / ₄ -cup servings per lb.

Strawberries

Specify: U.S. No.1;
minimum diameter $\frac{3}{4}$ ";
sold in quarts and pints.

1 pint = **8** $\frac{1}{4}$ -cup
servings.

Tangerines

Specify: size 120,
 $2\frac{3}{8}$ " in diameter;
4 tangerines per lb.

1 tangerine = about $\frac{1}{2}$ cup;
7 $\frac{1}{4}$ -cup servings per lb.

Watermelon

Specify: average size
(will average 22 lb to 26 lb).

6 $\frac{1}{4}$ -cup servings per lb.

How About A Snack?

In the Child Care Meal Pattern, two (2) items must be served for a mid-morning or mid-afternoon supplement (snack). These two items may be selected from the following:

- fluid milk
- a meat/meat alternate
- a fruit, vegetable, or juice (full-strength)
- a grains/breads product

Milk is mandatory for breakfast, lunch and supper, but not for snacks. However, if you serve only snacks, or a meal and two snacks, it is a good idea to include milk in at least one snack.

Young children enjoy cheese cubes and peanut butter at snack time. For other snack ideas, see Information Card 15.

Full-strength juice is always a welcome snack; however, you should not serve juice if you serve milk as the other component in the snack. Juice drinks (made with at least 50 percent full-strength juice) are permitted, but discouraged, because twice the volume is needed to meet the program requirements.

Grains/breads products must be made from whole grain or enriched flour. Cookies, although not credited as breads at breakfast, lunch, or dinner, may be part of a snack no more than twice a week.

(See Information Card 1 for Child Care Meal Patterns.)





Ideas for Snacks

Many foods are good for snacks. Below are some ideas, grouped as follows: Meat/Meat Alternate; Fruit, Juice, or Vegetable; and Grains/Breads. Also see Information Card 14 for more information on snacks and Card 11 for suggested finger foods.

Caution: Young children — especially ages 2 to 3 years — are at risk of choking on food. They remain at risk until they can chew and swallow better by about age 4. Always supervise children during meals and snacks. See note at the end of this card for a list of foods that may cause choking. Also listed are some foods that can be offered if you change the form.

MEAT/MEAT ALTERNATE

Quesadilla (melted cheese on a tortilla)

Tuna spread on a bagel

Peanut butter on toast fingers

String cheese and juice

Grated mozzarella cheese on a toasted English muffin spread with pizza sauce

Cheese sandwich (cut with a cookie cutter) on whole-wheat bread

Deviled hard-cooked egg half and toast triangles

Cheese melted on mini shredded wheat

Bread pudding (eggs and bread)

Turkey and ham slices in pita bread

Cheese cubes and fresh fruit chunks

Peanut butter and banana sandwich

Cheese cubes and tomato juice

FRUIT, JUICE, OR VEGETABLE

Fruit smoothie (frozen fruit, yogurt, juice, ice)

Grapes and lowfat cheese cubes

Fresh vegetables and grain-based chips with dip

Carrot/raisin salad and milk

Frozen banana and milk

Fruit kabob

Some interesting fruit combos you might like to try...

Frozen yogurt cubes:

Mix equal parts of undiluted fruit juice concentrate and yogurt. Freeze with a popsicle stick in the center.

Banana dog:

Spread hot dog bun with peanut butter, drizzle with honey. Lay whole banana on top. Cut as desired.

Banana yogurt popsicle:

Mix equal parts of mashed bananas and vanilla yogurt. Freeze in cubes with a popsicle stick in the center.

Fruit burrito:

Place chopped fruit in a tortilla. Add a dash of cinnamon.

GRAINS/BREADS

Raisin-bran or
blueberry muffin
and milk

Breadsticks and juice

Quick-bread fingers:
zucchini bread, pumpkin
bread, banana bread

Fig bars and milk

Graham crackers and milk

Bagel half and juice

Crackers with peanut butter

Crackers with cheese slices

Raisin bread squares
and orange juice

Baked tortilla chips
with salsa

Melba toast and juice

Pretzels and juice

More interesting combos...**Frosty fruit:**

*Serve frozen grapes,
frozen melon balls,
or frozen berries
with milk.*

Trail mix:

*Mix might include peanuts,
miniature marshmallows,
raisins, dates, and
other dried fruit.*

Foods that may cause choking include the following...

hot dogs	nuts and seeds	raw carrots
raisins	chunks of meat	peanut butter (spoonfuls)
whole grapes	marshmallows	round or hard candy
chips	popcorn	pretzels
raw celery	cherries with pits	large pieces of fruit with skin

Some foods can be offered if you change the form. Here are suggestions...

- 1) Cut hot dogs lengthwise into thin strips.
- 2) Steam carrots or celery until slightly soft, then cut in sticks.
- 3) Cut grapes or cherries in small pieces.

Adjusting Recipes

The recipes in this package are standardized to yield both 25 and 50 servings. For example, if you look at the recipe for Corn Chowder, you will see directions to make either 25 servings ($\frac{1}{2}$ cup or 4 oz each) or 50 servings ($\frac{1}{2}$ cup or 4 oz each).

Since few child care centers serve exactly 25 or 50 portions, you may need to increase or decrease the quantities of ingredients to produce the number of servings you need. This information card will help you do this by answering the following questions:

1. How will you calculate the quantities of food needed in a recipe?
2. How will you use the Marketing Guide (listed in some recipes in this package) to calculate the quantities of food needed?

Fractions to Decimal Equivalents

$\frac{1}{8}$	=	0.12
$\frac{1}{4}$	=	0.25
$\frac{3}{8}$	=	0.37
$\frac{1}{2}$	=	0.50
$\frac{5}{8}$	=	0.62
$\frac{3}{4}$	=	0.75
$\frac{7}{8}$	=	0.87

As you do calculations, refer to Information Card 18, “Converting Common Measures, Common Weights, and Metric Equivalents.” Also use this table, which shows decimal equivalents of common fractions.

1. *How will you calculate the quantities of food needed in a recipe?*

Here is a suggested procedure:

1. On the front of the recipe, in the column headed “For __ Servings,” write the number of servings needed.

For example: For 160 Servings

2. Divide this number by 50 (servings) to obtain a *factor*.

For example: 160 divided by 50 (servings) = 3.2 (factor)

3. Multiply the amount of each ingredient in the 50 servings column (weight or measure) by the *factor* to obtain the amount to prepare for the adjusted number of servings.

Remember to use the weights or measures from the 50 servings column and to choose between alternative ingredients, if given. Adjusting a recipe by weight is recommended; however, if volume measures will be used in preparing the recipe, adjust by volume measures.

4. Write the adjusted amount on the line in the “For __ Servings” column across from each ingredient. See examples below for adjusting by weight or volume.

■ Adjusting by Weight: Two Examples

Example 1:

The recipe specifies 14 ounces of an ingredient for 50 servings. The factor obtained by the previous calculation is 3.2. Make the following calculation:

$$\begin{array}{rclcl} 14 \text{ ounces} & \times & 3.2 & = & 44.8 \text{ ounces} \\ \text{(amount for} & & \text{(factor)} & & \text{(amount in} \\ 50 \text{ servings)} & & & & \text{adjusted recipe)} \end{array}$$

Convert 44.8 ounces into pounds and ounces. Using Information Card 18, “Converting Common Measures, Common Weights, and Metric Equivalents,” you’ll see that 44.8 ounces is 2 lb 12.8 ounces.

The decimal .8 will need to be changed to the nearest measurable amount, 1 ounce.

Example 2:

The recipe specifies 1 lb 8 oz of an ingredient for 50 servings. The factor obtained by the previous calculation is 3.2. First, change the ounce measure to the decimal part of a pound. In this case, it would be 1.5 pounds:

$$\begin{array}{rcl} 1 \text{ lb } 8 \text{ oz} & = & 1.5 \text{ lb} \\ \text{(amount for} & & \text{(decimal} \\ 50 \text{ servings)} & & \text{equivalent)} \end{array}$$

Multiply 1.5 lb by the factor.

$$\begin{array}{rclcl} 1.5 \text{ lb} & \times & 3.2 & = & 4.8 \text{ lb} \\ & & \text{(factor)} & & \text{(amount in} \\ & & & & \text{adjusted recipe)} \end{array}$$

Convert the decimal part of the pound (.8) to the nearest measurable amount (13 ounces or $\frac{7}{8}$ pound).

■ Adjusting by Volume (Measure): Two Examples

Example 1:

The recipe specifies 2 cups of an ingredient for 50 servings. The factor obtained by the previous calculation is 3.2. Make the following calculation:

$$\begin{array}{rclcl} 2 \text{ cups} & \times & 3.2 & = & 6.40 \text{ cups} \\ \text{(amount for} & & \text{(factor)} & & \text{(amount in} \\ 50 \text{ servings)} & & & & \text{adjusted recipe)} \end{array}$$

Increase 6.40 cups to the next higher measurable amount, 6.50 cups ($6\frac{1}{2}$ cups). See “Fractions to Decimal Equivalents” on page 63.

Example 2:

The recipe specifies $1\frac{1}{4}$ cups for 50 servings. The factor obtained by the previous calculation is 3.2. Change the fraction to the nearest decimal equivalent. (See page 63.)

$$\begin{array}{rclcl} 1\frac{1}{4} \text{ cups} & = & 1.25 \text{ cups} \\ \text{(amount for} & & \text{(decimal equivalent)} \\ 50 \text{ servings)} & & \end{array}$$

Multiply 1.25 cups by the factor.

$$\begin{array}{rclcl} 1.25 \text{ cups} & \times & 3.2 & = & 4 \text{ cups} \\ \text{(factor)} & & & & \text{(amount in} \\ & & & & \text{adjusted recipe)} \end{array}$$

2. *How will you use the Marketing Guide (listed in some recipes in this package) to calculate the quantities of food needed?*

Some recipes call for fruits and vegetables that need further preparation after purchasing. For example, a recipe might call for 2 cups of peeled, sliced apples. The Marketing Guide tells you what quantity of apples to purchase in order to obtain 2 cups of peeled slices.

If you are adjusting a recipe to obtain fewer or more than 25 or 50 servings, you will need adjusted quantities listed in the Marketing Guide. Here's how you will do this:

1. In the column headed "For ___ Serving Recipe," write the number of servings needed.
2. Note the factor you have used to adjust recipe ingredients. For example, the factor used in the examples above was 3.2. Using that factor, calculate the amount of each ingredient to purchase as follows:
 - Looking at the Marketing Guide, find the weight or volume measure listed in the column called "For 50-Serving Recipe."
 - Multiply this figure by the factor.
3. Write the amount to purchase in the "For ___ Serving Recipe" column across from each food item.

The Marketing Guide will indicate the amount needed if good quality food is purchased and prepared by methods that result in a minimum of waste. More food may be needed to obtain the amount specified in the recipe if lower quality food is used and preparation losses are above average.



Weighing and Measuring Ingredients

The recipes in this package list both weight and volume measures for most ingredients. However, for liquids and for ingredients in amounts less than 2 ounces, only volume measures are given.

Keep in mind that weighing is more accurate than measuring. Whenever possible, weigh the ingredients.

If scales are not available, be sure to use the correct methods of measuring ingredients as suggested below. In general, to measure liquid and dry ingredients:

- Use standard measuring equipment and/or utensils.
- Make measurements level.
- Use the *largest* appropriate measure to save time and to reduce margin of error. For example, use a 1-gallon measure one time rather than a 1-quart measure four times. (*Exception:* To measure flour, use no larger than a 1-quart measure. Otherwise, flour will pack.)

Here are measuring procedures for common foods:

Flour (white or whole-grain) or meal (such as cornmeal):

Stir flour and then spoon flour lightly into measure and level off with straight-edged knife or spatula. (Recipes were standardized *without* sifting.)

Do not shake or tap measure.

Be sure flour does not pack. (Flour should be measured in nothing larger than a quart.)

Nonfat dry milk:

Stir lightly. Spoon into measure and level off with a spatula.

Dried whole eggs:

Spoon lightly into measure and level off with a spatula.

Sugar, granulated, white or brown:

Spoon into measure and level off with a spatula. If lumpy, sift before measuring.

Brown sugar, packed:

If lumpy, roll out lumps with rolling pin. Pack regular brown sugar firmly into measure. The sugar should take the shape of the container when turned out.

Baking powder, baking soda, and dry spices:

Stir lightly. Fill measuring spoons to heaping. Level with spatula.

Butter, margarine, and shortening:

Press solid fat firmly into measure and level off with spatula.

When formed in measureable sticks or pounds, simply slice off the amount needed. For easy measuring:

- 1 stick ($\frac{1}{4}$ pound) measures $\frac{1}{2}$ cup.
- 4 sticks (1 pound) or a 1-pound block measures 2 cups.

Converting Common Measures, Common Weights, and Metric Equivalents

The tables on pages 72 and 73 are designed to help you convert parts of tablespoons, cups, quarts, gallons, and pounds to accurate measures, weights, or metric units.

Use the Common Measures Table to change teaspoons to tablespoons, tablespoons to cups, cups to quarts, quarts to gallons, or any combination.

Use the Common Weights Table to change ounces to parts of pounds, or parts of pounds to ounces. The following examples show how this works.

Example 1: COMMON MEASURES

Using the Common Measures Table (see page 72), determine the number of cups in $\frac{1}{8}$ gallon, using these steps:

1. Locate the table that includes gallon measures; look down the gallon column to $\frac{1}{8}$ gal. The table shows that:

$$\frac{1}{8} \text{ gal} = \frac{1}{2} \text{ qt}$$

2. Locate the table that includes quart and cup measures; look down the quart column to $\frac{1}{2}$ qt. The table shows that:

$$\frac{1}{2} \text{ qt} = 2 \text{ cups}$$

These steps can be followed in reverse order to find, for example, the part of a gallon which equals 2 cups.

Example 2: COMMON WEIGHTS

Using the Common Weights Table (page 73), change ounces to parts of pounds or parts of pounds to ounces.

1. To determine what part of a pound 8 ounces is, look down the table to 8 oz.
2. Note that the table shows that 8 oz = $\frac{1}{2}$ lb.

COMMON MEASURES TABLE

Teaspoons (tsp) to Tablespoons (Tbsp)

3 tsp	=	1 Tbsp
2 ¹ / ₂ tsp	=	⁷ / ₈ Tbsp
2 ¹ / ₄ tsp	=	³ / ₄ Tbsp
2 tsp	=	² / ₃ Tbsp
1 ⁷ / ₈ tsp	=	⁵ / ₈ Tbsp
1 ¹ / ₂ tsp	=	¹ / ₂ Tbsp
1 ¹ / ₈ tsp	=	³ / ₈ Tbsp
1 tsp	=	¹ / ₃ Tbsp
³ / ₄ tsp	=	¹ / ₄ Tbsp

Tablespoons (Tbsp) to Cups

16 Tbsp	=	1 cup
14 Tbsp	=	⁷ / ₈ cup
12 Tbsp	=	³ / ₄ cup
10 ² / ₃ Tbsp	=	² / ₃ cup
10 Tbsp	=	⁵ / ₈ cup
8 Tbsp	=	¹ / ₂ cup
6 Tbsp	=	³ / ₈ cup
5 ¹ / ₃ Tbsp	=	¹ / ₃ cup
4 Tbsp	=	¹ / ₄ cup
2 Tbsp	=	¹ / ₈ cup
1 Tbsp	=	¹ / ₁₆ cup

Cups to Quarts (qt)

4 cups	=	1 qt
3 ¹ / ₂ cups	=	⁷ / ₈ qt
3 cups	=	³ / ₄ qt
2 ² / ₃ cups	=	² / ₃ qt
2 ¹ / ₂ cups	=	⁵ / ₈ qt
2 cups	=	¹ / ₂ qt
1 ¹ / ₂ cups	=	³ / ₈ qt
1 ¹ / ₃ cups	=	¹ / ₃ qt
1 cup	=	¹ / ₄ qt
¹ / ₂ cup	=	¹ / ₈ qt
¹ / ₄ cup	=	¹ / ₁₆ qt

Quarts (qt) to Gallons (gal)

4 qt	=	1 gal
3 ¹ / ₂ qt	=	⁷ / ₈ gal
3 qt	=	³ / ₄ gal
2 ² / ₃ qt	=	² / ₃ gal
2 ¹ / ₂ qt	=	⁵ / ₈ gal
2 qt	=	¹ / ₂ gal
1 ¹ / ₂ qt	=	³ / ₈ gal
1 ¹ / ₃ qt	=	¹ / ₃ gal
1 qt	=	¹ / ₄ gal
¹ / ₂ qt	=	¹ / ₈ gal
¹ / ₄ qt	=	¹ / ₁₆ gal

COMMON WEIGHTS TABLE

Ounces (oz) to Pounds (lb)

16 oz	=	1 lb
14 oz	=	$\frac{7}{8}$ lb
12 oz	=	$\frac{3}{4}$ lb
$10\frac{2}{3}$ oz	=	$\frac{2}{3}$ lb
10 oz	=	$\frac{5}{8}$ lb
8 oz	=	$\frac{1}{2}$ lb
6 oz	=	$\frac{3}{8}$ lb
$5\frac{1}{3}$ oz	=	$\frac{1}{3}$ lb
4 oz	=	$\frac{1}{4}$ lb
2 oz	=	$\frac{1}{8}$ lb
1 oz	=	$\frac{1}{16}$ lb

COMMON TO METRIC

Weight

2.2 lb	=	1 kilogram (kg)
2 lb	=	907 grams (g)
1 lb	=	454 g
8 oz	=	227 g
4 oz	=	113 g
1 oz	=	28 g
$\frac{3}{4}$ oz	=	21 g
$\frac{1}{2}$ oz	=	14 g
$\frac{1}{4}$ oz	=	7 g

Fluid Measure, Volume

1.05 qt	=	1 liter (l)
1 quart	=	946 milliliters (ml)
1 cup	=	237 ml
$\frac{1}{2}$ cup	=	118 ml
$\frac{1}{4}$ cup	=	59 ml



Can Sizes (Common Weights and Measures)

Can Size*	Average Net Weight of Fluid Measure Per Can**	Average Volume Per Can in Cups	Cans Per Case	Approximate No. of Cans Equal to One No. 10 Can***	Common Products Found in Can Size
Institutional Size:					
No. 10	6 lb 2 oz (98 oz) to 7 lb 5 oz (117 oz)	12 to 13 ² / ₃	6	1	Fruits, vegetables, other foods
No. 3 Cyl	51 oz (3 lb 3 oz) or 46 fl oz (1 qt 1 ⁷ / ₈ cups)	5 ³ / ₄	12	2	Condensed soups, vegetables, meats and poultry, juices
No. 5 Squat	4 lb to 4 ¹ / ₄ lb	8	16 to 20	1 ¹ / ₂	Tunafish, sweet potatoes
Family Size:					
No. 2 ¹ / ₂	26 oz (1 lb 10 oz) to 30 oz (1 lb 14 oz)	3 ¹ / ₂	24	3 ¹ / ₂	Fruits, vegetables
No. 2 Cyl	24 fl oz (3 cups)	3	24	4	Juices, soups
No. 2	20 oz (1 lb 4 oz) or 18 fl oz (2 ¹ / ₄ cups)	2 ¹ / ₂	24	5	Juices, ready-to-serve (RTS)**** soups, fruits

PREPARATION TIPS

Can Size*	Average Net Weight of Fluid Measure Per Can**	Average Volume Per Can in Cups	Cans Per Case	Approximate No. of Cans Equal to One No. 10 Can***	Common Products Found in Can Size
Small Cans:					
303	16 oz (1 lb) to 17 oz (1 lb 1 oz)	2	24 or 36	6½	Fruits, vegetables, meats and poultry, RTS**** soups
No. 300	14 oz to 16 oz (1 lb)	1¾	24	7	Fruits, meats, vacuum-packed corn
No. 2	12 oz	1½	24	8 to 9	Fruits, meats
(Vacuum)					
No. 1	10½ oz to 12 oz	1¼	48	10 to 11	Condensed soups, fruits, vegetables, meats, fish
(Picnic)					
8 oz	8 oz	1	48 or 72	12	RTU**** soups, fruits, vegetables

* Can sizes are industry terms and do not necessarily appear on the label.

** The net weight on can or jar labels differs according to the density of the contents. For example: a No. 10 can of sauerkraut weighs 6 lb 3 oz; a No. 10 can of cranberry sauce weighs 7 lb 5 oz. Meats, fish, and shellfish are known and sold by weight of contents.

*** Number of cans to equal a No. 10 can are approximate measures. More exact measures can be made by using exact volume or weight of contents.

**** RTU = Ready-to-use.
 RTE = Ready-to-eat.
 RTS = Ready-to-serve.

Portion Control

Each of the recipes in this package indicates the size of one serving. It is important to follow the given serving size as closely as possible.

This will enable you to: (1) serve the correct amount of food to each child; (2) obtain the number of servings the recipe has been standardized to yield.

Scoops, ladles, or spoons of standard sizes help in serving equal-size portions. Here is more information on each:

Ladles

The following sizes of ladles will help you obtain equal-size servings of soups, sauces, creamed foods, and other similar foods. Perforated ladles are available for accurate portioning of foods that need draining.

<i>This ladle size:</i>	<i>Contains approximately:</i>
1 oz	1/8 cup
2 oz	1/4 cup
4 oz	1/2 cup
6 oz	3/4 cup
8 oz	1 cup

Scoops (or Dishers) (or Dippers)

These are numbered according to size. The number, on the end of the handle or the strip inside, indicates how many level scoopfuls it takes to make 1 quart. The following table gives approximate measures for a variety of scoop sizes:

<i>Size</i>	<i>Measure</i>
6	2/3 cup
8	1/2 cup
10	3/8 cup
12	1/3 cup
16	1/4 cup
20	3 1/3 Tbsp
24	2 2/3 Tbsp
30	2 Tbsp
40	1 2/3 Tbsp
50	3 3/4 tsp
60	3 1/4 tsp
70	2 3/4 tsp
100	2 tsp

Serving Spoons

A serving spoon (solid or slotted) may be used instead of a scoop. Since these spoons are not identified by number, for portion control be sure to measure or weigh the quantity of food a particular spoon holds.

Measuring Cups

A measuring cup can be used in place of a scoop (or disher or dipper). Measuring cups are not as expensive to purchase.



Pan Sizes and Capacities

PAN SIZES AND CAPACITIES

Pan	Size	Capacity
Steamtable Pans*	12" x 20" x 2"	8 qt
Half-Steamtable Pans	12" x 10" x 2"	4 qt
Cake Pans	26" x 18" x 2"	8 to 10 lb
Sheet Pans	26" x 18" x 1"	4 to 6 lb
Half-Sheet Pans	13" x 18" x 1"	2 to 3 lb
Quarter-Sheet Pans	13" x 9" x 1"	1 to 1½ lb
Cake Pan	9" x 13" x 2"	1 to 1½ lb
Bread Pan	5" x 6" x 4"	3 to 5 lb

* The size of steamtable pans may vary according to manufacturer.

COMMON KITCHEN PANS TO USE AS CASSEROLES

When the recipe calls for:

Use:

4-cup baking dish

9" pie plate
8" x 1¹/₄" layer cake pan
7³/₈" x 3⁵/₈" x 2¹/₄" loaf pan

6-cup baking dish

8" or 9" x 1¹/₂" layer cake pan
10" pie plate
8¹/₂" x 3⁵/₈" x 2⁵/₈" loaf pan

8-cup baking dish

8" x 8" x 2" square pan
11" x 7" x 1¹/₂" baking pan
9" x 5" x 3" loaf pan

10-cup baking dish

9" x 9" x 2" square pan
11³/₄" x 7¹/₂" x 1³/₄" baking pan
15" x 10" x 1" jelly-roll pan

12-cup baking dish

13¹/₂" x 8¹/₂" x 2" glass baking dish
13" x 9" x 2" metal baking pan
14" x 10¹/₂" x 2¹/₂" roasting pan

Substituting Ingredients in Recipes

Be careful when substituting ingredients in recipes. The following list shows foods and quantities that may be used successfully in place of other ingredients.

In place of this....	Use this...
1 teaspoon baking powder	$\frac{1}{4}$ teaspoon baking soda <i>plus</i> $\frac{5}{8}$ teaspoon cream of tartar
1 tablespoon double-acting baking powder	$\frac{3}{4}$ teaspoon baking soda plus $1\frac{1}{2}$ cups buttermilk or sour milk (to replace $1\frac{1}{2}$ cups liquid)
1 package active dry yeast ($\frac{1}{4}$ ounce)	$2\frac{1}{4}$ teaspoons active dry yeast
1 ounce active dry yeast	$\frac{3}{4}$ ounce instant yeast (check manufacturer's instructions) <i>OR</i> 2 ounces compressed yeast
1 cup fluid whole milk	$\frac{1}{3}$ cup instant nonfat dry milk <i>plus</i> 1 cup water and $2\frac{1}{2}$ teaspoons margarine or butter
1 cup cake flour	1 cup all-purpose flour <i>minus</i> 2 tablespoons
1 cup flour (for thickening)	$\frac{1}{2}$ cup cornstarch <i>OR</i> $\frac{2}{3}$ cup granulated tapioca
1 tablespoon flour (for thickening)	$\frac{1}{2}$ tablespoon cornstarch <i>OR</i> 2 teaspoons quick-cooking tapioca

PREPARATION TIPS

Information
Card **22**

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In place of this....	Use this...
1 ounce or 1 square chocolate	3 tablespoons cocoa <i>plus</i> 1 tablespoon butter or margarine
1 cup butter	1 cup margarine
1 cup shortening	1 cup to 1 ¹ / ₈ cups butter; also <i>subtract</i> 1/2 teaspoon salt from the recipe
1 cup shortening or butter	1/2 cup shortening or margarine <i>and</i> 1/2 cup applesauce
2 No. 10 cans tomato puree	1 No. 10 can tomato paste <i>plus</i> 1 No. 10 can water
8 ounces tomato puree	4 ounces tomato paste <i>plus</i> 4 ounces water
4 No. 10 cans tomato juice	1 No. 10 can tomato paste <i>plus</i> 3 No. 10 cans water
1 46-oz can tomato juice	11 ¹ / ₂ ounces tomato paste <i>plus</i> 34 ¹ / ₂ ounces water
1 cup sour milk or buttermilk	1 cup milk <i>plus</i> 1 tablespoon lemon juice or vinegar (let stand 5 minutes) <i>OR</i> 1 cup milk <i>plus</i> 1 ³ / ₄ teaspoons cream of tartar
1 quart lemon juice	1 cup lemon juice concentrate (3 to 1) <i>plus</i> 3 cups water
12 fresh eggs	2 ¹ / ₂ cups fresh eggs or frozen liquid pasteurized eggs, thawed <i>OR</i> 6 oz (2 cups) dried whole sifted eggs mixed with 2 cups water

A Guide to Cooking Terms and Abbreviations for Measures

Below are some of the common terms used in cooking. You will find many of these used in the recipes in this package.

At the end of this card, you'll also find: (1) a list of terms used to describe oven temperatures; and (2) abbreviations for common measures.

Glossary of Cooking Terms

Al dente	An Italian cooking term meaning to cook until tender but still slightly firm. Translated literally from Italian “to the tooth,” the term is usually used to describe cooking pasta, but it can also apply to vegetables.
A.P.	An abbreviation for “As Purchased” weight (in other words, before trimming or other preparation).
Bake	To cook by dry heat, usually in an oven. A suitable cooking method for meat, bread, and casseroles.
Barbecue	To roast or broil a food which is usually brushed with a highly seasoned sauce.
Baste	To spoon liquids, sauce, or meat juice over food to keep it moist during cooking and to add flavor.
Batch cooking	To cook smaller “batches” of food (rather than cooking one large amount and holding it throughout the meal). Also: cooking in smaller batches to meet the demand of children who eat at different times. Batch cooking is often done in food service with foods (such as pasta, steamed spinach, and hamburgers) that will not retain their fresh properties if large quantities are made and held.

Batter	A thin mixture of flour and liquid which can be poured or dropped from a spoon, such as for pancakes. Also, “to batter” means “to coat with batter.”
Beat	To mix vigorously by hand or with mixing equipment to make a mixture light, fluffy, or smooth.
Blend	To mix (stir) two or more ingredients.
Boil	To cook rapidly in water or liquid so that bubbles rise and break on the surface.
Braise	To cook slowly in a covered container with a small amount of liquid or water. A suitable cooking method for less tender cuts of meat.
Bread (Dredge)	To coat food with bread crumbs, cracker crumbs, or flour before cooking.
Broil	To cook by direct heat from a flame, electric unit, or glowing coals; a suitable cooking method for tender cuts of meat.
Brown	To cook food, generally meat, until it is uniformly brown on all sides.
Chill	To cool a food with ice water or refrigeration.
Chop	To cut food into small pieces with a knife or chopping equipment.
Convection oven	A more rapid way of cooking and browning foods due to a strong circulation of hot air.
Cream	To work foods (such as shortening and sugar) together with a spoon or mixer, until soft, fluffy, and thoroughly blended.
Crumb (Coat)	To cover with crumbs, flour, or sugar.
Cut in	To mix solid fat, such as butter or margarine, into dry ingredients with a cutting motion until the shortening remains in small particles.
Dice	To cut into small cubes with a knife or cutting equipment.
Dough	A stiffer version of a batter, such as for bread or cookies.

Dredge (Bread)	To coat a food by dipping in crumbs, flour, cornmeal, sugar, or other coatings.
Fold	To combine food ingredients into a mixture using gentle turning motions (as few as possible) until the ingredients are blended.
Fry	To cook food in a small amount of fat over heat in a skillet, pan, or griddle. This can also refer to “deep frying” or “French-frying” in a large volume of preheated fat.
Glaze	To coat with an egg, sugar, or gelatin mixture to produce a glossy appearance on a food.
Grind	To mince or pulverize food, such as meat, into small particles by using a food chopping device or meat grinder.
IQF	An acronym for “Individually Quick Frozen.”
Julienne	To cut into thin, short strips.
Knead	To work with dough, such as bread dough, by pressing, folding, and stretching to develop the gluten in the dough structure.
Marinate	To modify a food’s flavor or texture by soaking, for a period of time, in a medium of oil, acid, and flavorings. Meats and vegetables are sometimes marinated, especially if they are to be grilled.
Melt	To turn a solid food into a liquid by heating.
Mince	To finely chop food, such as garlic, into very small pieces.
Mix	To blend or combine two or more foods or ingredients.
Parboil	To boil in water briefly as a preliminary cooking step. May be used with vegetables or meat before roasting or barbecuing.
Pare	To thinly trim off the outer covering or skin of a food, such as potatoes.
Peel	To strip off the outer covering of a food, such as oranges or bananas.
Punch down	To remove air bubbles from risen yeast dough by pushing the dough down with the fists.

Reconstitute	To restore a concentrated food (such as a juice concentrate) to its original strength by adding liquid; to restore dried foods (such as nonfat dry milk or onions) to their original state by adding liquid.
Rehydrate	To add fluids back into a dried food such as dehydrated onions.
Roast	To bake without water, uncovered, in an oven. A suitable cooking method for tender meats or poultry.
Saute	To cook in a small amount of fat at a very high heat until tender.
Scald	To heat a liquid, such as milk, to a temperature just below the boiling point. Tiny bubbles will appear around the edge of the pan.
Score	To make shallow cuts lengthwise and crosswise on the surface of a dough or meat.
Shred	To cut or grate foods into narrow strips.
Simmer	To cook in liquid that is kept just below the boiling point.
Slice	To cut a food with a knife or slicing equipment.
Steam	To cook food in steam generated by boiling water or steam equipment.
Stir	To mix ingredients with a circular motion without beating.
Stir-fry	To quickly cook, in a small amount of oil, tossing and stirring lightly to preserve the shape of the food.
Stock	A natural soup or gravy base made from cooking vegetables, meat, fish, or poultry, in water.
Tender-crisp	To cook vegetables until “tender-crisp” means to cook until they are just beginning to become tender. Vegetables cooked this way remain bright in color.
Whip	To rapidly beat a food, such as eggs or cream, incorporating air to lighten the mixture and to increase its volume. Usually, whipping is done with a whisk, fork, or mixing equipment.

Terms Used to Describe Oven Temperatures

If this term is used Oven temperature should be between:

Very slow oven	250° and 275°F
Slow oven	300° and 325°F
Moderate oven	350° and 375°F
Hot oven	400° and 425°F
Very hot oven	450° and 475°F
Extremely hot oven	500° and 525°F

Some things to keep in mind:

- 1. Always pre-heat your oven.** At least 10 to 15 minutes prior to putting foods in the oven to cook or bake, turn the oven on, set to the temperature specified in the recipe.
- 2. Calibrate ovens regularly and check them often.** Check ovens frequently with oven thermometers to make sure preset temperatures are being reached. In the event of an unstable temperature, your local utility company will be able to re-calibrate the oven temperature, correctly, for you.

Abbreviations of Measures

teaspoon	tsp
tablespoon	Tbsp
ounce	oz
fluid ounce	fl oz
pound	lb or #
pint	pt
quart	qt
gallon	gal
weight	wt
number	No.
package	pkg



Making Sandwiches

Sandwiches may be served hot or cold, closed or open-faced. They can be made with many different types of breads and rolls. To add variety to your menus, include breads and rolls with different flavors, textures, sizes, and shapes.

Besides enriched white bread, for example, consider using whole wheat, rye, pumpernickel, French, raisin, Italian, Boston brown, or cheese bread made with whole-grain or enriched flour.

Hamburger rolls, frankfurter rolls, hard and soft rolls, pitas, English muffins, tortillas, and bagels all make good sandwich bases. Breads with a relatively firm texture make good sandwiches for eating out-of-hand because they won't bend or lose fillings.

Below, you will find important food handling precautions, followed by a list of suggested tools and equipment, and directions for making sandwiches. (For information on what makes a product acceptable to serve as a grains/breads for CACFP, see Information Card 2.)

Food Handling Precautions:

- 1. Make sandwiches the day they are to be served.** Make them a tray at a time, so that they can be immediately refrigerated after preparation.
- 2. Make appropriate quantities of prepared fillings.** Make prepared fillings only in such quantities as will be used during one serving period. Avoid leftovers. Never hold over any perishable protein foods or fillings.
- 3. Handle bread and fillings as little as possible during preparation.** Avoid having your hands be in direct contact with foods if tools or equipment can do the job efficiently.
- 4. Wear disposable plastic gloves if possible.** Disposable plastic gloves should be considered necessary equipment. Change gloves frequently to avoid tearing and to prevent excessive perspiration. If you cannot wear gloves, be sure to wash hands frequently.

Also, change gloves during or between tasks as needed to avoid contaminating the food. For example, after carrying a tray of sandwiches to the refrigerator, put on new gloves (or wash your hands) before returning to food preparation. Since you have touched the handle of the refrigerator door, which is contaminated, it is unsafe to return to handling food without changing gloves (or washing your hands).

5. Avoid stacking sandwiches more than three high in the refrigerator. This is important because foods stored in the refrigerator need to reach the desired cold temperature within a certain amount of time. If sandwiches are stacked more than three high, sandwich fillings will be insulated and will, therefore, not cool as quickly as they should.

Pre-Preparation

1. Have all ingredients ready to use. For example, pre-prepare all salad fillings and have them well-chilled. Continue to refrigerate salad fillings when not in use. Set appropriate scoop (dipper) nearby to ensure correct portion control.

If lettuce is desired, purchase dark green leaf lettuce; wash thoroughly; separate leaves, drain, and crisp. Allow 1 medium head for 25 whole sandwiches.

Evenly slice foods, such as tomatoes, cheese, and meats. For quick and easy pickup, cross-stack sliced ingredients such as cheese and meat.

2. Allow plenty of space to work. One slice of bread or a bun takes up at least 4 square inches.

3. Assemble all equipment and ingredients in advance. Place within easy reach toward back of table. Arrange ingredients in the order to be used.

Suggested Tools and Equipment

Cutting board	Scoops or dippers
Disposable plastic gloves	Spatula
Knives	Spoons
Mixing bowls	Storage pans
Sandwich bags or waxed paper	Trays

Assembly

How quickly can you assemble 25 sandwiches without jeopardizing quality or safety? You might be surprised. Here is a four-step process that works well.

To obtain 50 servings (1/2 sandwich per serving), assemble and cut 25 whole sandwiches as follows:

- STEP 1.** Using both hands (clean or gloved), grasp bread and place slices onto tray in 5 rows of 5 each.
- STEP 2.** With your left hand, scoop a portion of sandwich filling onto the center (or upper right) of each slice.
- STEP 3.** With your right hand, use a stroke of the spatula away from you and a stroke toward you to spread filling evenly to edges of bread. With your left hand, place lettuce (if using) on filling.

STEP 4. With both hands, grasp bread and place a slice over each filled slice, matching edges of bread. Stack sandwiches in twos. Hold sandwiches together with your thumb and first finger of your left hand.

With your right hand, cut through each stack, one stack at a time, using a sharp serrated knife. To prevent tearing the bread as you cut, use a sawing motion.

The illustration on pages 92 and 93 shows you these same steps for preparing 16 whole sandwiches to make 32 half-sandwich servings.

Holding Assembled Sandwiches

It's important to keep food safety in mind as you assemble and hold sandwiches. *Serve sandwiches the same day they are made.* Put in refrigerator as soon as assembled and store properly until serving time. To hold properly:

- If you are stacking sandwiches on trays, be sure to stack no more than three high so the cold air of the refrigerator can penetrate the filling of each sandwich.
- Cover the entire tray with waxed paper and a damp cloth, to hold under refrigeration until serving time.

- or -

Place sandwiches in sandwich bags; fold in waxed paper; or place in pans with covers. Refrigerate until serving time.

MAKING SANDWICHES — QUICKLY AND SAFELY

Below is a method to make a large number of sandwiches in a short amount of time. Sandwich makers may adapt the technique to meet the needs of each individual food service setting.

Have ready within easy reach:

Tools

- Serrated knife
- Spatula
- Scoop (size according to recipe portion instructions)
- Plastic wrap
- Disposable plastic gloves
- Storage tray or bins
- Cutting surface

Foods

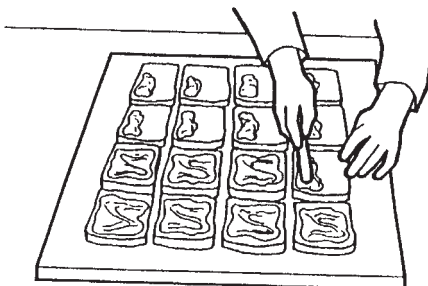
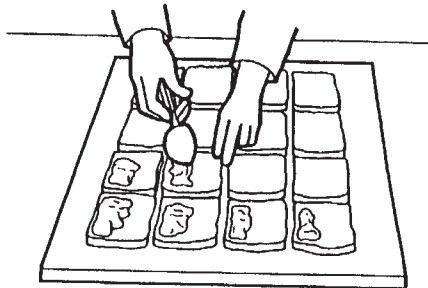
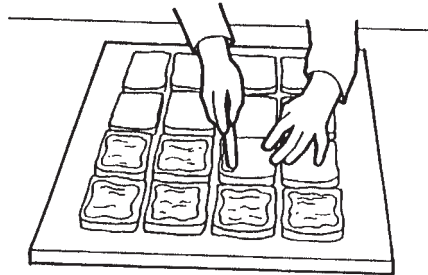
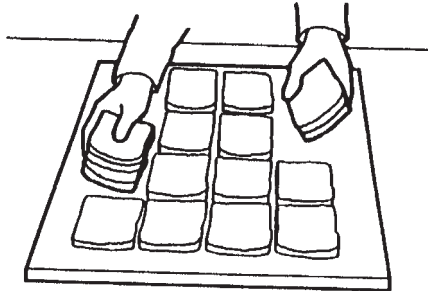
Loaves of sliced bread

Sandwich spread (optional):

Mayonnaise, mustard, spreadable butter or margarine

Sandwich filling(s): Sliced meat, sliced cheese, peanut butter; or prepared fillings such as tuna salad, egg salad, or chicken or turkey salad

Fresh vegetables: Lettuce, sliced tomatoes, etc., rinsed and drained



Pre-Preparation

1. If desired, freeze bread a day ahead. Working with frozen bread allows easier spreading of fillings that tend to tear fresh bread.
2. Make prepared fillings only in the amount that will be used during one serving period. Refrigerate prepared fillings until sandwiches are to be made.

Assembly

1. For 16 sandwiches, pick up four slices of bread in each hand. Lay them out in a single row and repeat, making a square of 4 x 4 (16 slices).
2. Dip spatula in sandwich spread (if using). Spread from right to left, covering each slice of bread.
3. *If using sandwich fillings:* Dip scoop in filling and level against the edge of the container. Place filling on each slice of bread. With spatula, spread filling to upper left then lower right, then down to lower left, using an “S” motion.

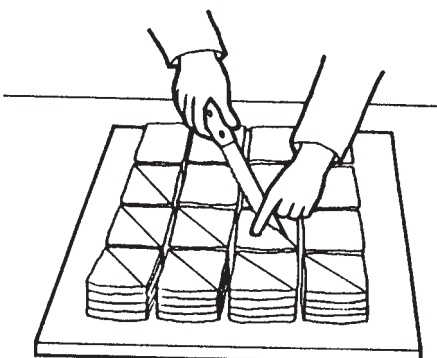
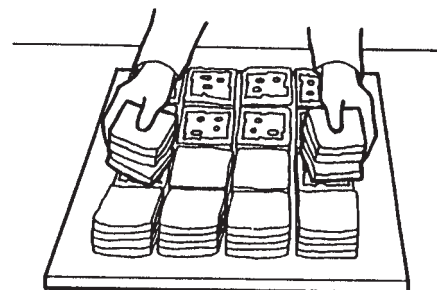
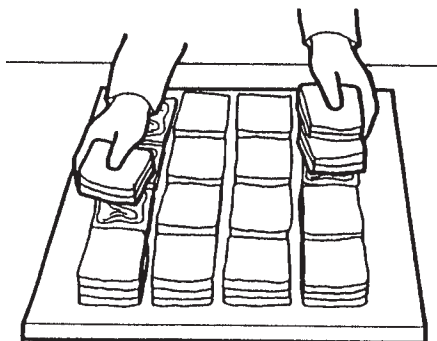
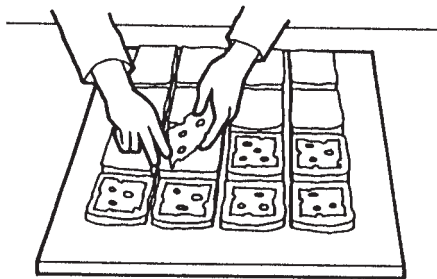
If using pre-sliced ingredients (such as meat or cheese):

For easy handling, prior to assembly, cross-stack pre-sliced ingredients. When ready to assemble, place on bread. Add lettuce, tomatoes, etc., as desired.

4. For second layer, pick up four slices of bread in each hand, place *two* slices on each filled slice. The second slice forms the bottom of the next layer of sandwiches.

5. Repeat Steps 2, 3, 4. Top final layer of filled sandwiches with slices of bread.

Do not stack more than three layers of sandwiches. The weight tends to crush the bottom layer if stacked higher. Also, higher stacks prevent sandwich fillings from being properly chilled during refrigerator storage.



6. Cut through entire stack of sandwiches diagonally, starting in upper left corner. Use thumb and forefinger to steady sandwiches. Use serrated knife with a sawing motion. Wrap sandwiches individually or place on storage trays. Keep covered and airtight. Refrigerate. Serve the same day as prepared.

Note: Wear disposable plastic gloves when preparing or handling sandwiches. Handle bread and fillings as little as possible during preparation.



Guidelines for Preparing Fresh Vegetables

A note about storing fresh vegetables:

Most fresh vegetables should be stored in plastic bags in the refrigerator. Some fresh vegetables, such as asparagus, beans, brussels sprouts, greens, and peas, should be used as quickly as possible.

Potatoes, onions (both white and sweet), and uncut winter squash should be stored in a cool dark place at 45°F to 50°F, just above refrigerator temperature. If they must be stored at room temperature, use within 1 week. Never store these foods in the refrigerator; the starch will convert to sugar.

Tips for preparing fresh vegetables (for cooking or for serving raw):

- For broccoli, brussels sprouts, cauliflower, or greens: Begin by soaking in cold salted water (2 Tbsp salt per gallon of water) for $\frac{1}{2}$ hour. Rinse and drain before cooking or serving raw. (If insects are present, they are sometimes not visible until soaking. This is an important reason for this step.)
- Some of the hardier vegetables, such as potatoes, will need to be scrubbed with a vegetable brush to remove dirt from the crevices.
- If a cooked vegetable is to be served as a finger food, keep the pieces small enough to be picked up easily.
- If the vegetables are to be served raw, cut into shapes and sizes that children can easily pick up — for example, sticks $\frac{1}{4}$ - to $\frac{1}{2}$ -inch wide and 2 to 3 inches long. *To help prevent choking* (a hazard for small children), cut items into strips, rather than rounds or cubes.

Directions for Preparing Vegetables

Here are directions for preparing a variety of vegetables. Vegetables which make good finger foods are starred (*). Also see Information Card 11 for suggested finger foods.

Asparagus spears*	Break off the tough lower ends of the stalk. Wash. If sandy under scales, scrape off scales. Brush gently with a soft brush. Swish in water. These are a tasty finger food when cooked, cooled, and drained.
Beans, Blackeye Beans or Peas, or Lima	Shell. (Scald pods to make shelling easier.) Rinse.
Beans, green or wax*	Wash. Trim ends; remove any strings. Cut or break into 1-inch pieces, slit lengthwise into thin strips (for French-cut beans), or leave whole for a different type of finger food, after cooking.
Beets	Remove tops, leaving 2-inch stems on beets. Wash. Remove stems, roots, and peel after cooking.
Broccoli florets*	Cut off tough stalk ends. Wash. Cut florets from stalks. Save stalks to shred for coleslaw or to use chopped in salads. Chopped broccoli adds interest and crunch to salads. Broccoli florets make a simple-to-prepare finger food.
Broccoli spears*	Cut off tough stalk ends. Wash. Cut broccoli lengthwise, if thick, to speed cooking. Cut horizontally into thirds. After cooking, these make excellent finger foods.
Brussels sprouts*	Remove discolored outer leaves. Wash. For cooked vegetable, cut an X in the stem end to hasten cooking. When cooled, brussels sprouts make a no-fuss finger food.
Cabbage*	Remove discolored outer leaves. Wash thoroughly. Quarter and core. Crisp in cold water, if wilted. Shred or cut into 1/2-inch wedges. Wedges are more easily eaten as a finger food after cooking and cooling.
Carrots*	Wash. Scrape or peel with vegetable peeler. Cut off ends. Chop or cut into slices or sticks. Children enjoy carrots raw or cooked.

Cauliflower*	Remove outer leaves and stalks. Break into florets. Wash. Cauliflower florets make an attractive finger food either raw or cooked.
Celery*	Separate ribs; wash celery and scrub grooves with brush. Trim off root and blemishes. Chop, slice, or cut into sticks. For a finger food, fill with peanut butter, low-fat cottage cheese or reduced-fat cream cheese (thinned slightly with milk). Pimentos may be added to cream cheese for color or extra flavor. Well-drained, crushed pineapple is also an option.
Cherry tomatoes*	Wash, remove blossom-end stems. Should be halved for easier eating.
Corn on cob	Husk; remove silk. Rinse; do not allow to stand in water.
Cucumbers*	Wash. Peel if waxed or if skins are tough. Cut into strips, chunks, or wheels.
Eggplant	Wash. Peel and cut into pieces or slices. Hold in salted water (1 Tbsp salt per quart of water) to prevent darkening.
Green leafy vegetables (beet greens, chard, collards, kale, mustard greens, turnip greens)	Wash greens in water as many times as needed until there is no sand on the leaves. Lift greens out of water (instead of pouring off water) so that sand remains on the bottom of the sink. Strip leaves from tough stems and discard any discolored leaves.
Kohlrabi*	Peel and cut into match-like strips. Good raw or cooked.
Okra	Wash. Leave small pods whole and thickly slice the large ones.
Onions, mature	Peel; rinse. Quarter, if large, or cut as desired.
Peas, green	Shell. Rinse.
Peppers, green, yellow, red*	Wash. Cut out stem or blossom end and remove seeds and fibrous portion. Wash the inside. Cut or chop as desired.
Potatoes	Wash, scrubbing with vegetable brush. Peel (or do not peel if serving with skins). Remove eyes. Cut potatoes to serving size.

Radishes*

Wash, trim off root and stem end. Cut as desired, or leave whole. If mildly flavored, and not hot, radishes are a delicious crunchy finger food.

Rutabagas

Wash. Peel and cut as desired.

Spinach

Sort. Wash thoroughly. Cut off tough stems. Discard yellow and damaged leaves.

Squash, summer*

Wash. Cut off stem and blossom ends. Trim as desired. (It is not necessary to peel summer squash.) Slice, cut in fingers, or chop. Makes a mildly flavored finger food.

Squash, winter

Wash. Cut in half with a heavy bladed knife. Remove seeds, fiber, and peel. Cut into serving pieces. (If peel is hard and tough, soften by steaming or boiling 8 to 10 minutes.)

Sweet potatoes

Scrub, using brush. Peel (unless baking and serving with skins).

Tomatoes*

Wash. Cut out core. Cut into quarters, wedges, or slices.

(Tomatoes may be peeled by scalding. Dip the tomatoes, uncut, into boiling water for 30 seconds to 1 minute. Plunge into cold water and slip off skin. After peeling, core and cut as desired.)

Turnips*

Wash. Peel and cut as desired. For finger foods, cut into sticks; serve cooked or raw.

Braising or Pot Roasting Meats

(Moist Heat)

Less tender cuts of meat may be braised or pot roasted. Meat is cooked slowly with a small amount of liquid in a covered pan. See below for cooking directions.

On page 100 is a table listing suggested meat cuts for this method of cooking. The table provides information on:

- kind and cut of meat
- amount to buy for 50 servings (1¹/₂ oz each) of cooked lean meat
- thickness or size of piece
- cooking time

Directions for Cooking

1. Mix ¹/₄ teaspoon salt and 3 tablespoons flour per pound of meat and sprinkle on or rub into the meat, if desired, to increase browning.
2. Brown meat in oil, as needed, in a heavy pot or a Dutch oven to develop aroma, flavor, and color.
3. Add small amount of water; add more water if needed during cooking.
4. Cover pan; simmer (do not boil) on top of range or bake at 325°F (slow oven).
5. Cook until meat is tender. Use timetable below as a guide to cooking time.
6. Remove meat from pan. Cool 10 to 20 minutes, drain fat and juices, slice and serve. Gravy may be made from remaining drippings, thickening with flour or cornstarch.

Suggested Meat Cuts: Amount to Buy and Cooking Timetable

Kind and cut of meat	For 50 servings (1½ oz each)	Thickness or size	Cooking time
Beef			
Chuck, rolled (pot roast)	8 lb 10 oz	5 lb to 15 lb	2½ hours to 3 hours
Chuck roast with bone (pot roast)	10 lb 12 oz	3 lb to 5 lb	3 to 4 hours
Round steak, boneless	6 lb 12 oz	¾-inch to 1-inch cubes	1½ hours to 2 hours
Stew meat	7 lb 4 oz	1½-inch cubes	1¼ hours to 1½ hours
Lamb			
Shoulder, rolled	8 lb 12 oz	3 lb to 5 lb	2 to 2½ hours
Stew meat	7 lb 4 oz	1½-inch cubes	1¼ hours to 1½ hours
Pork			
Chops, with bone	11 lb 9 oz	¾-inch thick	45 minutes to 1 hour
Veal			
Shoulder, rolled	8 lb	3 lb to 5 lb	1½ hours to 1¾ hours
Stew meat	7 lb 4 oz	1-inch cubes	1¼ hours to 1½ hours

Cooking Meats in Liquid

(Stewing)

Some less tender and highly flavored cuts of meat are commonly cooked (simmered) with enough water to cover. See below for cooking directions.

Also below is a table listing suggested meat cuts for this method of cooking. The table provides information on: kind and cut of meat; amount to buy for 50 servings (1½ oz each) of cooked lean meat; size or weight of each piece; cooking time.

Directions for Cooking

1. Place meat in a pot. Cover with water. Add ½ teaspoon salt (optional) per 2 pounds meat and other seasonings as desired.
2. Cover pan and simmer (do not boil) until tender. Use the timetable below as a guide to cooking time.

Suggested Meat Cuts: Amount to Buy and Cooking Timetable

Kind and cut of meat	Amount to buy for 50 servings (1½ oz each)	Size or weight of each piece	Cooking time
Beef			
Brisket, fresh, boneless	8 lb 7 oz	3 lb to 4 lb	2 to 3 hours
Stew meat, boneless	8 lb 7 oz	1½-inch cubes	1½ to 2 hours
Tongue	8 lb 2 oz	3 lb to 4 lb	3 to 3½ hours
Lamb			
Stew meat, boneless	7 lb 4 oz	1½-inch cubes	1¼ hours to 1½ hours
Veal			
Stew meat, boneless	7 lb 4 oz	1-inch cubes	1¼ hours to 1½ hours



Roasting Meats and Poultry

(Dry Heat)

Tender cuts of meat and poultry may be roasted. Roast in an open pan without added liquid, as explained below.

On page 104 is a list of suggested meat cuts, along with information on: amount to buy for 50 servings (1½ oz each) of cooked lean meat; weight of each piece; internal temperature of cooked meat; and cooking time.

Directions for Cooking

- 1. Place meat in roasting pan, fat side up.** Allow space in pan between roasts. *Do not cover pan or add water.*
- 2. Insert meat thermometer.** Insert thermometer into the center of the thickest part of the meat, away from bone, fat, or gristle.

If roasting from a frozen state: Insert thermometer when roast is nearly completed cooking. Insert thermometer with tip touching the center of the roast (not touching bone, fat or gristle).

- 3. Roast at 325°F (slow oven).** Roast until meat is tender and thermometer registers the temperature given in timetable on next page. (Use the timetable as a guide to cooking times.)

If roasting from a frozen state: Additional cooking time will be required. The extra time needed varies according to the size and cut. Start by determining the amount of time recommended for cooking a similar cut from the chilled state. Then, add one-third to one-half again the amount of time recommended. The oven temperature should not change.

Here's an example: The recommended cooking time is 3 hours for a particular cut of meat from the chilled state. To cook a similar cut from the frozen state, the recommended time would be 4 to 4½ hours.

- 4. Remove meat from pan.** Cool 10 to 20 minutes. Drain fat and juices. Slice, and serve. Gravy may be made from remaining drippings, thickening with flour or cornstarch.

Suggested Meat Cuts: Amount to Buy and Cooking Timetable

Kind and cut of meat*	Amount to buy for 50 servings (1½ oz each)	Weight of each piece	Internal temp. of cooked meat	Cooking time
Beef Rump, rolled	8 lb	4 lb to 5 lb	160°F	2 hours to 2½ hours
Chicken Whole	13 lb	7 lb to 10 lb	170°F	2¾ hours to 3 hours
Lamb Leg, rolled	7 lb 12 oz	5 lb to 8 lb	160°F	2 hours to 3½ hours
Shoulder, rolled	8 lb 12 oz	3 lb to 5 lb	160°F	2½ hours to 3½ hours
Pork Loin	9 lb 6 oz	3 lb to 5 lb	160°F	2 hours to 3 hours
Ham, fresh	8 lb 10 oz	5 lb to 8 lb	160°F	3½ hours to 4 hours
Ham, fully cooked	8 lb 15 oz	5 lb to 7 lb	160°F	1 hour to 1½ hours
Ham, canned	7 lb 6 oz	6 lb to 10 lb	170°F	1½ hours to 2½ hours

Turkey				
Whole	8 lb 10 oz	10 lb	170°F	2 ³ / ₄ hours to 3 hours
Veal				
Leg, rolled	7 lb 12 oz	4 lb to 6 lb	160°F	2 hours to 3 hours
Shoulder, rolled	8 lb	3 lb to 5 lb	160°F	2 hours to 3 ¹ / ₂ hours

* All cuts of meat not designated “rolled” or “boneless” contain bone.



Roasting Turkey:

Directions for Cooking Whole Turkey, Turkey Parts, or Boneless Turkey Roasts

Keep in mind the following important safety tips when preparing and cooking turkey:

- Wash hands *BEFORE* and *AFTER* handling raw meats.
- Do not stuff whole turkey — prepare and heat stuffing separately.
- Do *NOT* partially cook one day and finish cooking the next.
- Use within 2 days after roasting.

Directions:

1. Thaw and clean frozen turkey. See Information Card 8, “Cleaning Ready-to-Cook Poultry,” or follow label instructions.

(Whole turkey frozen without giblets and other frozen forms of turkey may be roasted without thawing. However, as noted below, extra cooking time will be needed.)

2. For whole turkeys, fold neck skin over to the back. Fasten with skewers or tie with a clean cord. Tie legs together and fasten to tail; or, if there is a band of skin under tail, tuck legs under band.
3. Place whole turkeys in shallow roasting pans, breast side up. Place boneless roasts and turkey parts in shallow roasting pans. Use separate pans for breast pieces and for legs (drumstick and thigh).
4. Insert a meat thermometer. Be sure the thermometer does not touch bone.

For a whole turkey: Insert the thermometer into the center of the meaty part of the inner side of the thigh (toward the body).

For a boneless turkey roast: Insert into the center.

For a breast or thigh piece: Insert into the center of the thickest part of the breast or thigh.

(If roasting frozen turkeys, insert the thermometer part way through cooking.)

5. Roast at 325°F (slow oven) using the timetable on the next page as a guide. When turkey is half done, release legs to speed cooking.

Turkey is done when:

- Thermometer registers 170°F in inner thigh of whole turkeys or in the center of turkey roasts.
- Juice from turkey is clear with no pink color.
- Drumstick meat when pressed between fingers is very soft and leg joint moves easily.

6. Allow roasted turkey to rest (set juices) 15 to 20 minutes. Slice and serve.

OR

Cool cooked turkey on wire rack until cool enough to handle (within 2 hours). Remove meat from bones. Spread pieces of meat in one layer for more rapid cooling. Wrap meat and store in the refrigerator (40°F).

Use within 2 days after roasting.

Timetable for Roasting Turkey at 325°F (Slow Oven)

Form of Turkey and Approximate Weight:	Approximate Cooking Time* (Hours):
<i>Whole</i>	
12 to 16 lb	3½ to 4½ hours
16 to 21 lb	4½ to 6 hours
21 to 26 lb	6 to 7½ hours
<i>Halves</i> , 8 to 12 lb	2¼ to 4 hours
<i>Quarters</i> , 3 to 8 lb	1½ to 3½ hours
<i>Pieces</i>	
Breast, 8 to 12 lb	3 to 4 hours
Leg (drumstick and thigh) 3 to 8 lb	1¾ to 3 hours
<i>Boneless roasts</i> , 8 to 12 lb	3 to 5 hours**

* Whole turkey frozen without giblets and other frozen forms of turkey may be roasted without thawing. Extra time will be needed.

** The diameter of boneless roasts can affect cooking time more than their weight does. The greater the diameter, the longer the cooking time.

Stewing Chicken or Turkey

Keep in mind these safety tips:

- Wash hands BEFORE and AFTER handling raw meats.
- DO NOT cook partially one day and finish cooking the next.
- Use broth and poultry meat within 2 days after cooking.

Directions for stewing chicken or turkey:

1. Clean and rinse chicken or turkey, inside and out, in cold running water.
2. Put in large kettle or stockpot. Add enough water to half-cover chicken or turkey. Season as desired. Cover and simmer until tender.

Use the timetable below as a guide to cooking time.

AMOUNT TO BUY AND COOKING TIMETABLE

Form of chicken or turkey	Amount to buy for 50 servings (1½ oz each)	Weight of each piece	Stewing time
Chicken, whole, ready-to-cook, or cut up into pieces	13 lb	2½ lb to 4 lb	1 to 1½ hours
		4 lb to 8 lb	2 to 4 hours
Turkey, whole, ready-to-cook, or cut up into pieces	8 lb 10 oz	2½ lb to 4 lb	2¾ to 3 hours

Directions for cooling cooked chicken or turkey:

1. Remove chicken or turkey from broth and place on sheet pans.
2. Place container of broth in cold, running water or ice water. Stir frequently to hasten cooling. When broth is completely cooled, cover container and store in refrigerator at 40°F.
3. When poultry is cool enough to handle (within 2 hours), remove meat from bones.
4. Spread pieces of meat in one layer to cool. As soon as cool, wrap meat loosely in waxed paper or foil. Store in refrigerator at 40°F.

Caution: Use broth and poultry meat within 2 days after cooking.

Storing, Thawing, and Cooking Fish

Fish must be *handled properly* during storage, thawing, preparation, cooking, and serving to avoid spoilage or serious food-borne illness.

Below you will find directions for safely storing, thawing, and cooking fish. On page 113 is a table providing the following information:

- Form of fish (such as fillets, steaks, portions, and sticks).
- Amount to buy for 50 servings (1½ ounces each) of cooked fish.
- Oven temperature and cooking time for baking.
- Oven temperature and cooking time for oven-frying.

Directions for Storing

1. Store *fresh* fish in the refrigerator at 40°F until time to cook. (Fresh fish should be delivered packed in crushed ice.)
2. Store *frozen* fish in the freezer at 0°F or below, until it is refrigerated for thawing and then cooking. (Frozen fish should be delivered *hard-frozen*.)
3. Store *canned* fish in a cool, dry place.
4. DO NOT HOLD fresh fish *longer than 1 day* before cooking.

Directions for Thawing

1. Schedule thawing so that the fish will be cooked soon after it is thawed. *Do not hold thawed fish longer than 1 day before cooking.*
2. Remove from the freezer only the amount of fish needed for 1 day's use.
3. Remove fish from cartons and place individual packages on trays in the refrigerator at 40°F to thaw. Allow 24 to 36 hours for thawing 1-pound packages. Allow 48 to 72 hours for thawing 5-pound solid packed packages or gallon cans.

4. If quicker thawing is necessary, remove fish from cartons and thaw individual packages in cold water. Change water often to hasten thawing. Allow 1 to 2 hours for thawing 1-pound packages; 2 to 3 hours for 5-pound packages; 6 to 8 hours for gallon cans.
5. *Do not thaw at room temperature or in warm water.*
6. Do not refreeze.
7. Fish portions and fish sticks *should not be thawed* before cooking. Remove from the freezer only the amount of portions or sticks needed for 1 day's use.
8. Frozen fillets and steaks may be cooked without thawing if additional cooking time is allowed. Fillets or steaks to be breaded or stuffed should be thawed.

Directions for Cooking

1. Use temperature and cooking time on the recipes or the timetable on the next page as a guide for cooking fish.
2. Cook only until fish flakes easily when tested with a fork and thermometer registers 165°F. *Do not overcook.*
3. Serve fish soon after it is cooked.

Amount to Buy and Cooking Timetable

Form of fish	Amount to buy for 50 servings (1½ oz each)	BAKING		OVEN-FRYING	
		Oven temp.	Cooking time	Oven temp.	Cooking time
<i>Fillet</i> s	7.35 lb	350°F	30 to 40 minutes	500°F	15 to 20 minutes
<i>Steaks</i>	8.10 lb	350°F	30 to 40 minutes	500°F	15 to 20 minutes
<i>Portions*</i> (3 oz each)					
Raw, breaded (75% fish)	9.40***	350°F	30 to 40 minutes	500°F	15 to 20 minutes
Breaded, fried (67% fish)	9.40***	400°F	15 to 20 minutes	-	-
Unbreaded	9.40***	350°F	30 to 40 minutes	500°F	15 to 20 minutes
<i>Sticks**</i> (1 oz each)					
Raw, breaded (72% fish)	9.40***	350°F	30 to 40 minutes	500°F	15 to 20 minutes
Breaded, fried (67% fish)	9.40***	400°F	15 to 20 minutes	-	-

* 2 ounces cooked fish

** 3 sticks for each serving

***In order to meet the “cooked lean meat equivalency” using the pounds indicated in the “Amount to Buy” column, the product must be marked *Grade A*.



Cooking Fresh and Frozen Vegetables

Timing is important when cooking vegetables. To protect quality and nutritional value, you'll want to serve vegetables soon after they are cooked. This may require careful scheduling, but the results will be worth it.

A good way to protect quality is cooking in small batches. Batch cooking helps prevent vegetables from becoming broken or overcooked. It also helps assure that vegetables will retain their color and have little loss of nutrients.

Be sure to cook vegetables only until tender-crisp. They may continue to cook when held. Vegetables will become overcooked if held too long, so batch cooking throughout the meal is recommended.

Preparing fresh vegetables for cooking:

Wash fresh vegetables before cooking, then prepare as explained in Information Card 25. In general: trim, peel, or cut as desired; discard discolored parts, tough ends, or stems as needed.

Preparing frozen vegetables for cooking:

Loosely packed frozen vegetables, such as whole-kernel corn, can be cooked without thawing. Solid-pack frozen vegetables, such as spinach, should be thawed long enough to break apart easily before cooking. Broccoli spears will cook more uniformly if they are partially thawed.

HOW TO COOK VEGETABLES

To cook in boiling water...

Cook in a covered stockpot as follows. However, leave off lid for items like broccoli, brussels sprouts, and cabbage, which retain their bright green color best if cooked uncovered.

1. Add fresh or frozen vegetables to boiling water. If desired, also add $\frac{1}{2}$ teaspoon salt for each 50 servings of vegetables.
2. After water boils again, reduce heat and simmer. For suggested cooking times for specific vegetables, see the cooking timetable on pages 117 through 121.
3. Drain cooked vegetables and place in serving dishes.
4. Season with herbs and spices, as desired. (See Information Card 42 for suggestions.) Garnish. Serve.

To stir-fry...

Cut or dice vegetables into uniform pieces, selecting them for color, texture, and flavor. Then:

1. Heat a small amount of oil in a frying pan.
2. Add vegetables which take longest to cook, such as carrots.
3. Add remaining vegetables, such as onions and broccoli florets.
4. Cover and steam for 3 minutes, until vegetables are tender but crisp, and brightly colored.

To steam...

Place fresh or frozen vegetables in a single layer in a steamer pan (12" x 20" x 2½"). Then:

1. Steam uncovered at 5 pounds pressure, using the cooking timetable as a guide (see pages 117 through 121). Follow manufacturer's directions for steamers operating at other pressures or when using pressureless steamers.
2. Drain cooked vegetables.
3. Season with herbs and spices, as desired. (See Information Card 42 for suggestions.) Garnish. Serve.

To microwave...

Place fresh or frozen vegetables in a covered microwaveable dish. Then:

1. Microwave, stirring halfway through the cooking time.
2. To determine cooking time, see timetable.

About the cooking timetable...

You will find information on a variety of vegetables. Here are some things to keep in mind:

1. Cooking times for fresh vegetables are approximate; they can differ with variety, maturity, quality, and size of vegetable.
2. Cooking times for frozen vegetables are sometimes less than for fresh, because the blanching process for frozen vegetables entails partial cooking.
3. Times listed for microwaving are for a 625-watt microwave oven. Higher-wattage ovens will require less cooking time.
4. AP means "As Purchased" — in other words, before peeling or trimming. EP means "Edible Portion" — after peeling or trimming.

Timetable for Cooking, Steaming, or Microwaving Fresh and Frozen Vegetables

For 50 servings, 1/4 cup each

Vegetable	Fresh or frozen	Pounds as purchased (AP)	Pounds edible portion (EP)	BOILING Amount of water (quarts)	BOILING Cooking time after water boils (minutes)	STEAMING Time at 5 pounds pressure (minutes)	MICROWAVING For 625-watt oven; higher wattage will require less time (minutes)
Asparagus:							
- spears	fresh	10.4	5.5	3 ¹ / ₄	10 to 25	7 to 10	13 to 15
- cuts + tips	frozen	6.2	6.2	1 ³ / ₄	7 to 10	5 to 10	-
Beans or peas, Blackeye:							
fresh	fresh	4.9	2.4	2 ¹ / ₂	30 to 45	20 to 40	-
frozen	frozen	4.5	4.5	1 ³ / ₄	25 to 30	15 to 25	-
Beans, green:							
- cut	fresh	4.5	4.0	1 ³ / ₄	15 to 30	20 to 30	15 to 17
frozen	frozen	4.4	4.4	1	10 to 20	10 to 15	9 to 11
Beans, lima:							
- Baby	fresh	4.7	2.0	2 ¹ / ₂	15 to 25	15 to 20	-
- Baby	frozen	4.6	4.6	1 ¹ / ₂	12 to 15	10 to 15	7 to 8
- Fordhook	frozen	4.5	4.5	1 ¹ / ₂	6 to 12	12 to 20	-
Beet greens:							
fresh	fresh	14.3	6.9	water on leaves	15 to 25	15 to 25	-
Beets, whole:							
fresh	fresh	6.5	4.8	to cover	45 to 60	60 to 75	22 to 25
Broccoli:							
- spears	fresh	5.2	4.2	2 ¹ / ₂	10 to 20	7 to 10	13 to 15
- spears	frozen	5.2	5.2	1 ¹ / ₂	10 to 15	5 to 10	8 to 10
- cut/chopped	frozen	5.2	5.2	1 ¹ / ₂	8 to 20	10 to 20	9 to 10

Timetable for Cooking, Steaming, or Microwaving Fresh and Frozen Vegetables (continued)

For 50 servings, 1/4 cup each

Vegetable	Fresh or frozen	Pounds as purchased (AP)	Pounds edible portion (EP)	BOILING Amount of water (quarts)	BOILING Cooking time after water boils (minutes)	STEAMING Time at 5 pounds pressure (minutes)	MICROWAVING For 625-watt oven; higher wattage will require less time (minutes)
Brussels sprouts:							
	fresh	5.9	4.5	6	10 to 20	7 to 10	8 to 10
	frozen	4.8	4.8	1½	10 to 15	5 to 10	8 to 10
Cabbage:							
- shredded	fresh	3.7	3.3	1½	10 to 15	5 to 12	9 to 11
- wedges	fresh	5.9	5.3	1¾	15 to 20	12 to 20	16 to 18
Carrots, whole:							
	fresh	6.0	3.6	2¼	20 to 30	15 to 30	12 to 14 (1 lb)
	frozen	4.8	4.8	1	8 to 10	3 to 5	18 to 20 (2 lb)
Cauliflower, florets:							
	fresh	5.7	3.5	4½	15 to 20	8 to 12	12 to 14
	frozen	5.5	5.5	1½	10 to 12	4 to 5	8 to 9
Celery, 1" pieces:							
	fresh	5.7	4.2	3½	15 to 20	10 to 15	-
Chard, pieces:							
	fresh	7.9	7.3	water on leaves	15 to 25	15 to 25	-
Collard greens:							
	fresh	4.8	3.6	3½	20 to 40	15 to 30	-
	frozen	5.4	5.4	1¾	30 to 40	20 to 40	-
Corn, on cob (half medium ear):							
	fresh	13.5	4.5	6 (or to cover)	5 to 15	8 to 10	-

Timetable for Cooking, Steaming, or Microwaving Fresh and Frozen Vegetables (continued)

For 50 servings, 1/4 cup each

Vegetable	Fresh or frozen	Pounds as purchased (AP)	Pounds edible portion (EP)	BOILING Amount of water (quarts)	BOILING Cooking time after water boils (minutes)	STEAMING Time at 5 pounds pressure (minutes)	MICROWAVING For 625-watt oven; higher wattage will require less time (minutes)
Corn, whole kernel:							
	frozen	4.6	4.6	1½	5 to 10	5 to 10	7 to 8
Eggplant (pieces, cubes, slices):							
	fresh	7.4	6.0	3½	15 to 20	10 to 15	6 to 7
Kale:							
	fresh	4.3	2.9	2	25 to 45	15 to 35	-
	frozen	5.3	5.3	1¾	20 to 30	15 to 30	-
Mustard greens, chopped:							
	fresh	3.8	3.6	water on leaves	15 to 25	15 to 25	-
	frozen	4.3	4.3	1¾	20 to 30	15 to 20	-
Okra, whole:							
	fresh	5.2	4.5	2	10 to 15	8 to 15	-
	frozen	4.3	4.3	1¼	3 to 5	3 to 5	7 to 9
Onions, mature, fresh (large, quartered):							
	fresh	6.4	5.0	7	20 to 35	20 to 35	14 to 16
Parsnips, 3" pieces:							
	fresh	6.2	5.1	4¾	20 to 30	15 to 20	8 to 10
Peas and carrots:							
	frozen	4.6	4.6	1	8 to 10	3 to 5	-

Timetable for Cooking, Steaming, or Microwaving Fresh and Frozen Vegetables (continued)

For 50 servings, 1/4 cup each

Vegetable	Fresh or frozen	Pounds as purchased (AP)	Pounds edible portion (EP)	BOILING Amount of water (quarts)	BOILING Cooking time after water boils (minutes)	STEAMING Time at 5 pounds pressure (minutes)	MICROWAVING For 625-watt oven; higher wattage will require less time (minutes)
Peas, green (shelled):							
	fresh	4.7	1.8	2	10 to 20	10 to 20	11 to 13
	frozen	5.0	5.0	1	5 to 10	3 to 5	6 to 7
Potatoes, whole:							
	fresh	5.7	4.2	5	30 to 45	30 to 45	16 to 20 (for 5 each)
Rutabagas, 1" cubes:							
	fresh	6.0	5.1	2 1/2	20 to 30	15 to 30	-
Soybeans:							
	fresh	4.7	3.1	1 3/4	10 to 20	-	-
Spinach, leaf:							
	fresh	6.6	5.8	water on leaves	10 to 20	4 to 8	7 to 9
	frozen	7.7	7.7	1 1/4	5 to 10	5 to 10	9 to 11
Squash, summer, slices:							
	fresh	6.9	6.5	2	10 to 20	8 to 20	10 to 12
	frozen	6.7	6.7	1	5 to 10	5 to 10	5 to 7
Squash, winter, Butternut:							
- pieces	fresh	6.7	5.6	5 1/4	15 to 30	15 to 20	9 to 14
- mashed	frozen	7.2	7.2	-	-	20 to 25, covered	-
Succotash:							
	frozen	5.3	5.3	2	6 to 15	12 to 20	8 to 9

Timetable for Cooking, Steaming, or Microwaving Fresh and Frozen Vegetables (continued)

For 50 servings, 1/4 cup each

Vegetable	Fresh or frozen	Pounds as purchased (AP)	Pounds edible portion (EP)	BOILING Amount of water (quarts)	BOILING Cooking time after water boils (minutes)	STEAMING Time at 5 pounds pressure (minutes)	MICROWAVING For 625-watt oven; higher wattage will require less time (minutes)
Sweet potatoes, whole:							
	fresh	5.5	4.4	5	30 to 45	20 to 40	16 to 20 (for 5 each)
Turnip greens, chopped:							
	fresh	7.7	5.4	water on leaves	15 to 25	15 to 25	-
	frozen	5.3	5.3	1 ³ / ₄	20 to 30	15 to 20	-
Turnips, 1" cubes:							
	fresh	5.8	4.5	2 ³ / ₄	15 to 20	10 to 15	10 to 12
Vegetables, mixed:							
	frozen	6.2	6.2	1	12 to 20	12 to 20	9 to 10



Baking Potatoes, Winter Squash, and Other Vegetables

Prepare these fresh vegetables for baking as described below. Place vegetables in a single layer on baking pans. Schedule baking of vegetables so they will be served soon after they are cooked. Bake each vegetable for the shortest time necessary until tender. Use the timetable below as a guide.

How to Prepare and Bake Fresh Vegetables

Vegetable	Preparation	Approximate Baking Time	Oven Temperature
Potatoes or sweet potatoes	Scrub. Sort for size. Pierce skins.	1 hour or until tender	425°F
Winter squash (acorn, etc.)	Wash, cut in half. Remove seeds and fiber. Brush with melted margarine and sprinkle with brown sugar, if desired.	45 minutes covered; remove cover and bake 15 minutes longer until lightly browned	400°F
Winter squash (Butternut or Hubbard squash)	Wash. If peel is hard and tough, soften by steaming or boiling 10 minutes. Cut in half. Remove seeds and fiber. Peel. Cut into pieces. Brush with melted butter and sprinkle with salt and brown sugar, if desired.	20 to 45 minutes covered; remove cover and bake 15 minutes longer until lightly browned	400°F

How to Prepare and Bake Fresh Vegetables

Vegetable	Preparation	Approximate Baking Time	Oven Temperature
Roasted vegetables	Wash. Cut 4 large, unpeeled potatoes into wedges. Cut 3 large (peeled) carrots into 1½" pieces. Cut 2 large onions into wedges. Mix 1 Tbsp rosemary leaves with 2 tsp garlic powder and 1 tsp salt. Sprinkle over vegetables. Drizzle with 3 Tbsp melted margarine.	45 minutes	450°F
Corn on the cob	Gently peel back husks and silk; replace husks (pull back around ears) and secure with string. Roast directly on the oven rack. Serve on the cob or cut off with a knife; season with salt and pepper.	20 to 25 minutes (turn after the first 10 minutes)	450°F
Green beans	Trim 1 lb green beans. Toss with 1 tsp olive oil. Roast, stirring midway, until wrinkled, brown, and tender. In a small, dry skillet, toast 2 tsp sesame seeds, stirring until brown; crush lightly and toss with the beans. Season with salt and pepper.	12 minutes	450°F

NOTE: Baking times for each vegetable can differ with variety, maturity, quantity, and size.

Heating Canned Vegetables

Schedule heating of canned vegetables so they will be served soon after they are heated. (See directions below.) Prepare in batches small enough to prevent vegetables from becoming broken or overcooked.

For amount of canned vegetable to buy for 50 servings (1/4 cup each), see table following directions.

Directions for Heating

1. Drain off half the liquid from canned vegetables and discard.
2. Transfer vegetables and remaining liquid to a saucepan or stockpot. Heat only long enough to bring to recommended temperature.
3. Drain vegetables and place in serving dishes.

(Vegetables can also be heated in a steamer, oven, or microwave.)

Amount of Canned Vegetable to Buy For 50 servings (1/4 cup each)

Vegetable:	Amount to buy:
Asparagus	
Spears	7 lb 10 oz
Cuts and tips	8 lb
Beans, green or wax (cut)	7 lb
Beans, lima, green	8 lb
Beets	
Diced (Harvard or plain)	6 lb 4 oz
Sliced	7 lb 14 oz
Whole baby	7 lb 2 oz
Blackeye peas (beans), green	7 lb 10 oz
Carrots, diced or sliced	6 lb 14 oz
Collards	14 lb 8 oz
Corn	
Cream style	7 lb 11 oz
Whole kernel, vacuum-packed	5 lb 10 oz
Whole kernel, wet-packed	7 lb 6 oz
Kale	7 lb 10 oz
Mustard greens	7 lb 2 oz

Amount of Canned Vegetable to Buy For 50 servings (1/4 cup each)

Vegetable:	Amount to buy:
Okra, cut or whole	8 lb
Peas and carrots	8 lb
Peas, green	7 lb 7 oz
Potatoes, small whole	7 lb 5 oz
Sauerkraut	5 lb 5 oz
Spinach	12 lb 2 oz
Squash, summer, sliced	12 lb 6 oz
Succotash	7 lb
Sweet potatoes	
Syrup pack, cut	7 lb 8 oz
Vacuum-pack, whole	6 lb 12 oz
Tomatoes (all forms)	6 lb 9 oz
Turnip greens	11 lb 2 oz
Vegetables, mixed	7 lb 14 oz

Nonfat Dry Milk (Instant)

Several recipes in this package list nonfat dry milk (instant) as an ingredient. Here are some things to keep in mind:

- The recipes list both weight and volume measures for instant nonfat dry milk. However, for best results, dry milk should be weighed rather than measured.
- All of the recipes are *standardized* using instant nonfat dry milk.
- To save preparation steps, where possible the recipes call for: (1) combining the dry milk with other dry ingredients; and (2) adding the required amount of water along with other liquid ingredients.
- If desired, fluid milk may be used in place of reconstituted nonfat dry milk in the recipes. Directions for using nonfat dry milk to prepare fluid skim milk and sour milk are given below.

Reconstituting Nonfat Dry Milk (Fluid Skim Milk = Nonfat Dry Milk + Water)

To make this amount of fluid skim milk...	Use this amount of nonfat dry by weight...	Or use this amount of nonfat dry by measure...	Use this amount of water at room temperature...
1 cup	1 oz	1/3 cup	1 cup
2 cups	2 oz	2/3 cup	1 7/8 cup
1 quart*	3 1/2 oz	1 1/3 cups	3 3/4 cups
2 quarts	7 oz	2 2/3 cups	1 qt 3 1/2 cups
3 quarts	10 1/2 oz	1 qt	2 3/4 qt
1 gallon	14 oz	1 qt 1 1/3 cups	3 3/4 qt
2 gallons	1 lb 12 oz	2 qt 2 2/3 cups	1 gal 3 1/2 qt
3 gallons	2 lb 10 oz	1 gal	2 gal 3 1/4 qt
4 gallons	3 lb 8 oz	1 gal 1 1/4 qt	3 3/4 qt
5 gallons	4 lb 6 oz	1 gal 2 3/4 qt	4 3/4 gal
6 gallons	5 lb 4 oz	2 gal	5 gal 2 1/2 qt

*See note on page 128.

Directions:

1. Mix instant nonfat dry milk and water in a jar with a tight lid or in a large pitcher. Shake or stir with a whisk to mix.
2. If not to be used immediately, *cover and refrigerate*.

Notes for chart on page 127:

- * From 3.2 to 3.5 ounces of nonfat dry milk can be used to make 1 quart of fluid milk. For convenience in measuring, 3.5 ounces (3½ oz) nonfat dry milk is used to make 1 quart in this chart.

To prepare 1 quart *sour* milk, use ¼ cup vinegar in place of ¼ cup of the water in fluid skim milk recipe.

Using Fresh Shell Eggs

Here are some guidelines for purchasing, storing, and using fresh shell eggs.

- Purchase only refrigerated fresh, *clean*, unbroken, and odor-free eggs.
- Refrigerate promptly upon delivery to help maintain quality.
- Store eggs away from foods with a strong odor, such as onions, cabbage, or broccoli. It is advisable to leave eggs in original shipping container.
- *Because eggs are an animal product, be sure to wash hands after handling all raw egg products, both in the shell and removed from the shell.*
- *Do not use cracked or soiled eggs.* Eggs that are cracked or soiled may contain harmful bacteria that can be spread by food handlers.
- *Do not use uncooked eggs in uncooked foods, including (but not limited to): milk drinks, such as eggnog or milkshakes; uncooked salad dressings; or uncooked puddings.*

Eggs come in different grades and sizes. While the size and grade are marked on the carton or case, the weight is not. Here is more information you'll want to know:

- The grades — AA, A, and B — indicate the *quality* of eggs.
- Grades are based on both interior and exterior quality.
- Grades *do not* relate to size.
- Egg sizes are: extra-large, large, medium, and small. Chart 1 on page 130 shows the weight of different sizes of shell eggs and the number needed to fill 1 cup.
- All shell eggs used in the recipes in this package are *large* size.
- Some recipes specify weight or volume measure for eggs. To determine the correct number of fresh shell eggs to use, use Chart 2 on page 130. This shows the weight and volume measures for fresh *large* eggs (white and yolk) without shells.

Chart 1: Comparing Egg Sizes by Weight and Number Per Cup

Size	Minimum net weight of 1 dozen (in shell)	Approximate number per cup (8½ ounces)		
		Whole eggs	Yolks only	Whites only
Extra-large	27 oz (1 lb 11 oz)	4	12	6
Large*	24 oz (1 lb 8 oz)	5	14	7
Medium	21 oz (1 lb 5 oz)	6	16	8
Small	18 oz (1 lb 2 oz)	6	18	10

* All shell eggs used in the recipes in this package are *large* size.

Chart 2: Weight and Volume Measures for Large Fresh Eggs

Number of large eggs**	Weight	Measure
1	1¾ oz	3 tablespoons
2	3½ oz	¾ cup
3	5¼ oz	⅝ cup
6	10¾ oz	1¼ cups
11	1 lb 3½ oz	2¼ cups
12	1 lb 5½ oz	2½ cups
13	1 lb 7 oz	2⅔ cups
19½	1 lb 2½ oz	1 quart
25	2 lb 13 oz	1 quart ¼ cups
39	4 lb 5 oz	2 quarts
50	5 lb 9 oz	2 quarts ½ cups

** This shows the weight for fresh *large* eggs (white and yolk) without shells.

Guidelines for Cooking Pasta

(Macaroni, Noodles, or Spaghetti)

Pasta comes in many different forms. The illustration at the end of this card shows names and shapes of a variety of popular pastas.

Cooking times and amount of water needed may vary. Below are general guidelines for macaroni, noodles, or spaghetti. On page 132 is a buying guide.

Cooking pasta...		
Ingredients:	For 25 servings:	For 50 servings:
Salt (optional)	2 ¹ / ₄ tsp	1 ¹ / ₂ Tbsp
Oil* (optional)	1 tsp	2 tsp
Boiling water	3 qts	1 ¹ / ₂ gal
<i>If using:</i>		
Macaroni	2 ¹ / ₂ cups	1 ¹ / ₄ qts
<i>If using:</i>		
Noodles	1 ¹ / ₂ qts	3 qts
<i>If using:</i>		
Spaghetti, broken	1 qt	2 qts

Directions:

1. Add salt (optional) and oil (optional) to boiling water. (Oil may be added to prevent sticking.)
2. Slowly stir in macaroni, noodles, or spaghetti allowing water to continue at a boil.

3. Cook, uncovered, at a fast boil until pasta is tender:

- ... 6 minutes for macaroni.
- ... 6 minutes for noodles.
- ... 10 minutes for spaghetti.

DO NOT OVERCOOK

4. Drain pasta quickly. Serving size is $\frac{1}{4}$ cup cooked pasta.

Buying Guide

Food as purchased:

For 25 servings:

For 50 servings:

Macaroni	11 oz	1 lb 6 oz
Noodles	14 oz	1 lb 11 oz
Spaghetti	13 oz	1 lb 10 oz

Types of Pasta

Macaroni, noodles, and spaghetti are just a few of the many pastas you can buy. Here are some others. You'll find many of these pictured on page 133.

Acini	Pastina (Ditalini) (Tubettini)
Alphabets	Orzo
Bowties (Farfalle)	Radiatore
Angel Hair (Capellini)	Rigatoni
Fettuccine	Rotini
Fusili	Shells (Conchiglie)
Lasagna	Spaghetti
Linguini	Spaghettini
Elbow Macaroni	Vermicelli
Manicotti	Wagon Wheels
Mostaccioli (Penne)	Ziti

Pasta Shapes and Names



Fettuccine



Elbow Macaroni



Alphabets



Linguine



Wide Egg Noodles



Wagon Wheels



Angel Hair



Ziti



Rigatoni



Spaghetti



Rotini, Twists, Spirals



Mostaccioli, Penne



Gemelli



Radiatore



Medium Shells



Manicotti



Orzo



Ditalini



Bow Ties, Farfalle



Lasagne



Fusilli



Medium Egg Noodles



Jumbo Shells



Small Shells



Guidelines for Cooking Rice

Here are some things to know about rice:

- The two most commonly used types of rice are brown and white. Each comes in different forms: long-grain, medium-grain, and short-grain.
- In general, brown rice requires longer cooking time than white rice.
- Long-grain rice “cooks up” as separate grains. Medium-grain and short-grain rice are sometimes called “sticky rice” because the grains do not “cook up” separately.

- Some rice is “par-boiled” or “converted.” This means it has been treated in a steam-pressure process that spreads the water-soluble vitamins and minerals throughout the grain. This results in a more nutritious product.
- Pre-cooked or instant rice has been fully cooked. To prepare: bring water to a boil, turn off heat, add rice, allow to stand, fluff with a fork.

When cooking rice, follow directions on the package. The recipe below will give you a general idea of what’s involved. The recipe variation tells how to cook rice in the oven.

Basic Recipe

Ingredients:	For 25 servings:	For 50 servings:
Rice, white	1 ⁷ / ₈ cups	3 ³ / ₄ cups
Salt (optional)	1/2 tsp	1 tsp
Boiling water	2 ³ / ₄ cups	5 ¹ / ₂ cups
Oil (optional)	1 tsp	2 tsp

Directions:

1. Add rice and salt (optional) to boiling water. Add oil (optional) to prevent foaming. Cover pot.
 2. Cook on low heat for approximately 25 minutes for converted or parboiled rice. (Or, if using regular-milled white rice, cook for approximately 15 minutes.)
 3. Remove from heat and let stand, covered, 5 to 10 minutes.
- SERVING: 1/4 cup cooked rice
- NOTE: *Do not wash enriched rice.*

Recipe Variation: Oven-Cooked Rice

To cook rice in the oven: Omit oil. Place rice in a baking pan (for example, 12" x 10" x 2"). Dissolve salt (optional) in boiling water and pour over rice; stir to distribute evenly in pan. Cover pan tightly with a lid or foil. Bake at 350°F (moderate oven):

- 45 minutes for converted or parboiled rice.
- 30 minutes for regular-milled white rice.

Remove from oven and let stand covered 5 minutes.

Using Master Mix for Baked Products

What is Master Mix?

Master Mix is a mixture of dry ingredients and shortening. It is blended in advance for use in baked products without yeast, such as quick breads and pancakes. Using Master Mix can save preparation time.

How do you prepare and store Master Mix?

To prepare, mix according to the recipe below. (This is included in the recipe package as A-15.)

Since Master Mix stores well, prepare extra batches for later use. When deciding how many batches to prepare, consider storage space available, equipment capacity, and the frequency with which the baked items are prepared.

To store, place prepared Master Mix in a tightly covered container. Keep in a cool, dry, well-ventilated area. For longest shelf life, store in *refrigerator* and use within 3 months.

Master Mix Recipe

Yield: 6 quarts (7 lb 6 oz)

Ingredients	Weight	Measure
All-purpose flour	5 lb 4 oz	1 gal 3 cups
Baking powder	5 oz	³ / ₄ cup
Salt	1 ¹ / ₄ oz	2 Tbsp
Cream of tartar	-	1 ¹ / ₂ Tbsp
Instant nonfat dry milk	6 oz	2 ¹ / ₂ cups
Shortening	1 lb 5 oz	3 cups 2 Tbsp

1. Place flour, baking powder, salt, cream of tartar, and dry milk into mixer bowl. Blend for 3 minutes on low speed. (A 10-quart mixer may be used to produce 6 quarts of Master Mix.)
2. Add shortening to dry ingredients and mix for 5 minutes on low speed, or until evenly distributed. Mixture will be crumbly.

Which recipes in this package use Master Mix?

Four recipe *variations* use Master Mix. They are:

- Cut Biscuits Using Master Mix (A-9b)
- Muffin Squares Using Master Mix (A-11b)
- Pancakes Using Master Mix (A-12a)
- Banana Bread Squares Using Master Mix (A-13a)

These variations produce a product that is similar to the basic recipe. However, by using Master Mix, you can save some preparation time.

How will you use Master Mix in a recipe?

To use Master Mix, weigh or measure the amount of mix specified in the recipe variation. *Do not pack or sift*. Measure mix lightly and level off with a spatula or the straight edge of a knife. Add remaining ingredients and bake according to recipe directions.

How many servings of baked product will a 6-quart batch of Master Mix produce?

For convenience, the Master Mix recipe has been standardized in batches of 6 quarts. As noted above, this size batch can be prepared in a 10-quart mixer. Below is an estimate of how many servings you will obtain from one 6-quart batch.

One 6-quart batch of Master Mix will produce...

- 100 servings of... Cut Biscuits
- 150 servings of... Muffin Squares
- 133 servings of... Pancakes
- 150 servings of... Banana Bread Squares

Cooking Dry Beans, Peas, and Lentils

Dry beans, peas, and lentils may be served as a vegetable or used in a main dish. One pound of dry beans yields $5\frac{7}{8}$ cups to 7 cups cooked beans.

To prepare for cooking: sort beans, peas, or lentils and remove dirt and foreign matter. Wash in cold water, if needed. Directions for soaking and cooking are given below.

(Canned beans may be substituted for cooked dry beans in any recipe. Some or all of the salt in the recipe should be omitted when canned beans are used in place of cooked dry beans.)

Soaking

Dry Beans

Overnight method: Add dry beans to cold water. Cover. Let stand in refrigerator overnight. Use immediately after soaking period. Longer periods for soaking beans are not recommended.

Quick-soak method: Pour dry beans into boiling water and boil for 2 minutes. Remove from heat and allow to soak for 1 hour.

Split Peas

Dry split peas may be cooked without soaking.

To soak: Add split peas to boiling water. Boil 2 minutes. Remove from heat and let soak for 30 minutes.

Lentils

Lentils may be cooked without soaking.

Cooking

1. Once the beans, peas, or lentils have been soaked, drain and *discard* the soaking water (this is to reduce the gas-causing sugars).
2. Add $\frac{1}{2}$ teaspoon salt (optional) for every 1 pound of beans, peas, or lentils. Boil gently (with lid tilted) until tender. Use the cooking time in the table below as a guide. Add additional boiling water if beans become dry. Cook split peas in small batches — this will help them retain their shape and not be mashed.
3. Drain, if desired. Serve or use in recipes.

Chart for Cooking Dry Beans, Peas, and Lentils

The amount of water and cooking time needed varies for dry beans, peas, and lentils.

This chart tells you for several types the approximate: (1) volume of 1 pound in cups; (2) amount of *boiling* water (in quarts) needed to cook each 1 pound; (3) amount of time (in hours) needed to cook.

Type	No. of cups = to 1 lb	Quarts of water for each 1 lb	Hours needed to cook <i>soaked</i> dry beans or peas
Blackeye peas	2 ³ / ₄	1 ³ / ₄	1/2
Garbanzos (chickpeas)	2 ¹ / ₂	1 ¹ / ₈	1 ³ / ₄
Great Northern	2 ¹ / ₂	1 ³ / ₄	1 to 1 ¹ / ₂
Kidney beans	2 ¹ / ₂	1 ³ / ₄	2
Lima beans, large	2 ⁵ / ₈	1 ³ / ₄	1
Lima beans, small	2 ³ / ₈	1 ³ / ₄	1
Pea beans, Navy beans	2 ¹ / ₄	1 ³ / ₄	1 ¹ / ₂ to 2
Peas, whole	2 ¹ / ₃	1 ¹ / ₂	1
Pinto beans	2 ³ / ₈	1 ³ / ₄	2
Soybeans	2 ¹ / ₂	2 ¹ / ₄	2 to 3

Type	No. of cups = to 1 lb	Quarts of water for each 1 lb	Hours needed to cook (without soaking)
Lentils	2 ³ / ₈	1 ³ / ₄	1/2
Peas, split	2 ¹ / ₄	1 ¹ / ₄	1/3

Hard-Cooked Eggs

Hard-cooked eggs can be used in a variety of ways, including in hot main dishes, in chilled salads or sandwiches, or as snacks. Below are directions for cooking fresh (shell) eggs in two ways: in water and in the oven.

For more information on shell eggs, including size and grade, see Information Card 36.

To cook in water:

1. Place eggs (with shell) in a wire basket. Lower basket carefully into gently boiling water. Simmer just below boiling point for 15 minutes.
2. Remove pot from heat and cool eggs quickly under cold running water. (Rapid cooling in cold water stops the cooking process to make a more tender hard-cooked egg. It also prevents the unsightly formation of a darkened ring between the yolk and the white.)

3. Crack shells by rolling or stirring lightly. Peel, starting from large end of egg.
4. Cut in halves, or chop. Use immediately in hot main dishes or chill in refrigerator for later use in salads or sandwiches.

To cook in the oven:

1. Break 25 eggs, one at a time, into oiled baking pans (for example, 12" x 20" x 2"). Add $\frac{1}{2}$ cup water to each pan.
2. Place each pan of eggs in a pan of hot water; cover and bake at 350°F (moderate oven) about 30 minutes until eggs are firm.
3. Chop into $\frac{1}{2}$ -inch squares. Use immediately in hot main dishes or chill in refrigerator for later use in salads or sandwiches.



Seasoning Vegetables With Herbs and Spices

Vegetables can be made more appealing with herbs, spices, and other seasonings. Seasoning vegetables with herbs and spices reduces the need for added salt and fat. Try the suggestions below to enhance the natural flavor of vegetables, and try reducing (or eliminating) salt and fat.

TO SEASON...	USE...
Beans, green or wax	Caraway, dill seed, onion powder, or sage
Beets	Caraway, cinnamon, or dill seed
Broccoli	Lemon juice or marjoram
Cabbage	Basil, caraway, celery seed, curry, dill seed, mustard seed, or onion powder
Carrots	Basil, celery seed, cinnamon, dill seed, marjoram, mint, or thyme
Cauliflower	Caraway, celery seed, dill seed, lemon juice, mace, marjoram, rosemary, or tarragon
Celery	Celery seed, curry, dill seed, nutmeg, red pepper, or thyme
Corn	Chili powder
Green leafy vegetables	Garlic powder, lemon juice, or vinegar
Lima beans	Curry
Onions	Cinnamon or sage

HOW TO USE SPECIFIC INGREDIENTS

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Peas, green	Basil, dill seed, marjoram, mint, or oregano
Sauerkraut	Celery seed or sugar
Spinach	Basil, marjoram, mint, nutmeg, rosemary, vinegar or lemon juice
Sweet potatoes	Allspice, cardamom, or cinnamon
Tomatoes	Basil, celery seed, chili powder, cinnamon, garlic powder, oregano, parsley, sage, or sugar
Turnips	Rosemary
Winter squash	Allspice, cardamom, or nutmeg
Zucchini	Caraway, marjoram, or oregano

A Word About Flavorings

Here are ways to substitute one flavoring ingredient for another.

Chocolate, unsweetened

- in place of ...** 1 oz (1 square)
- use** 3 Tbsp cocoa + 1 Tbsp fat ($\frac{1}{2}$ oz)

Garlic, fresh

- in place of ...** 1 clove
- use** *one of the following:*
 - dry granules: $\frac{1}{4}$ tsp
 - garlic powder: $\frac{1}{4}$ tsp
 - garlic salt: $\frac{1}{2}$ tsp
($\frac{1}{4}$ tsp is salt)

Green peppers, fresh

- in place of ...** 8 oz edible portion
- use** 1 oz dry green pepper flakes

Herbs, fresh (all)

- in place of ...** 1 Tbsp
- use** *one of the following:*
 - dry flakes: $1\frac{1}{2}$ tsp
 - dry ground: $\frac{3}{4}$ tsp

Honey

- in place of ...** 1 cup
- use** $1\frac{1}{4}$ cups granulated sugar
+ $\frac{1}{4}$ cup liquid

Onion, fresh

- in place of ...** $\frac{1}{2}$ cup
- use** *one of the following:*
 - onion flakes: 2 Tbsp
 - onion powder: 2 Tbsp
 - onion salt: 3 Tbsp
(2 Tbsp is salt)

Vanilla, pure extract

- in place of ...** 1 tsp
- use** imitation vanilla: 2 tsp

