



4-C Child and Adult Care Food Program NUTRITION BASICS

Nutrition is an overall term for the combination of processes by which a person eats, digests, absorbs, utilizes, and excretes food substances.

Nutrients are the substances found in food that work together to provide energy, promote growth, and regulate body processes. There are over 40 known nutrients, and no single food contains all of them.

The 6 major classes of nutrients are:		
Carbohydrates	Proteins	Minerals
Fats	Vitamins	Water

Carbohydrates, fats, and proteins provide energy the body can use. Vitamins, minerals, and water don't provide energy.

NUTRITION TERMS

- **Calories** are the units of measurement for the energy supplied by food when it is used by the body. Calories (energy) are supplied by carbohydrates, fat, and protein. The alcohol in alcoholic beverages also supplies calories.
- **Carbohydrates** include starch, sugar, and dietary fiber. Of these, sugar and starch supply the body with energy. Each gram of starch or sugar supplies about 4 calories. Dietary fiber supplies bulk or roughage, but no energy.
- **Fats** provide energy, are carriers for fat-soluble vitamins, and help form cell membranes and hormones. Fats are the most concentrated sources or food energy (calories). Each gram of fat supplies about 9 calories, more than twice the amount in protein or carbohydrates.
- **Fiber (dietary)** is the portion of plants that cannot be digested, adding bulk to the diet and thereby helping to move waste through the digestive system.
- **Minerals** are needed in relatively small amounts. They are used to build strong bones and teeth and to make hemoglobin in red blood cells. They also help maintain body fluids and perform key roles in other body processes. Calcium and iron are examples.

- **Protein** is needed for growth, maintenance, and replacement of body cells. It also forms hormones and enzymes that regulate body processes. Extra protein is used for energy or stored as body fat. Each gram of protein supplies about 4 calories.
- **Sodium** is a mineral that occurs naturally in some foods, but is added to many processed foods and beverages. Table salt contains sodium and chloride.
- **Vitamins** are needed by the body in very small amounts. They do not supply energy, but they help release energy from carbohydrates, fats, and proteins. They also help in chemical reactions in the body. Vitamin A and Vitamins C are examples.
- **Water** is the most important nutrient. It is needed to replace body water lost through various routes. Water helps transport nutrients, remove waste, and regulate body temperature.

BOOSTING IRON, VITAMIN A, & VITAMIN C

Iron, vitamin A, and vitamin C are 3 nutrients that many children don't get enough of for good health. For this reason, it is important to know which foods are good sources of these nutrients, and serve these frequently.

Iron

Meat and meat alternates are the best food sources or iron. This includes lean meats, poultry, fish and shellfish, eggs, nuts and seeds, peanut butter, and other nut/seed butters, dry beans, and dry peas. Cheese and yogurt are the only meat alternates that are not good sources of iron. Iron-fortified cereal products are also good sources.

Iron in the food we eat is important for many reasons, but mainly because it helps our bodies make healthy blood and fight infection.

As children grow and develop, iron is one of the most crucial nutrients. Too little iron may lead to iron-deficiency anemia. You can boost the iron value of a meal or snack by serving a food that is rich in vitamin C along with iron-rich food. The vitamin C actually helps the body get more of iron from food.

Vitamin A

Vegetables and fruits are the best food sources of vitamin A, but some of them have very little vitamin A. See below for a list of vegetables and fruits that are better sources of vitamin A.

Vitamin A is important for normal growth, healthy skin, membranes, and tissues, and proper bone and tooth development. It is also important for healthy eyes and good vision, especially in dim light or darkness.

Beta carotene, the form of vitamin A found in fruits and vegetables, helps protect body tissues from oxidative damage. This may reduce the risk of developing some forms of cancer and other diseases.

Vitamin C

Fruits and vegetables are the best food sources of vitamin C, but some of them have very little vitamin C. See below for a list of vegetables and fruits that are better sources of vitamin C.

Vitamin C is important for healthy skin, bones, teeth, and muscles. It is also important in wound healing and maintaining strong blood vessels. Vitamin C may reduce the risk of developing some forms of cancer and other diseases by protecting body tissues from oxidative damage.

Conserving Nutrients in Cooking

Some of the Vitamins C and Iron in vegetables and fruits tends to be lost during preparation and cooking. You can conserve these nutrients by doing the following:

- Cook food whole or in large pieces, with skins on, when possible.
- Steam or microwave food when possible.
- Don't overcook. Cook as briefly and in as little water as possible. Simmer rather than boil.
- Use cooking water in soups and stews, when possible.

GOING EASY ON FAT, SUGAR, & SODIUM

Healthy eating means going easy on fat, sugar, and sodium. One of the biggest problems with filling up on foods that contain a lot of fat or sugar is that they contain a lot of calories. This makes it more likely that children will become overweight or obese, and less likely that they will get the essential nutrients they

need. Eating foods that contain a lot of sodium promotes the development of high blood pressure in some individuals.

It is important to help young children learn to enjoy foods that are low to moderate in their fat, sugar, and sodium content. All of us – children and adults – need to consume some fat, sugar, and sodium for eating enjoyment and good nutrition. But many of us consume more than we need. The challenge is to enjoy the undeniable tastiness that these ingredients lend to food without letting them take over. The following information should help you meet that challenge.

FAT

Nutrition Facts	
Serving Size 1 serving (140g)	
Servings Per Container 1	
Amount Per Serving	
Calories 140	Calories from Fat 70
%	
Total Fat 7g	
Saturated Fat 2.5g	
Trans Fat 0g	
Cholesterol 25mg	
Sodium 300mg	
Total Carbohydrate 9g	
Dietary Fiber 2g	
Sugars 3g	
Protein 8g	
Vitamin A 10%	
Vitamin C 20%	
Calcium 4%	
Iron 10%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
Calories: 2,000 2,500	
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Ingredients: Tomatoes; Chicken; Mushrooms; White Wine; Celery; Onions; Green Bell Pepper; Flour; Butter; Olive Oil; Salt; Black Pepper.	

Some fats are easy to identify. These include butter, margarine, vegetable oils, salad dressings, cream, and lard. Fats in other foods are less obvious. In general, foods that come from animals (milk, meat, poultry, and fish) are naturally higher in fat than foods that come from plants. However, products such as lean meat, low fat milk, and chicken without skin have less fat than other animal products.

Most fruits, vegetables, and grain products are naturally low in fat. However, many popular items such as French fried potatoes and some baked goods are prepared with fat, thus making them higher in fat. Food manufacturers add fat to many products and consumers add even more – both in the kitchen and at the table.

Check the Fat Content

Read labels on foods to identify products with less fat. Buy lower-fat and no-fat-added versions of products. Serve higher fat foods in smaller portions and less often.

Young Children and Fat

Lowering fat content lowers the calories in a meal. Fat contains over twice the calories of an equal amount of protein or carbohydrate. When fat is lowered, other foods need to be added to replace calories lost. Higher-carbohydrate foods (breads, bread alternates, fruits,

and vegetables) are the best choice for adding calories when lowering the fat in meals. Some younger children may have difficulty eating these additional servings at one meal so they may need more substantial snacks between meals.

Children less than 2 years old have a special need for fat, especially for the calories it provides. After the second birthday it is important to promote moderation in fat intake because eating habits and taste preferences are learned at an early age.

Go Easy on Fatty Extras

One of the most effective ways to cut down on the amount of fat in your daily eating is to cut down on the amounts of “fatty extras” you add to your food. Some of the most commonly used extras include: Butter, margarine, cream, half & half, cream cheese, vegetable oil, shortening, lard, meat fat, mayonnaise, salad dressing, & tartar sauce.

Many recipes call for larger amounts of these ingredients than is really needed. In addition, many people add these fatty extras to prepared foods. The trick is to get food that tastes good without all the fat. Try cutting the amount of fat in your favorite recipes, and don't automatically add fat to breads, grains, vegetables, and other prepared foods.

Fixing Good Food with Less Fat

Sandwiches: Spread only a light layer of mayonnaise, salad dressing, margarine, or butter. If the sandwich has a moist or creamy texture (tuna or egg salad, peanut butter, etc) there's no need to spread on more of these fatty extras. Use ketchup, mustard, pickle relish, chopped or sliced vegetables, and other nonfat extras to get flavor and moistness.

Toppings: Butter, margarine, and sour cream are favorites on potatoes and other vegetables. Use less of them and use more herb and spice seasonings, lemon juice, plain yogurt, light sour cream, etc.

Packaged Mixes (macaroni, stuffing, sauce, etc): When preparing these foods, use half the amount of butter or margarine suggested. If milk or cream is called for, use low fat milk.

Different Types of Fat

All fats in foods are mixtures of three types of fat – saturated, monounsaturated, and polyunsaturated. Saturated fat is found in largest amounts in fats from meats and dairy products. Monounsaturated fat is found mainly in nuts and seeds and in olive, peanut, and canola oils. Polyunsaturated fat is found mainly in safflower, sunflower, corn, soybean, and cottonseed oils, and in some fish.

Eating too much saturated fat raises blood cholesterol levels in many people, increasing their risk for heart disease. For good health, go easy on total fat and get fat from a variety of food sources – but mostly from foods that have more polyunsaturated or monounsaturated fat.

What about Cholesterol?

Cholesterol and fat are not the same. Cholesterol is present in all animal products – meat, poultry, fish, milk and milk products, and egg yolks. Both the lean and fat of meat, and the meat and skin of poultry, contain cholesterol. In milk products, cholesterol is mostly in the fat, so lower fat dairy products contain less cholesterol. Egg yolks and organ meats are high in cholesterol. Plant foods do not contain cholesterol.

Like saturated fat, cholesterol in food raises blood cholesterol levels in many people, increasing their risk for heart disease. To keep cholesterol intake to a healthy level, go easy on total fat and on high cholesterol foods.

SUGAR

There are two main reasons children should not eat foods with a lot of sugar. First, high-sugar foods supply calories but may not have much vitamin or mineral content. This makes it possible to feel well-fed without being well-nourished. Second, sugary foods can promote tooth decay.

Foods contain sugars in various forms. Common table sugar (sucrose) is only one form. Other sugars (glucose, fructose, maltose, and lactose) occur naturally in foods. Processed sweeteners such as corn syrup, dextrose, invert sugar, and fruit juice concentrates are added to many processed foods.

Check the Sugar Content

Nutrition Facts	
Serving Size 3 oz (85g) Servings Per Container 1	
Amount Per Serving	
Calories 180	Calories from Fat 90
% Daily Value*	
Total Fat 10g	15%
Saturated Fat 40g	20%
Trans Fat 0.5g	
Cholesterol 70mg	23%
Sodium 60mg	3%
Total Carbohydrate 0g	0%
Dietary Fiber 0g	0%
Sugars 0g	
Protein 22g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 15%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your caloric needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Saturated Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Read labels on foods to identify products with less sugar. Buy lower-sugar and no-sugar added versions of products. Serve higher-sugar foods in smaller portions and less often.

Go Easy on Sugary Extras

Besides going easy on foods that are high in sugar (candy, sweet desserts, soft drinks, etc), a good way to cut down on the amount of sugar in your daily eating is

to cut down on the amounts of “sugary extras” whether they’re added in cooking and baking or at the table.

Some of the most commonly used extras include:

Granulated sugar (white or brown), powdered sugar, honey, molasses, sorghum, corn syrup, jams, jellies, syrups.

Many recipes call for larger amounts of these ingredients than is really needed. In addition, may people add large amounts of these sugary extras to prepared foods. It is a good idea to leave the sugar bowl and the honey bear off the table!

SODIUM

Table salt contains sodium and chloride. Both are essential minerals, but most Americans consume much more salt and sodium than they need. For some people, this increases their risk of getting high blood pressure. Help children learn to enjoy the taste of foods with less salt.

Foods containing salt provide most of the sodium we eat. Much of it is added during processing and manufacturing. Foods with larger amounts of added

Nutrition Facts	
Serving Size 1 oz. (28g/About 21 pieces) Servings Per Container About 2	
Amount Per Serving	
Calories 170	Calories from Fat 110
% Daily Value*	
Total Fat 11g	17%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 250mg	10%
Total Carbohydrate 14g	5%
Dietary Fiber less than 1g	2%
Sugars 0g	
Protein 2g	
Vitamin A 2%	Vitamin C 0%
Calcium 0%	Iron 4%
Vitamin E 6%	Thiamin 4%
Riboflavin 2%	Niacin 4%
Vitamin B ₆ 2%	Phosphorus 2%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your caloric needs:

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Cholesterol	Less than 300mg	300mg
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Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

salt include cured and processed meats, cheeses, most crackers, ready-to-eat cereals, breads and bakery products, prepared frozen entrees and dinners, packaged mixes, and canned soups.

Check the Sodium Content

Read labels on foods to identify products with less sodium. Buy lower-salt and no-salt-added versions of products. Serve higher-sodium foods in smaller portions and less often.

Go Easy on Salty Extras

Table salt isn’t the only “salty extra” that adds sodium to foods. Ketchup, mustard, relish, salad dressings, soy sauce, MSG (monosodium glutamate), miso, and bouillon can also add a lot of sodium.

Gradually reduce the amount of salty extras in your recipes, especially when the ingredients already contain a lot of sodium. In addition it’s a good idea to leave the salt shaker and soy sauce bottle off the table. Rely more on herbs, spices, and lemon juice to enhance the flavor of foods.

Boosting Food Variety

Besides making your meals and snacks more interesting, serving a variety of foods helps make them more nutritious. That’s because each food has unique nutritional strengths and weaknesses. Where one food is nutritionally weak, another is strong. In addition, learning to try new foods is an important developmental skill for children. A child who learns to enjoy a variety of foods is likely to continue eating a variety of foods as an adult.

Beware of getting into ruts when planning menus. Starting with your current menus, include one or two new items each month. It may be a new food or a familiar food prepared in a different way. Serve new foods in appealing ways, along with familiar, well-liked foods. If possible, involve children in menu planning and food preparation. One way to keep track of variety in your menus is to count the number of different foods served in each food group during a given month.

MILK

Milk is a food which happens to be in liquid form. It is an excellent source of calcium, protein, riboflavin (a B vitamin) and vitamins A and D. But it is a poor source of iron and vitamin C – 2 nutrients that many children don't get enough of.

Avoid Serving too Much Milk

Milk is a required part of CACFP meals, and must be served along with the rest of the meal. Many children are willing to drink a lot of milk – especially if they are thirsty. But milk should not be used as a thirst quencher. An oversized portion of milk may leave little room for the rest of the meal, making what the child eats less balanced nutritionally. A child is not likely to fill up on milk alone if the milk portion size is limited to what is required. Water is the best beverage to serve to satisfy thirst. Make drinking water a regular part of meals and snacks, in addition to the required foods.

Milk is most often served at snack because it is convenient and well-accepted, but too much milk can crowd out other important and appealing foods. Like the rest of us, children thrive on variety. Since milk is required at every meal, feel free to serve it less often at snack, especially if you serve yogurt or cheese frequently.

Serve Low Fat Milk

It is easy to get the nutritional benefits of milk with less fat. Whole milk (4% milk fat) is generally recommended for children until they are 2 years old. After that, low fat milk (2% or 1% milk fat) or nonfat milk (skim) are better choices.

Milk Allergy

Some children are allergic to milk and other dairy products. Although most of these children will eventually outgrow this milk allergy, they need to be served other foods that will help them get enough calcium for normal bone growth. In addition to calcium-rich foods, a calcium supplement or calcium-fortified foods may help them get enough of this important mineral.

MEATS & MEAT ALTERNATES

Meat, fish, poultry, eggs, dry beans and dry peas, and nuts and seeds supply protein, B vitamins, and iron. Cheese and yogurt supply protein, B vitamins, and calcium, but not iron.

Don't Overdo Meat & Meat Alternate Proteins

Since many of us have grown up treating meat as the center of the meal, we tend to serve and consume larger portions than recommended. This is expensive, nutritionally unnecessary, and makes it more difficult to keep our eating in line with health guidelines. If you fill up on a large portion of meat, you're not going to have much room left for the high-carbohydrate foods (breads, bread alternates, vegetables, and fruits). It's a good idea to serve meat/meat alternate and milk portions that meet food program requirements, then encourage children to "fill up" on the vegetables, fruits, and breads & bread alternates.

Meats & Meat Alternates Are Protein-Packed

Protein is the first thing most people think of when they consider the nutritional value of meats and meat alternates. One thing all of these foods have in common is a high protein content. There's no doubt that protein is an important nutrient, but most of us consume at least twice as much protein as we need, so eating smaller amounts of these foods will not be a problem.

Too Much Fat & Sodium are Bigger Concerns than Too Little Protein

Many foods in the meat/meat alternate group contain a lot of fat and sodium. It's important to be aware of the fat and sodium content of the foods you serve, and to balance fattier, saltier choices (such as hot dogs, sausage, and cheese) with lower-fat, less salty choices (such as skinless poultry, fish, and dry beans) as much as possible. Fattier, saltier foods are not bad choices unless they are served frequently or in too-large portions.

Ideas for Less Fat	
Use More Often	Use Less Often
Chicken or turkey without skin	Chicken or turkey with skin
Unbreaded meat, poultry, or fish	Breaded or battered meat, poultry, or fish
Fish canned in water	Fish canned in oil
Lean ground beef or ground turkey	Regular ground beef or ground pork
Lean cuts of beef or pork with the fat trimmed away	Beef or pork without fat trimmed away
Lean ham or Canadian bacon	Regular ham, bacon, or sausage
Lean sandwich meats	Hot dogs, bologna
Low fat or reduced-fat cheese	Regular (whole-milk) cheese
Eggs	Peanut butter, other nut and seed butters
Dry beans & dry peas	Nuts, seeds
Lowfat or nonfat yogurt	

Prepare Meats in Ways that Remove Excess Fat

- Drain fat from browned meat before adding to other ingredients.
- Trim fat from meat and poultry before and/or after cooking.
- Remove skin from poultry before serving. Leaving the skin on during cooking will help keep the meat moist.
- Roast, bake, broil, or simmer meat poultry, and fish.
- Roast meat, poultry, and fish on a rack so the fat will drain off.
- Chill meat or poultry broth until the fat becomes solid, then spoon off and discard the fat before using the broth.

Enjoy Less-Meat or No-Meat Meals

Another way to cut back on fat is to have less-meat or no-meat meals regularly. Simply use meat alternates in place of some or all of the meat. For example, use cooked lentils in place of half of the ground beef in “sloppy joes”. This can also help you expand menu variety and make meals more interesting. By far the best meat alternated to use in these menus are dry beans or dry peas, because they are low fat, high-carbohydrate, high-protein, high-fiber, and provide important amounts of several vitamins and minerals.

Sources of Iron

With the exception of cheese and yogurt, all meats and meat alternated are good sources of iron.

- Dry beans and dry peas (black beans, garbanzo beans, kidney beans, lima beans, lentils, navy beans, pinto beans, split peas, etc)
- Eggs
- Fish
- Liver
- Lean Meats (beef, lamb, pork, veal)
- Nuts & Seeds
- Peanut butter & other nut or seed butters
- Lean Poultry (chicken or turkey)
- Shellfish (clams, oysters, scallops, shrimp)

Variety in Meats & Meat Alternates

The many foods in this group can be prepared and served in lots of appealing and adventurous ways.

For Example:

- Combine ground turkey with lean ground beef or pork when you make a beef or pork barbeque.
- Serve double-decker sandwiches on whole-wheat bread with roast turkey, cheese, tomatoes, and lettuce.
- Add grapes or raisins to tuna, chicken, or turkey salad and stuff into whole wheat pitas.
- Make a sandwich spread by combining peanut butter with raisins, pineapple, or apple chunks. Serve on whole wheat bread.
- Serve whole or mashed pinto beans in tacos, burritos, or chili. Buy or make vegetarian baked beans.
- Make an “Aloha-burger” by topping a lean hamburger with a slice of pineapple.
- Try a regional favorite, such as red beans and rice, pirogi, or gyros. Try a southern favorite – black eyed peas – or black beans for a South American or Caribbean flavor.
- At snack, add your own fruit to plain low fat yogurt rather than buying flavored yogurt. Mash the fruit first for maximum sweetening.



**4-C Child and Adult Care Food Program
NUTRITION BASICS**

FRUITS & VEGETABLES

Fruits and vegetables are important sources of vitamin A, vitamin C, vitamin B6, folacin (a B vitamin), iron, potassium, magnesium, and fiber.

Sources of Vitamin A	
Try to serve at least one good or excellent source every day	
Excellent Sources	
Apricots (dried)	Peppers, sweet red
Carrots	Pumpkin
Chili peppers (red)	Spinach
Cress, garden	Squash, winter (acorn, butternut, hubbard, etc)
Greens (beet, chard, collard, dandelion, kale, mustard, turnip)	Sweet Potatoes
Mangoes	
Good Sources	
Apricots	Chicory greens
Broccoli	Papayas
Cabbage, Chinese (bok choy)	Parsley
Cantaloupe	Plume, purple canned
Fair Sources	
Asparagus	Nectarines
Cherries, red sour	Prunes
Chili peppers, green	Tomatoes
Endive, curly	Tomato juice, puree, or paste
Escarole	
Sources of Vitamin C	
Try to serve at least one good or excellent source every day.	
Excellent Sources	
Broccoli	Oranges
Brussels sprouts	Orange Juice
Chili peppers, red & green	Papayas
Guavas	Parsley
Kiwifruit	Peppers, sweet bell, red, & green
Good Sources	
Cantaloupe	Greens, collard, kale, mustard
Cauliflower	Kohlrabi
Cress, garden	Kumquats
Fruit juices with Vitamin C added	Mangoes
Grapefruit	Strawberries
Grapefruit juice	Tangerines
Fair Sources	
Asparagus	Raspberries
Avocado	Rutabagas
Cabbage, raw	Sauerkraut
Greens (dandelion, turnip)	Spinach
Honeydew melon	Sweet potatoes
Okra	Tangelos
Peas, fresh or frozen	Tomatoes
Potatoes (baked, boiled, or steamed)	Tomato juice, puree, or paste
Potatoes (instant mashed with vitamin C added)	Turnips

PORTION SIZE AND YIELD OR FRESH FRUITS & VEGETABLES

In addition to considering vitamins A & C when choosing fruits and vegetables, it is important to make sure that individual portion sizes are big enough. This information will help you do that.

APPLES (medium)	1 apple = ½ cup (c.)	OLIVES (medium)	16 olives = ½ c.	
	½ apple = ¼ c.		8 olives = ¼ c.	
	¼ apple = 1/8 c.		4 olives = 1/8 c.	
APRICOTS (medium, 11 / lb)	2 apricots = ½ c.	ORANGES (medium)	1 orange = ½ c.	
	1 apricot = ¼ c.		½ orange = ¼ c.	
	½ apricot = 1/8 c.		¼ orange = 1/8 c.	
ASPARAGUS (15 spears/lb)	6 cooked spears = ½ c.	PEACHES (medium)	1 peach = ½ c.	
	3 cooked spears = ¼ c.		½ peach = ¼ c.	
	1 ½ cooked spears = 1/8 c.		¼ peach = 1/8 c.	
AVOCADOS	4 ½ half-cup portions/lb	PEARS (2 ½" diameter, 4/lb)	1 pear = ½ c.	
BANANAS (small, 3/lb)	1 banana = ½ c.		½ pear = ¼ c.	
	½ banana = ¼ c.		¼ pear = 1/8 c.	
	¼ banana = 1/8 c.	PEAS	5 ½ half-cup portions/lb.	
BEANS, GREEN OR WAX	Six ½ c. portions/lb.		PICKLES, DILL (large)	1 pickle = ½ c.
CANTALOUPE (medium)	¼ melon = ½ c.			½ pickle = ¼ c.
	1/8 melon = ¼ c.	¼ pickle = 1/8 c.		
	1/16 melon = 1/8 c.	PICKLES, SWEET (small)	2 pickles = ½ c.	
CARROT STICKS (1 stick is 3" long, ¾" wide)	12 sticks = ½ c.		1 pickle = ¼ c.	
	6 sticks = ¼ c.		½ pickle = 1/8 c.	
	3 sticks = 1/8 c.	PINEAPPLE	3 half-cup portions/lb.	
CELERY STICKS (1 stick is 3" long, ¾" wide)	8 sticks = ½ c.		PLUMS (medium)	2 plums = ½ c.
	4 sticks = ¼ c.			1 plums = ¼ c.
	2 sticks = 1/8 c.	½ plums = 1/8 c.		
CORN ON THE COB (medium ear, 3/lb.)	1 ear = ½ c.	RHUBARB	3 half-cup portions/lb.	
	½ ear = ¼ c.		TANGERINES	1 tangerine = ½ c.
	¼ ear = 1/8 c.			½ tangerine = ¼ c.
CUCUMBER SLICES (1 slice is 2" diameter, 1/8" thick)	8 sticks = ½ c.	POTATOES (medium, 3/lb.)		¼ tangerine = 1/8 c.
	4 sticks = ¼ c.		1 potato = ½ c.	
	2 sticks = 1/8 c.		½ potato = ¼ c.	
CUCUMBER STICKS (1 stick is 1/12 of a 7-8" cucumber)	4 sticks = ½ c.	RADISHES (1/2" diameter, 45/lb)	¼ potato = 1/8 c.	
	2 sticks = ¼ c.		14 radishes = ½ c.	
	1 sticks = 1/8 c.		7 radishes = ¼ c.	
GRAPES	18 grapes = ½ c.	TOMATOES (medium, 4/lb)	4 radishes = 1/8 c.	
	9 grapes = ¼ c.		1 tomato = ½ c.	
	5 grapes = 1/8 c.		½ tomato = ¼ c.	
LETTUCE LEAVES	1 large leaf = ¼ c.	TOMATOES, CHERRY	¼ tomato = 1/8 c.	
	2 medium leaves = ¼ c.		8 tomatoes = ½ c.	
	3 small leaves = ¼ c.		4 tomatoes = ¼ c.	
MUSHROOMS (raw)	Nine ½ c. portions/lb.		2 tomatoes = 1/8 c.	
NECTARINES (medium)	1 nectarine = ½ c.			
	½ nectarine = ¼ c.			
	¼ nectarine = 1/8 c.			

IDEAS FOR LESS FAT, SUGAR, AND SODIUM

Use more often...	Use less often...
Fresh or frozen vegetables and fruits	Salted canned vegetables
Vegetables canned with less salt	Fruits canned in syrup
Fruits canned in juice	Fried vegetables
	Vegetables in butter, cheese, or cream sauce

- Steam, simmer, or bake vegetables or stir fry them in a small amount of vegetable oil.
- Season vegetables with spices and herbs in place of some or all of the butter or margarine and salt.
- Use less mayonnaise or creamy salad dressing or use nonfat or low fat versions. Try a mix of half dressing and half plain low fat yogurt, or half dressing and half tomato salsa. Use your imagination to get creamy moistness and flavor with less fat.
- Serve fresh fruits, unsweetened frozen fruits, or fruits canned in unsweetened juice. Enhance the natural sweetness of fruit by seasoning it with “sweet” spices such as cinnamon, nutmeg, ginger, cardamom, or vanilla.
- Plain low fat yogurt (or “blenderized” low fat cottage cheese) mixed with a touch of honey and vanilla makes a great dressing or dip for fruit. Frozen juice concentrates (apple, pineapple, orange) are also good choices for gently sweetening fruit dips and dressings.

VARIETY IN FRUITS & VEGETABLES

How many kinds of vegetables and fruits did you serve last month? Many of us serve the same vegetables in the same way because we know that children will eat them. This should not stop us from featuring new vegetables or vegetable combinations each month.

- Serve a variety of fresh vegetables with a low fat yogurt or cottage cheese dip.
- Add chopped raw spinach, other dark greens, or red cabbage for a colorful salad.
- Offer vegetables that have more fiber, such as cooked dry beans, broccoli, potatoes with skin, and carrots.
- Top a baked potato with broccoli and a spoonful of low fat yogurt.
- Serve a 3-bean salad, coleslaw, or raw vegetable salad prepared with a low fat dressing or marinade.

- Top pizza with green pepper, mushrooms, and onions. Add frozen or fresh spinach to lasagna.
- Introduce favorite vegetables from other regions or countries, such as sweet potatoes, okra, and collard greens.
- Try new vegetable combinations. Cook vegetables only until crisp to preserve flavor and nutrients. For color and flavor, add corn and red pepper to broccoli.
- Serve fresh fruits in season – pineapple, tangerines, peaches, plums, berries, oranges, apples, pears, bananas, cantaloupe, and grapes.
- Offer fruits that have more fiber, such as those with edible skins (apples, pears, nectarines, peaches, etc.) and those with edible seeds (berries, bananas, kiwi, etc.)
- Add pieces of fresh, frozen, or dried fruit to canned mixed fruit. Add berries or apple pieces to pineapple chunks.
- Add fruit to main dishes. Try peaches or apricots with baked chicken or turkey.
- Introduce unfamiliar fruits when they are in season, such as kiwi, figs, papayas, and mangoes.
- Serve whole or cut-up fruit instead of fruit juice.

BUYING & SERVING JUICES

Juice is a food which happens to be in liquid form. Besides being thirst-quenching and convenient, juices supply important vitamins & minerals, but juice lacks the valuable fiber of whole fruit, so it is important not to serve juice too often.

- *Juices that Count:* Any full-strength fruit or vegetable juice or juice blend with no added sweetener and no added water. Unsweetened juice concentrates are considered full-strength when reconstituted with water according to directions.
- *Juices that Don't Count:* Any beverage that is not full-strength juice because it contains added sweetener or added water.

“Added sweetener” refers to any form of sugar, such as sucrose, glucose, fructose, dextrose, corn syrup, honey, etc. It also refers to artificial sweeteners, such as saccharin, aspartame, NutraSweet, Equal, Splenda, Sweet-N-Low, etc.

“Added Water” refers to products made with a small amount of juice and a large amount of water. These products are often labeled punch, drink, juice cocktail, ade, nectar, etc.

Most cranberry juice products are “drinks” or “cocktails” made with added sweetener. These do not meet requirements. However, some cranberry juice products are all-juice blends of cranberry and naturally sweeter juice(s) – such as apple – with no added sweetener. These 100% juice blends meet requirements. Record them on your menu as “100% cran-apple juice” or whatever the all-juice blend happens to be. Don’t record them as “cranberry juice”.

Serve Juices with Vitamin C

In addition to drinking only 100% full-strength juice, children will get the most benefit from juices that are good sources of vitamin C. When it comes to vitamin C, juices are not equal. Some are naturally rich in C, like orange and grapefruit. Other are not, like apple, grape, and pineapple. If you buy juices that are naturally low in vitamin C, try to choose brands with vitamin C added. Check the label. Read juice labels carefully – mainly the list of ingredients – to buy only juices that contain no added sweetener, and to give vitamin C a boost.

BREADS AND BREAD ALTERNATES

Whole grain, enriched, or fortified breads and bread alternates are important sources of carbohydrate calories, vitamins, iron, and other minerals, protein, and fiber. Vitamin, mineral, and fiber content are higher in whole-grain products than in enriched products.

- **Whole grains** have not been milled or refined, so they contain the entire edible grain – including the bran and germ portions which contain most of the fiber, vitamins, and minerals. Examples of whole grains include whole-wheat flour, oatmeal, whole cornmeal, brown rice, and scotch barley.
- **Enriched grains** are milled or refined grains that have had iron and three B vitamins added to replace the amounts of those nutrients that were lost during processing. Examples of enriched grains include enriched wheat (white) flour, enriched white rice, and enriched cornmeal.
- **Fortified grain products** may be made with whole grains or refined grains. They have had vitamins and minerals added in amounts greater than the grain contains naturally. Ready-to-eat cereal products are the most commonly fortified bread alternates.

Buying Breads and Bread Alternates that Meet Program Requirements

To help ensure good nutrition, the CACFP requires that all breads and bread alternates contain whole-grain, enriches, or fortified grain products as the main ingredient (first on the ingredient list). How can you tell is the product you’re looking at meets this requirement? The following series of questions may be used to evaluate a variety of products whether ready-to-eat or packaged mixes, including breads, crackers, muffins, sweet rolls, doughnuts, cookies, and other baked goods that count as bread alternates.

1. What is the first thing on the ingredient list (excluding water)?
 - a. If it’s whole wheat flour, the product is suitable for CACFP use. Stop here.
 - b. If it’s wheat flour, go on to question #2.
 2. Does the ingredient label say enriched wheat flour?
 - a. If yes, the product is suitable for CACFP use. Stop here.
 - b. If no, go on to question #3.
 3. Does the ingredient label include thiamin, riboflavin, niacin, and iron?
 - a. If yes, the product is suitable for CACFP use.
 - b. If no, the product is not suitable for CACFP use.
- Wheat flour is not whole-wheat flour, it is white flour. If you are looking for whole grains, look for whole wheat products.
 - Thiamin, riboflavin, niacin, and iron are the four nutrients that are added to grain products to make them enriched.

Buying Cereal Products

Ready-to-eat and cooked cereals have Nutrition Facts on the side of the package. Using this information, choose cereals that 6 grams or less of “sugars” per 1-ounce serving of cereal. This way you’ll be sure to buy only cereals that meet food program requirements. Six grams of sugar is about 1 ½ teaspoons.

You can give iron a boost by serving cereals that are fortified with iron at 45% or 100% of the Daily Value. To see how much iron a cereal contains, refer to the Nutrition Facts on the package label.

Choosing Products with Less Fat, Sugar, and Sodium

Besides checking the ingredient list to make sure the main ingredient is whole-grain or enriched, you can use the Nutrition Facts on food labels to help you compare various products that count as breads and bread alternates. Simply compare the fat, sugar, and sodium content of two or more products and make your choice.

Ideas for More Fiber, Less Fat, and Less Sugar

Use More Often	Use Less Often
Whole grain breads and bread alternates	Refined (white) breads and bread alternates
Breads, buns, rolls, bagels	Croissants, biscuits
Tortillas (not fried)	Doughnuts, sweet rolls, coffee cake
Low fat cornbread, muffins	
Pancakes, waffles	

Homemade Baked Goods with Less Fat and Sugar

Many store-bought baked goods are loaded with “empty” (non-nutritious) calories from fat and sugar. Although homemade can be a lot better, it isn’t always. Many home recipes are high in fat and sugar. This 3-step guide will help you evaluate the recipes you use. It’s especially useful for evaluating baked goods that often contain large amounts of fat and sugar – cookies, bars, muffins, quick breads, sweet rolls, coffee cake, etc.

1. Figure the Nutrition Score of the Recipe

The recipe earns 1 Nutrition Point for each ½ cup of any whole grain or enriched grain ingredient. For uneven amounts, round down to the nearest ½ cup. Among the more common of these ingredients are: enriched wheat flour, whole wheat flour, rolled oats, corn meal, wheat germ, wheat bran.

The Recipe earns 1 Nutrition Point for each 2 ounces or any whole grain and/or fortified ready-to-eat cereal that meets CACFP requirements. For uneven amounts, round down to the nearest ½ cup. In most cases, 2 ounces of cereal will be 1-2 cups, depending on the cereal. Check the serving size in the Nutrition Facts on the product label.

2. Figure the Empty Calorie Score of the Recipe

The recipe gets 1 Empty Calorie Point for each ½ cup of any form of sugar. For uneven amounts, round down to the nearest ½ cup. Commonly used forms of sugar include: granulated sugar (white and brown), powdered sugar, corn syrup, honey, molasses, flavored chips (chocolate, butterscotch, etc), and marshmallows.

The recipe gets 1 Empty Calorie point for each ¼ cup of any form of fat. For uneven amounts, round down to the nearest ¼ cup. Commonly used forms of fat include: margarine, butter, vegetable oil, vegetable shortening, and lard.

3. Compare the Nutrition Score to the Empty Calorie Score

If the Nutrition Score is greater than the Empty Calorie Score, the recipe is suitable for CACFP use. If you find that the recipe is not suitable, you may be able to reduce the Empty Calorie Score enough to make it suitable. The amounts of fat and sugar in many recipes may be cut by as much as half without affecting the quality of the product.

Recipe Change Example: Whole Wheat Raisin Cookies

Like many standard cookie recipes, this one scores higher on Empty Calories than on Nutrition. But by adjusting the amounts of shortening and sugar the recipe becomes a Nutrition winner, and tastes great too!

- | | |
|---|-----------------------------------|
| 1 c. whole wheat flour | Nutrition Score = 4 |
| 1 c. enriched white flour | 1 c. <i>whole wheat flour</i> = 2 |
| 1 ½ teaspoons (t.) baking powder | 1 c. <i>enriched flour</i> = 2 |
| ½ t. cinnamon | |
| ¼ t. salt | |
| 2/3 c. 1 c. vegetable shortening | Empty Calorie Score = 2 |
| 1/3 c. 1 c. packed brown sugar, packed | 2/3 c. <i>shortening</i> = 2 |
| | 1/3 c. <i>sugar</i> = 0 |
| 1 egg | |
| ¼ c. milk | |
| 1 t. vanilla | |
| 1 c. raisins, chopped | |

Preheat oven to 350° F. Grease baking sheet. Mix dry ingredients except sugar. Mix shortening and sugar until creamy. Add egg, milk, and vanilla. Mix well. Stir in dry ingredients. Add raisins. Mix well. Drop dough by teaspoons onto baking sheet, about 1 inch apart. Bake until lightly browned, about 9 minutes. Remove from baking sheet. Cool.

Reluctant to Change a Recipe?

Are you uncomfortable with the idea of changing a recipe? If you’re not feeling like experimenting, it’s a good idea to stay with “Nutrition Winner” recipes that don’t require any adjustment. If you’re feeling cautious but willing to experiment, try cutting down the fat and sugar in a recipe by one or two tablespoons each time you make it. This gradual approach will let you decide how much fat and sugar are needed for good taste.

Cutting back on sugar and substituting moist low fat or non fat ingredients for some of all of the fat works well in some recipes – especially in muffins, quick breads, coffee cakes, and soft cookies. Applesauce, yogurt, prune puree, and pumpkin puree are just a few of the ingredients that may be used as fat substitutes in these baked goods.

Variety in Breads & Bread Alternates

The basic grains from which nearly all breads and bread alternates are made include:				
Wheat	Rice	Corn	Millet	Triticale
Rye	Oats	Barley	Buckwheat	Amaranth

There are hundreds of whole-grain, enriched, or fortified food products made from these grains that count as breads or bread alternates. Most of them fall into these categories:

Breads, buns, rolls, bagels	Bread sticks, soft pretzels	Cereals, cooked*
Cereals, ready-to-eat*	Cookies, bars**	Crackers, rice cakes
Doughnuts, sweet rolls, coffee cake, toaster pastries***	Muffins, quick breads, biscuits	Pancakes, waffles
Pizza crust, non-dessert pie crust	Rice, pasta, noodles, dumplings	Tortillas, taco shells

*Low and moderate sugar cereal products meet requirements.

**Use limited to twice weekly, at snack only.

***Use limited to twice weekly, at breakfast or snack only.

Breads & Bread Alternates Add Variety and Interest to Meals

- Make sandwiches with whole-wheat bagels or use one slice of whole-wheat bread and one slice of white bread.
- Use rice, noodles, oats, cornmeal, or bulgur in main dishes.
- Try serving Spanish rice with tacos or burritos.
- Serve different kinds of pasta salads for a change of pace. Combine cold pasta with ham or tuna, peas, carrots, onions, or green pepper. Add a small amount of dressing.
- Buy or make quick breads, muffins, cookies, or crackers with whole-grain flour or meal. Substitute whole wheat flour for part or all of the white flour used in recipes.
- Serve fruit muffins made with whole-wheat flour or oatmeal.

- Stuff pita bread with vegetables, cooked dry beans, and cheese.
- Try whole-wheat crackers or cornbread with chili.
- When serving breads or cereals, offer both whole-grain and enriched.
- At breakfast, try hot cereals, tortillas, muffins, quick breads, pancakes, waffles, French toast, sandwiches, pizza, rice cakes, bagels, pita bread, corn bread – even noodle kugel!

HOW MIGHTY ARE YOUR MENUS?

“Mighty” menus do more than meet basic CACFP requirements. With a little planning, you can make meals and snacks that are varied and appealing, emphasize key nutrients, and teach healthy eating habits. There is no single “right” way to plan menus. Whether you plan them a month ahead, a week ahead, a day ahead, or an hour ahead – here is a checklist to help you do your best.

Do menus meet basic CACFP requirements?
<ul style="list-style-type: none"> ▪ Are foods from all required food groups included? ▪ Do all of these foods count toward meeting requirements? ▪ Are portion sizes realistic for the children’s ages?
Do menus go beyond basic requirements by including...
<ul style="list-style-type: none"> ▪ A variety of foods in the different food groups (except milk)? ▪ Fresh vegetables and fruits and other seasonal foods? ▪ Fruits or vegetables that are excellent or good sources of vitamin A daily? ▪ Fruits or vegetables that are excellent or good sources of vitamin C daily? ▪ Several foods that are good sources of iron daily? ▪ Some whole-grain breads or bread alternates? ▪ Any new foods or familiar foods prepared in new ways?
Are fat, sugar, and salt kept to low or moderate levels?
Do snacks nutritionally complement the main meals?
Does each menu have variety in color, shape, flavor, texture, temperature, and preparation methods?