

4-H Dairy Foods

Unit 2: Ice Cream

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Introduction

What is your favorite dessert?

Surveys indicate that ice cream is the favorite dessert of Americans. The average American eats about a ton (900 kg) of ice cream in his or her lifetime, enough ice cream to fill the back of three pickup trucks! That's almost six gallons of ice cream a year or roughly an ice cream cone every other day. Do you eat your fair share?



What flavor do you prefer? If you are like most Americans, your favorite flavor is vanilla, followed by chocolate, and then strawberry.

It is not known exactly when ice cream was first made, but it is believed that ice cream evolved from the chilled wines or other iced drinks enjoyed by the Romans. During the reign of Charles I of England in the mid-17th century, a frozen dessert resembling ice cream was held in such high regard that the king ordered that it be served only at the royal table.

In this study of ice cream and its place in your diet, you will learn:

- How ice cream can contribute to good nutrition.
- To understand information on ice cream labels.
- To compare the cost, taste, and nutritional value of different ice creams.
- To make ice cream.
- About some other foods that contain dairy products.

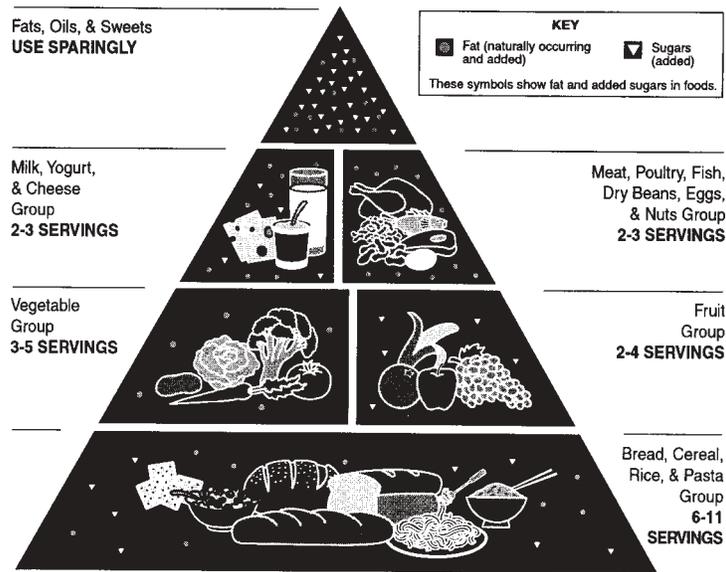
But first, let's review the guidelines for healthy eating. Look at the chart and Food Guide Pyramid on page 2.



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Food Guide Pyramid

A Guide to Daily Food Choices



The Food Guide Pyramid is a general guide to help you choose the right amount of healthy foods every day. The Pyramid emphasizes foods from the five food groups in the three lower sections. Each of these food groups provides some, but not all, the nutrients you need. No one food group is more important than another—for good health you need them all.

Breads, Cereals, Rice, and Pasta are important sources of energy, vitamins, minerals, and fiber. Aim for six to 11 servings a day. An example of one serving is:

- 1 slice of bread
- 1/2 cup cooked rice
- 1/2 cup cooked cereal
- 1 ounce ready-to-eat cereal

Fruits and vegetables are rich sources of vitamins, minerals, and fiber. The goal is five or more servings a day. For those eight years old and above, one serving equals:

- 1/2 cup raw or cooked vegetables
- 1 cup leafy raw vegetables
- 1 piece of fruit or melon wedge
- 3/4 cup of juice
- 1/2 cup of canned fruit

Milk, Yogurt, and Cheese provide protein, vitamins, and minerals, such as calcium. You need two to four servings a day. One serving is:

- 1 cup of milk or yogurt
- 1 1/2 to 2 ounces of cheese

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts supply protein, B vitamins, and iron. You need two to three servings. A serving equals:

- 2 1/2 to 3 ounces of cooked, lean meat, poultry, or fish.

One ounce of lean meat or 1/3 serving is equal to:

- 1/2 cup cooked beans
- 1 egg
- 2 tablespoons peanut butter

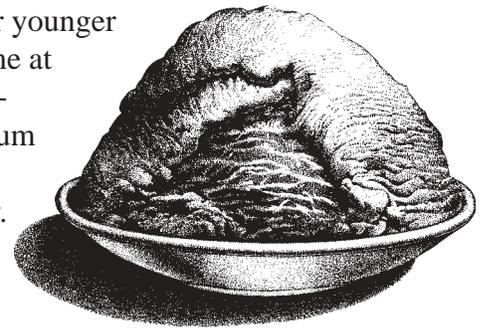
Fats, Oils, and Sweets provide calories and little else nutritionally. Foods in this group include salad dressings, butter, margarine, sugars, soft drinks, candies, and desserts. When choosing foods for a healthy diet, consider the fat and added sugars in your choices from all the food groups, not just fats, oils, and sweets from the Pyramid tip.

Ice Cream—A Source of Good Nutrition

Ice cream is fun to eat, and it is a good source of nutrients. Because it is made with milk, ice cream has the same nutrients—calcium, phosphorus, vitamin A, riboflavin, protein—as milk. It also is an excellent source of energy (calories). Boys and girls ages nine to 12 need three or more glasses of milk each day. Dairy products, such as ice cream and cheese, can be eaten in place of part of the milk. One and a half cups of ice cream, ice milk, or reduced-fat or fat-free ice cream equals the calcium in 1 cup of milk.

The nutrients in ice cream, such as those in milk, help you grow strong and healthy. Calcium is very important during periods of rapid growth. It helps form strong bones and teeth. One cup of milk contains nearly 300 milligrams of calcium. Boys and girls

10 years old or younger should consume at least 800 milligrams of calcium in the foods eaten each day. Teens and young adults need at least 1,200 milligrams; adults 25 years and older, 800 milligrams.



The B vitamins in dairy products help your body use carbohydrates for energy. Vitamin A helps eyes work properly and keeps your skin healthy. Vitamin D helps bones and teeth grow strong. Protein is used for growth and repair.

The following chart compares the nutritive value of vanilla ice cream with other desserts.

Dairy Desserts vs. Other Desserts

Food Item	Calories	Fat (grams)	Calcium (milligrams)
Vanilla Ice Cream			
½ cup regular (10% fat)	135	7	88
½ cup rich (16% fat)	175	12	76
Low-fat Vanilla Ice Cream			
½ cup firm	93	3	88
½ cup soft	113	2+	137
Other Dairy Desserts			
sherbet, ½ cup	135	2	151
frozen fruit yogurt, ½ cup	108	-	100
Pie			
apple, piece, ⅙ of pie	405	18	13
cream, piece, ⅙ of pie	455	23	46
custard, piece, ⅙ of pie	330	17	146
Cake			
carrot, with cream cheese frosting, piece, ⅙ of cake	385	21	4
devil's food, with cream filling, 1.3 ounces	158	7	6
Cookies			
chocolate chip, 4 homemade	185	11	13
brownie, 1 piece (1¾-inch x ⅞-inch) homemade	95	6	9

The Cold Facts

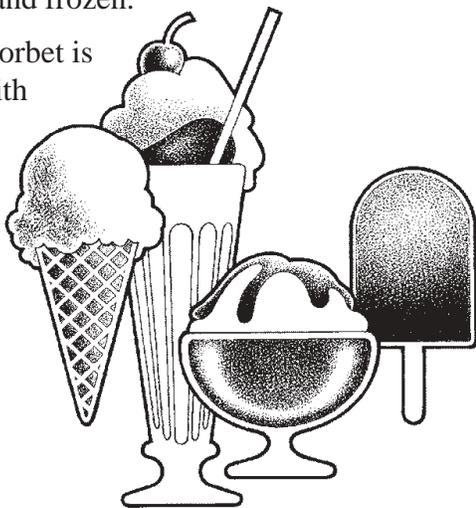
Ice Cream — Milk, cream, sugar, and flavorings make up the basic ice cream mix, but stabilizers and sometimes egg yolks are added to keep the ice cream firm. Ice cream must contain at least 20 percent milk solids, of which at least 10 percent must be milk fat. Fast freezing helps keep the ice cream smooth by creating tiny ice crystals instead of large ones.

Ice Milk — Ice milk contains less fat and milk solids than ice cream; however, it may not be lower in calories. Read the label to see if extra sugar has been added. Ice milk has almost been completely replaced by light, reduced-fat, low-fat, and fat-free ice creams in order to take advantage of current nutrition labeling requirements. These products also may use an artificial sweetener to replace all or part of the sweetener.

Sherbet — Sherbet has become very popular among consumers. It is made in many flavors, including lime, orange, pineapple, and raspberry. Generally, the nutritional value of sherbet is somewhat lower than that of ice cream since only a small amount of milk solids and no eggs are used in the mix. Sherbet is made of water, sugar, a small amount of milk solids, fruit juice, fruit flavor, and color. The taste differs from ice cream in that it has a pleasant, tangy flavor due to the acid content of the fruits.

Frozen Yogurt — Frozen yogurt is also a popular frozen dessert. It is made from plain low-fat yogurt flavored with fruit or other flavorings, then whipped and frozen.

Sorbet — Sorbet is an ice made with fruit puree or fruit juices plus a sugar-and-water syrup.



The Cream of Ice Cream

Most ice creams are made with similar ingredients, including cream, milk, sugar, and flavoring. Flavorings, of course, vary and so does the type of cream used. The cream used in making ice cream could be any one of the following:

- **Half-and-half** — a mixture of milk and cream containing more than 10.5 percent but less than 18 percent milk fat.
- **Light Cream** — contains more than 18 percent but less than 30 percent milk fat. Light cream also may be called “coffee cream” or “table cream.”
- **Light Whipping Cream** — contains more than 30 percent but less than 36 percent milk fat. Light whipping cream also may be called “whipping cream.”
- **Heavy Cream** — contains more than 36 percent milk fat. Heavy cream also may be called “heavy whipping cream.”

Let’s Go Shopping

With all the brands of ice cream available, how do you know which to choose?

Food labels help you determine what you are getting for your money. Federal law requires ice cream to be labeled, so you know by reading the label alone whether you are getting the real thing. Smart shoppers use the label as a quick, simple means of judging quality in ice cream. Ice cream must be labeled by one of the following three methods. (The examples below are for vanilla ice cream. The law applies similarly to other flavors.)

1. Vanilla Ice Cream

When simply labeled “vanilla ice cream,” the ice cream is flavored completely with real, natural vanilla. Generally, manufacturers use real, natural vanilla in their top-of-the-line products, which contain other high-quality ingredients. The natural flavor and other high-quality ingredients are expensive for the manufacturer to use; therefore, the ice cream is priced higher at the grocery. Ingredient labeling helps you identify this premium ice cream.

To help shoppers recognize premium-grade ice cream, many manufacturers use the following symbol:



This symbol may appear on the label of any ice cream that contains real vanilla. When other flavors are in a carton labeled with this symbol, all are 100 percent natural.

2. Vanilla Flavored Ice Cream

In products labeled “vanilla flavored ice cream,” an artificial vanilla flavoring agent called vanillin is used along with real vanilla to flavor the ice cream. Under this label, up to 49 percent of the flavor can be artificial. The word “flavored” is the key. The word must be on the label, but it doesn’t have to be larger than one-half the size of the word “vanilla.” This is why it is important to read food labels carefully.

3. Artificially Flavored Vanilla Ice Cream

In ice cream labeled “artificially flavored,” at least half of the flavor comes from an artificial source. Under this labeling, the product may be flavored partially or completely with artificial flavor. This method of flavoring generally is found in less expensive grades of ice cream since the artificial flavoring is less expensive for the manufacturer to use.

Look in the freezer compartment of your refrigerator.

- What ice cream products did you find?

- What information was on their labels?

Now go to the grocery and look at different ice cream products.

In the chart below, list prices of the different types of ice cream you found (example: vanilla ice cream, chocolate flavored ice cream, artificially flavored strawberry ice cream). Also list prices and carton sizes of the same type of ice cream (example: a pint, quart, and half-gallon of vanilla ice cream). Include ice cream products, or “novelty” items, such as popsicles and ice cream sandwiches on your chart.

Calculate the number of servings each container holds and the cost per serving. Remember, one-half cup of ice cream is considered a serving. For novelty items, generally one piece is a serving, but check the label to make sure. Your leader, parent, or 4-H agent can assist you with this activity.

Use this chart to figure the number of servings a container holds.

Pint = 2 cups = 4 servings
Quart = 4 cups = 8 servings
Half gallon = 8 cups = 16 servings
Gallon = 16 cups = 32 servings

Product	Size of Container	Number of Servings	Total Cost	Cost per Serving

- Which product is the most expensive per serving?

- Which is the least expensive per serving?

- Are naturally flavored ice creams more or less expensive per serving than artificially flavored ones?

- Is this what you expected?

Why?

- Did the size of the container affect the price per serving?

If so, in what way?

- Did the cost per serving of ice cream products, or novelty items, differ from the cost per serving of ice cream?

If so, in what way?

Taste Tests

Besides differing in cost per serving, types of ice cream also differ in flavor and texture. Buy one container of ice cream and one of ice milk. Sample both.

- Describe the difference between the two. (The difference will be more noticeable between a premium ice cream and an ice milk.)

You also might want to compare the difference in flavor and texture between ice cream and frozen yogurt. Here's how.

Frozen Yogurt on a Stick

You'll need:

A plastic spoon

1 (8-ounce) carton of yogurt, any flavor

1. Stir the yogurt in the carton so the fruit on the bottom is blended throughout.
2. Place a plastic spoon in the center of the yogurt. The tip of the spoon should touch the bottom of the yogurt carton.
3. Place carton in freezer. Freeze about four hours.
4. Loosen the yogurt by running hot tap water over the outside of the carton for a few seconds. Remove from carton.
5. Serve immediately.

- How is your frozen yogurt on a stick?

- Is the frozen yogurt firm? _____
- Is the spoon holding the yogurt firmly? _____
- How do the taste and texture of the frozen yogurt compare to the taste and texture of ice cream?

Let's Make Ice Cream

When making ice cream, your goal is for the finished product to have a smooth texture. The texture of ice cream depends on the size, shape, and arrangement of the ice crystals in the frozen mixture. Large, flaky crystals give ice cream a grainy, undesirable texture.

The ice crystals form as the water (liquid) in the mixture freezes. In order for the water to change from a liquid to ice crystals, the mixture must give off heat. Ice cream freezers for home use are designed to have ice packed around them. This ice draws the heat from the mixture inside the can causing the mixture to freeze and the ice to melt.

Under normal conditions, melting ice has a temperature of 32°F; however, when you sprinkle salt over it, the melting increases and the temperature decreases. This helps the mixture inside the can to freeze more rapidly.

The proportions of ice and salt used in freezing ice cream are important. If you use too much, the ice cream mixture freezes too quickly and is not smooth. If you use too little, the ice cream mixture might not freeze at all. Unless freezer directions say otherwise, use 1 cup of coarse ice cream (rock) salt to 8 cups of crushed ice.

The freezing process also involves churning or stirring the ice cream mixture while it freezes. A dasher, which looks like a paddle, is attached to a crank that does the churning. Churning the ice cream incorporates air into the mixture, which makes the

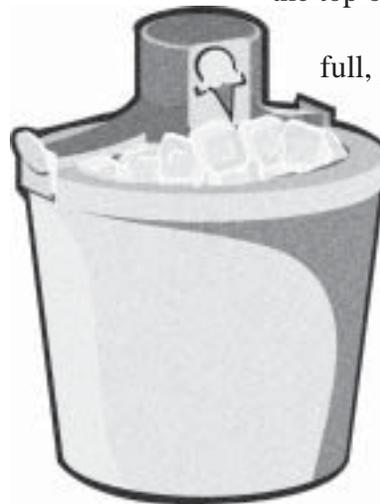
ice cream smooth and increases its final volume. Ice cream can be churned by hand or by an electric churn, depending on the type of freezer used.

Once you start churning, don't stop. If churning is interrupted, large ice crystals form in the coldest part of the mixture (producing an undesirable texture), and the center of the mixture might not freeze at all. Besides stirring the mixture, the dasher inside the metal container scrapes formed ice crystals off the inside wall of the can and brings unfrozen portions of the mixture to the surface. It also helps distribute flavorings. Once the ice cream reaches the consistency of mush, after about 20 to 30 minutes of churning, remove the dasher and repack ice and salt around the container. Allow the ice cream to ripen before eating it. During ripening, the ice cream hardens.

Directions for freezing and ripening ice cream follow.

Freezing Directions

- Pour the chilled mixture into the metal freezer container (can). Do not fill the can more than two-thirds full.
- Place dasher in can. Cover with lid and place in ice cream tub. Make sure the can is centered in the tub.
- Attach motor and lock into place. With a hand-cranked freezer, lock crank/handle into place.
- Pack approximately 3 inches of crushed ice between the tub and can. Sprinkle about 1/2 cup rock salt over it. Continue adding layers of ice and salt in these proportions until layers reach the top of the can.



When the tub is half full, pour 1 cup of cold water over the ice and salt mixture to shorten the freezing time. When the tub is full, pour in another cup of water.

- Plug in the motor and the can will begin to move. If using a hand-cranked freezer, begin slowly turning the handle—about 40 turns per minute for the first three to five minutes. Then speed up to 100 turns per minute. Do not stop churning. Take turns with friends or family if necessary.
- If necessary, add ice and salt as the ice melts. Do not add ice and salt to cover the top of the can.
- Let the motor run for 20 to 30 minutes or until the mixture is the consistency of mush. If hand-cranking, crank continuously until the crank no longer can be turned with ease, 20 to 30 minutes.
- Remove motor or crank/handle.
- Wipe all salt and ice off the lid of the can. Remove lid and take out dasher. Using a rubber spatula, scrape the ice cream from the dasher back into the container.

Ripening Directions

- Replace lid and plug hole in it with a cork or crumpled wax paper.
- Pack additional salt and ice around container. Use one part salt to four parts ice. Take care not to let the mixture seep into the container of ice cream.
- Cover the tub with a heavy towel or with newspaper.
- Let sit for 30 minutes before serving. The mixture will harden during this time.
- Be sure to wipe ice and salt from the container lid before opening it to serve the ice cream.

Quality

Good quality ice cream should have a delicate, well-blended flavor. It should not have any strong or unpleasant flavors. This is why the ingredients used to make ice cream should be carefully selected.

The ice cream should also have a good body. The body of the ice cream is its consistency and richness. An ice cream with good body does not melt quickly.

Finally, a quality ice cream must have a smooth texture.

Food Safety

If you choose a recipe that calls for eggs or egg yolks, heat the egg mixture to a temperature of 160°F or higher (scald but do not boil) to destroy any harmful bacteria. Or, you may use a pasteurized egg product that has already been heated. Look in the frozen food section of the store for these products.

Tips for Storing Ice Cream

Commercial

Store-bought ice cream must be properly stored, or it will become icy, pasty, or gummy. To store ice cream longer than a week, place the ice cream carton in a freezer bag and store in the freezer compartment of a refrigerator for two to three weeks or in a home freezer for about two months. The temperature in the freezer compartment should be turned to the coldest setting.

To serve, remove the carton from the freezer and put it in the food storage area of the refrigerator not more than 30 minutes before serving.

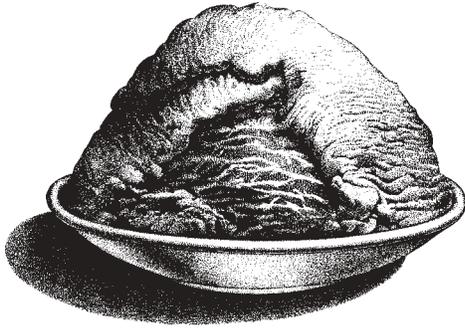
Once the carton has been opened, press a piece of aluminum foil or plastic wrap over the exposed area to keep the surface of the ice cream from drying out. Close the carton and store it in the freezer.

What causes ice cream to become icy? In a home freezer, the temperature may not remain the same. If the temperature varies, crystals may grow and cause the icy (grainy) texture.

Homemade

Homemade ice cream does not store as well as commercial varieties. However, it can be transferred to a plastic freezer container with a tight-fitting lid and kept in the freezer for about one week. If the texture of the stored ice cream is grainy, let the ice cream come to room temperature and beat it before serving. This will smooth the texture.

Recipes



Before You Start — Wash your hands and, if you have long hair, fasten it back with clips or a ribbon before you begin cooking. Read the recipe carefully. Read and understand instructions for using equipment, such as an electric blender or a hand-cranked or electric ice cream maker. Pay special attention to instructions related to safety.

Gather the necessary ingredients and utensils. Wash the freezer container, dasher (paddle), and lid in hot, soapy water. Rinse in hot water; allow to drain and cool.

Vanilla Ice Cream

2 cups half-and-half

2 cups milk

$\frac{3}{4}$ cup sugar

$1\frac{1}{2}$ teaspoons vanilla

1. Mix ingredients together and pour into freezer container.
2. Place lid on container and fasten tightly.
3. Pack ice and salt around the ice cream container as directed above.
4. Begin cranking. Continue cranking for 20 to 30 minutes.
5. When the mixture is mushy, wipe the ice and salt away from the top of the container with a paper towel or clean cloth. Remove lid and dasher and then replace lid.

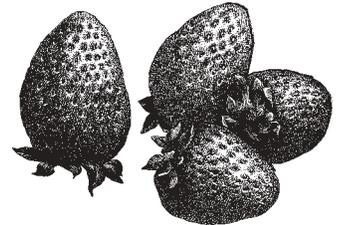
6. Plug hole in container lid with a cork or crumpled wax paper.
7. Pack additional ice and salt around container as directed above.
8. Allow the ice cream to ripen for about 20 minutes before serving.

Makes 12 4-ounce servings. Each serving contains 188 calories and 137 milligrams calcium.

VARIATIONS:

Any of the following flavorings may be added to the recipe above:

- **Chocolate** — combine 2 teaspoons cocoa, 4 teaspoons sugar, and $\frac{1}{2}$ cup water. Heat to boiling and cool. Stir into ice cream mix just before freezing. *Each serving contains 176 calories and 122 milligrams calcium.*
- **Fruit or Nut** — Add $\frac{1}{4}$ cup chopped nuts or $\frac{1}{2}$ cup crushed fruit (fresh, frozen, or canned). Add at any time during the freezing process. *A serving of vanilla nut contains 213 calories and 140 milligrams calcium.*
- **Caramel** — Substitute $\frac{1}{2}$ cup sugar and $\frac{1}{2}$ cup caramel syrup for the $\frac{3}{4}$ cup sugar given in the recipe above. *Each serving contains 192 calories and 146 milligrams calcium.*
- **Macaroon** — Add 2 cups of macaroons, measured after drying and crushing, to the ice cream mix just before freezing. Ready-to-eat granola cereal, another type of cookie crumbs, or dried, sifted cake crumbs may be used in place of macaroons. *A serving of macaroon contains 316 calories and 133 milligrams calcium.*



Double Chocolate Ice Cream

3 (1-ounce) squares unsweetened chocolate

1 cup sugar

2 cups evaporated milk, undiluted

2 cups evaporated skim milk, undiluted

1 tablespoon vanilla

1. Mix chocolate, sugar, and 1 cup evaporated milk in saucepan.
2. Heat until chocolate melts.
3. Beat with a rotary or electric beater until mixture is smooth.
4. Add remaining 3 cups evaporated milk and vanilla. Beat again until smooth.
5. Pour mixture into freezer container.
6. Cover. Pack ice and salt around container as directed above.
7. Begin cranking. Continue cranking for 20 to 30 minutes.
8. When ice cream is mushy, wipe ice and salt away from top of container with a paper towel or clean cloth.
9. Remove lid and dasher and then replace lid. Plug hole in lid with cork or crumpled wax paper.
10. Pack with additional ice and salt as directed above.
11. Allow the ice cream to ripen for about 20 minutes before serving.

Makes 12 4-ounce servings. Each serving contains 190 calories and 238 milligrams calcium.

Tin Can Ice Cream

1 cup milk

1 cup half-and-half

1/2 cup sugar

1/2 teaspoon vanilla extract

Nuts or fruit, as desired

1. Combine ingredients in a 1-pound coffee can. Place a tight-fitting plastic lid on the can.
2. Place can inside a 3-pound coffee can.
3. Pack larger can with crushed ice. Pour at least 3/4 cup of rock salt evenly over ice.

4. Place a tight-fitting lid on the 3-pound can. Tape in place with masking tape. (It is possible for the lid to come off and the contents to spill.)
5. Roll cans back and forth on a table or the floor for 15 minutes.
6. Open the outer can. Remove the inner can, wipe lid clean, and open.
7. Use a spatula to stir the mixture and scrape the sides of the inner can. Replace lid.
8. Drain liquid from the larger can. (The salty liquid is called "brine.")
9. Replace smaller can inside larger can. Pack with additional ice and salt.
10. Cover. Roll cans back and forth for 10 minutes.
11. Open outer can. Remove inner can. Wipe lid clean, open, and enjoy.

Makes six 1/2-cup servings. Each serving contains 213 calories and 137 milligrams calcium.



Light or Reduced-fat Ice Cream

Use the same amount of milk in place of cream in any recipe given for ice cream. In addition, add 2 tablespoons of nonfat dry milk powder to the recipe. This improves the body of the finished product. *Each serving of soft-serve vanilla light ice cream contains 113 calories and 137 milligrams calcium.*

To serve with your ice cream, make a cookie that includes a dairy ingredient in the recipe.

Granola Cookies

- 3/4 cup all-purpose flour
- 3/4 teaspoon baking soda
- 1/4 cup shortening
- 3/4 cup firmly packed brown sugar
- 1/2 cup nonfat dry milk powder
- 1 egg
- 1 tablespoon water
- 1 teaspoon vanilla
- 1/2 cup raisins (optional)
- 1/2 cup shredded coconut (optional)
- 2 cups granola-type cereal

1. Preheat oven to 375°F.
2. Sift flour and soda together.
3. In a large bowl, mix shortening, brown sugar, nonfat dry milk powder, egg, water, and vanilla.
4. Blend in flour mixture.
5. Stir in raisins, coconut, and cereal.
6. Drop rounded teaspoonfuls about 2 inches apart on ungreased cookie sheets.
7. Bake 8 to 10 minutes.
8. Cool slightly and remove from sheets.
9. Let cookies finish cooling on wire racks.
10. Store in an airtight container.

Makes about 4 dozen cookies. Each cookie contains 158 calories and 33 milligrams calcium.

Recipes Using Ice Cream

Ice Cream Balls

- 1/2 gallon ice cream or ice milk, any flavor
- 2 cups shredded coconut
- food coloring

1. Tint coconut with favorite food color. To do so, combine a few drops of food coloring and 1/4 cup water. Toss coconut in the colored water.*
2. Scoop ice cream into balls.
3. Roll each ball in the coconut.
4. Place balls on a tray and cover with wax paper.
5. Store in freezer until serving time.

*Another way to tint the coconut is to toss it in a small amount of colored fruit gelatin powder.

Makes 16 (1 3/4-inch diameter) balls. Each ball contains 194 calories and 90 milligrams calcium.

VARIATIONS:

- Roll ice cream balls in chopped nuts instead of coconut.
- Roll ice cream balls in cookie crumbs instead of coconut.

Pretty Parfaits

- 2 cups ice cream, any flavor
- 2 cups crushed fruit, your choice
- 1/2 cup whipped evaporated skim milk*
- Fresh fruit, such as strawberries or raspberries (for garnish)

1. Layer ice cream and crushed fruit alternately in four tall, slender glasses, using 1/4 cup ice cream, 1/4 cup crushed fruit, and then repeat.
2. Top with a dollop of whipped cream and small piece of colorful fruit.

*The evaporated milk must be very cold to whip.

Makes 4 servings. Each serving contains about 182 calories and 191 milligrams calcium. Calories and calcium vary with ingredients used.

Ice Cream Cake

- 1 quart ice cream, any flavor
- 2 (9-inch) round or square layers of cake, any flavor
- 1½ cups cake frosting, any flavor
- 1. Spray a 9-inch cake pan with nonstick coating or line with plastic wrap.
- 2. Allow ice cream to soften slightly. Spread in pan to the depth of 1 inch. Cover and freeze.
- 3. Remove frozen ice cream from pan and place between layers of cake.
- 4. Frost cake.
- 5. Cover and freeze until firm.

Makes 12 servings. Each serving contains about 456 calories and 99 milligrams calcium. Calories and calcium vary with ingredients used.

Chocolate Float

- 1 pint vanilla ice cream
- 1 quart chocolate milk
- Maraschino cherries (optional)
- 1. Divide ice cream into four pieces and place each piece in a tall glass.
- 2. Pour chocolate milk over ice cream.
- 3. Top each with a maraschino cherry and serve immediately.

Makes 4 1½-cup servings. Each serving contains 344 calories and 368 milligrams calcium.

In some fast food places you see the word “shake” on the menu instead of milk shake. These “shakes” are made from food products other than milk. They still contain nutrients but probably do not have as much calcium as a true milk shake.

Milk Shake

- 1 cup milk
- 1 scoop ice cream, any flavor
- Flavoring*
- 1. Combine all ingredients in an electric blender or food processor.
- 2. Cover and process until smooth.
- 3. Serve immediately.

Makes 1 serving. Each serving contains about 239 calories and 349 milligrams calcium. Calories and calcium vary with ingredients used.

***FLAVORINGS:** (select one, if desired)

- ½ banana, mashed
- ¼ cup crushed sweetened strawberries
- ¼ tablespoon maple syrup
- 2 tablespoons chocolate syrup

Ice Cream and Cereal

- ¾ cup ready-to-eat breakfast cereal
- ⅓ cup vanilla ice cream
- Fresh fruit (for garnish)
- 1. Pour cereal into a bowl.
- 2. Top with a generous scoop of vanilla ice cream.
- 3. Garnish with fresh fruit.
- 4. Serve immediately.

Makes 1 serving. Each serving contains about 155 calories and 59 milligrams calcium. Calories and calcium vary with ingredients used.

Sherbet

1 tablespoon unflavored gelatin
1½ cups sugar (or more to suit taste)
1½ cups milk
2½ cups water
Flavoring*

1. Mix gelatin thoroughly with sugar.
2. Combine milk and water in a saucepan; heat.
3. When hot, add sugar and gelatin mixture, stirring until dissolved.
4. Bring mixture to a boil. Boil 1 minute.
5. Remove from heat. Add flavoring, cool, and freeze as you would ice cream.

Makes 16 4-ounce servings. Each serving contains 152 calories and 52 milligrams calcium. Calories and calcium vary with ingredients used.

***FLAVORINGS:** (select one)

¾ cup lemon juice
2 cups orange juice
2 cups crushed strawberries, blueberries, raspberries, or blackberries



Strawberry Snow

1 cup unsweetened strawberries, fresh or frozen
2 teaspoons unflavored gelatin
¼ cup water
1¼ cups milk
½ cup sugar
½ teaspoon vanilla

1. Thaw frozen strawberries. Mash or puree.
2. Soften gelatin in water.
3. Combine ¼ cup milk and sugar in a saucepan.
4. Add softened gelatin and cook over low heat, stirring constantly until gelatin is dissolved.
5. Remove from heat. Add vanilla.
6. Gradually stir in remaining milk and strawberries.
7. Chill mixture in the refrigerator for two hours before pouring into freezer container.
8. Freeze as you would ice cream.

Makes about 3 cups: 6 servings. Each serving contains 105 calories and 66 milligrams calcium. Calories and calcium vary with ingredients used.

VARIATIONS:

- Use 1 cup blueberries, raspberries, or sliced peaches instead of strawberries.

Cleaning Up

Be sure to clean up when you finish working in the kitchen. Put away extra ingredients. Wash kitchen cabinets. Wash dishes and utensils in hot, soapy water; rinse well in hot water. Allow dishes and utensils to drain, dry with a clean dish towel, and put away. If you keep the kitchen clean, you'll be welcome to use it again.

Activities

Ice Cream Demonstrations

Share what you have learned in this project by giving a demonstration. You can show and tell others about making ice cream or dishes containing ice cream, such as fruit parfaits, ice cream balls, milk shakes, and ice cream floats. Your parent or 4-H leader may know of recipes for ice cream or ice cream products that would make a good demonstration. Be sure to include information about how ice cream and ice cream products fit into a healthy diet.

Citizenship

- Make a poster showing the nutrients in ice cream. Show how it compares to milk. Display the poster at your school or your local public library.
- Help with a community function, such as a church supper or agricultural field day. Prepare dairy dishes to serve as refreshments or as part of a meal. Ice cream would be a great treat on a warm summer afternoon.

Dairy Foods Unit 2: Ice Cream



Project Record Form

Name _____ School _____ Grade _____

Address _____
Street and Number/Rural Route *City* *State* *Zip Code*

County _____ Birth Date _____

A. Under each section, list all the dairy foods dishes you prepared for this project. This is the size and scope of your project.

Types of Food	Date Prepared	Number of Servings	What You Remember about the Food or Its Preparation
Ice Cream			
Light Ice Cream			
Other Dishes Made with Ice Cream			
Sherbet			
Milk Shakes			
Granola Cookies			
Other Dishes (List)			
Total			

B. How many times did you attend group meetings to work on your project? _____

C. List other activities, such as exhibits, demonstrations, and tours, you participated in as part of this project. _____

D. What skills did you learn during the course of this project (examples: to read labels, to operate an ice cream freezer).

E. List the awards and recognition you have received in this project. Tell the level of recognition. Levels: L — local or club; C — county; D — district or area; S — state; N — national; and I — international.

F. If you helped others with their dairy foods projects, give the number of people you helped and what you did to help them.

G. List your citizenship and community service in this project.

H. Write a project story telling what you did and learned in the project. Include items, such as how the project helped your family, who helped you with the project, and why dairy foods are important to good nutrition.

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