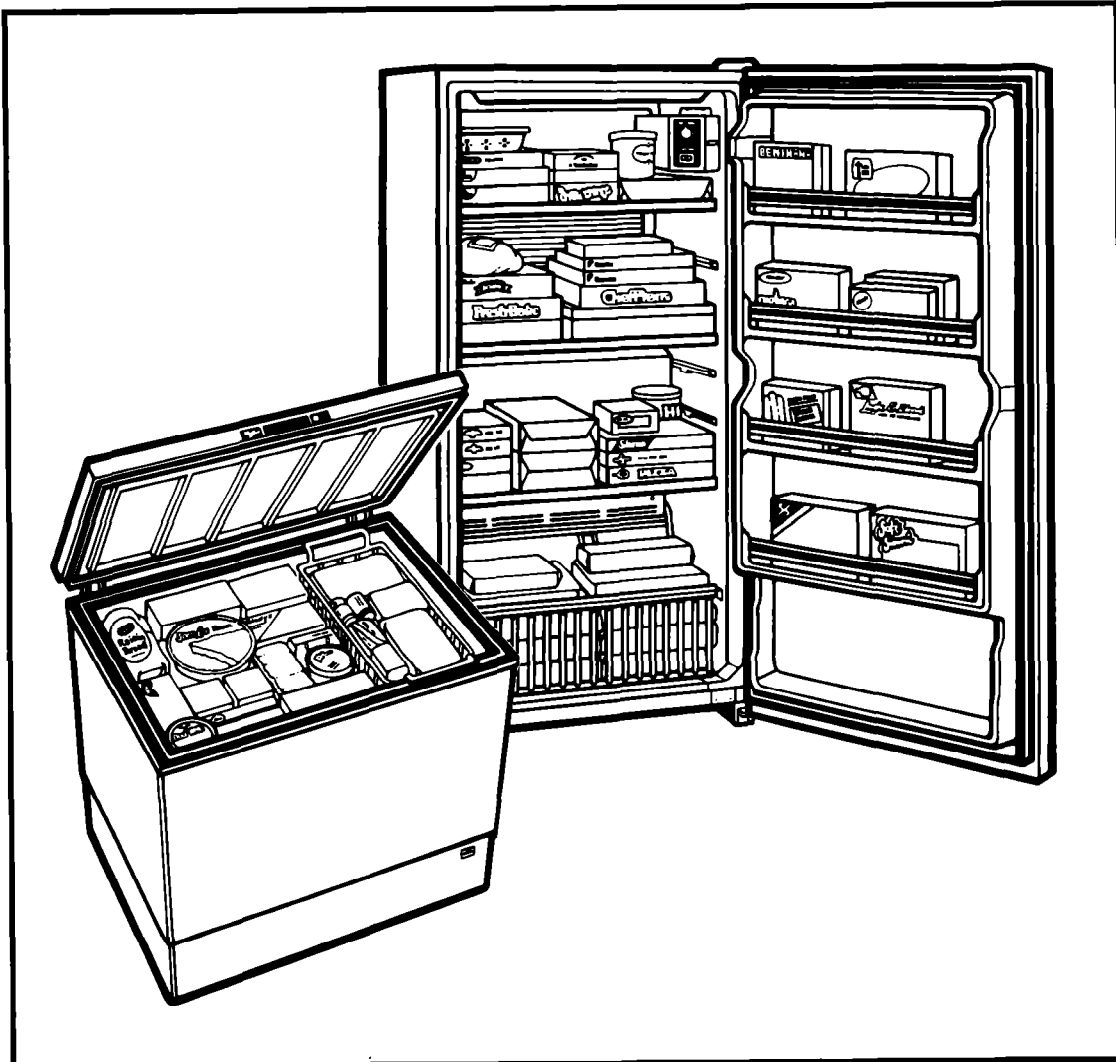




# Freezer Guide



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Your Whirlpool freezer provides convenience while helping you save time and money. This freezer guide is designed to help you enjoy maximum benefit from your new Whirlpool freezer. The following pages are filled with important information on safety, freezing different kinds of foods packaging, and food storage times, as well as helpful hints for saving energy and solving common freezer problems.

The Use and Care Guide for your specific freezer model is a companion booklet. It gives detailed information about your freezer's features and shows how to use them safely and correctly. Using these two booklets together will help you understand your new Whirlpool freezer and use it effectively.

# Important Safety Instructions

Be sure to read and follow the "Important Safety Instructions" in this book and in your Use and Care Guide before using your new freezer. Both of these sections provide important safety information that you need to know for safe freezer operation.

## WARNING

- To prevent accidental suffocation, do not let children near a junked or abandoned freezer. Children can be hurt or trapped in old freezers. The lid/door on discarded freezers should be locked shut with a lock and chain, securely tied down with a heavy rope, or removed.
- To prevent injury or entrapment, do not let children near the freezer when the door or lid is blocked open. The lid or door can close accidentally.
- To prevent fire, install your freezer away from flammable materials such as gasoline. The heat released from the condenser can ignite a flammable substance.
- Before changing the light bulb, prevent shock by always disconnecting the freezer from its electrical source. Either unplug the freezer from the outlet or turn off the electricity at the circuit breaker or fuse leading to the freezer's outlet.

# How To Get The Most From Your Freezer

## Freezing tips

- Freeze foods when in season and at peak of freshness.
- Freeze no more than 3 lbs. of food per cu. ft. (.05 kg per liter) of freezer capacity. Do not place too many items of unfrozen food in the freezer at one time. This slows down the rate of freezing and lowers food quality. Make sure food items are frozen solid (about 24 hours) before putting more unfrozen food in the freezer.
- Try to freeze food items in meal-size portions. Smaller portions freeze faster and thaw more quickly.
- Do not put hot foods into the freezer. Let foods become cool enough to touch (set containers in ice water or plunge foods like vegetables into cold water just after blanching). When cool, package properly, seal, label, date and freeze. Do not take a casserole from the oven and put it right into the freezer. This slows the rate of freezing and lowers food quality.

### **If your freezer has been off for any reason:**

- Foods that still have ice crystals present can be safely frozen a second time. However, the quality will not be quite as good. Do not refreeze fish or shellfish that have started to thaw. Cook at once.
- Cook fully thawed food as quickly as possible. It can then be frozen again. Do not cook fully thawed fish or shellfish. Throw it away. Do not keep fully thawed foods at room temperature for long. They can spoil quickly.
- In upright freezers, spread food items out in a single layer for fastest freezing. In chest freezers, place items next to the coldest walls and spread in a single layer. After freezing, stack items for best use of space. Do not put unfrozen food items directly on top of frozen ones.
- Rotate food items to use oldest items first. Move older frozen items forward. Place new items to the rear or on the bottom. Keep a checklist of food items near the freezer. Update it every time you add or remove food.

## Energy saving tips

- Check door or lid gaskets for tightness of seal: hold a dollar bill between cabinet and door, close door and pull on bill. There should be some resistance while pulling the bill out. If freezer has a lock, keeping it locked helps ensure door closure and a good seal.
- Level freezer properly to assure a good door seal.
- Do not install freezer next to or near a heat source such as a range, water heater, furnace, etc.
- Set temperature control at mid setting. This setting is designed to maintain temperatures at or near 0°F (-17.8°C) in normal room conditions.
- Keep power saving control on LO or OFF when humidity is low (for freezers with this feature).
- Do not open door/lid too often or for too long at one time. Try to remove all your items at one time. Keep freezer filled.
- Set up your freezer storage so food items will be easy to find. Select a separate area for meats, vegetables, fruits and short-term storage items like baked goods or leftovers. This saves time spent looking for frozen items.
- Do not let frost build up to more than ¼" (6mm) thick on manual defrost models. A heavy build-up of frost will cause the freezer to run more.
- Clean condenser coils often (vertical freezers only).

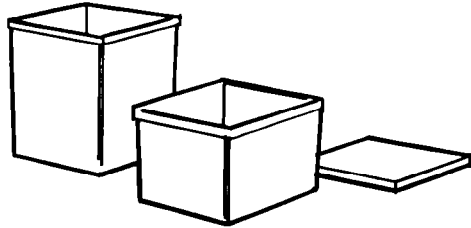
## Packaging materials & techniques

Proper packaging is the key to top-quality frozen foods. Poor packaging can lead to freezer burn, making foods appear dried out, with a white or gray color.

Wrapping or packaging material should be:

1. vapor-proof or non-porous to assure that odors and flavors will not be transferred from food to food or ice cubes in your freezer.
2. moisture-proof to seal in natural moisture and help maintain quality.

## How To Get The Most From Your Freezer Continued

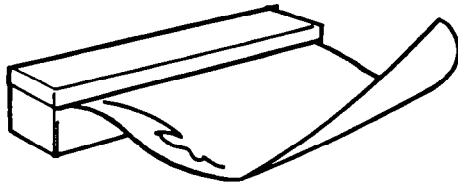


Use freezer tape to seal freezer wrap or suitable plastic wrap. Freezer tape is made with a special adhesive designed to stick at low temperatures. Use a water-proof marking pen to label package contents and the date frozen.

### Rigid containers/glass jars

Use:

1. Polyethylene containers with tight-fitting lids because they will not leak. They are nonporous to hold moisture and food odors in.
2. Glass canning/freezer jars with straight sides. Straight-sided jars make food easier to remove. If the jar opening is smaller than the sides, food must be completely thawed before removal.



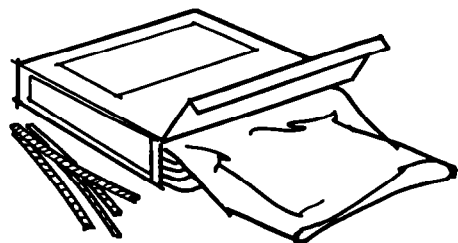
### Wraps

Three kinds of freezer wrap are:

1. Non-permeable plastic wrap (like saran), which is moisture-and vapor-proof.
2. Plastic-coated paper, which has polyethylene bonded to one side. Use the glossy, plastic-coated side next to food.
3. Heavy duty aluminum foil which is pliable and conforms to food contours.

Hints:

1. Put sheets of freezer wrap between foods so they can be easily separated while still frozen.
2. Wrap food carefully, making sure to remove as much air as possible.
3. Use freezer tape to close tightly.



### Bags

Heat-sealed boiling bags are easy to use:

1. Place food in bag.
2. Press air out.
3. Seal with a hot sealer and freeze.
4. When ready to heat, drop the bag in boiling water. (For microwave ovens, make a slit in the bag.)

Freezer weight polyethylene bags can be used by themselves or as a liner in other cartons. Secure tops of bags with twist fasteners, rubber bands, reclosable seal or other sealing devices supplied with the bags.

### Do not use these items for packaging frozen food:

- bread wrappers – not moisture- or vapor-proof
- non-polyethylene plastic containers – porous, allowing odors to escape

- thin, non-polyethylene plastic wraps – not moisture- or vapor-proof
- containers without tight lids – moisture can escape
- waxed paper – no sealing ability, not moisture- or vapor-proof
- wax coated freezer wrap – won't protect against freezer burn

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### Sealing bags

1. Place food in bag.
2. Squeeze out the air. Seal by pinching together reclosable seal or twist top of bag and turn it back.
3. Fasten metal tie securely around double-over "tail." Label and freeze.

**NOTE:** Some foods require headspace in the package or container. Headspace is room in the package for expansion. Water expands about one tenth its volume during freezing. See step 5 on page 6 for more information on headspace.

**Labeling:** Use sticky-back label or tape on the outside of opaque or clear plastic bags – cover with clear tape while bag is still dry and warm to protect label information.

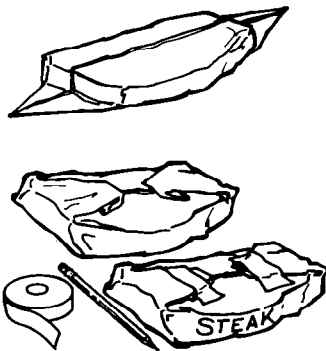



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### Wrapping

1. Cut sheet of wrapping material about one third longer than the distance around food to be wrapped. Place wrapping sheet on flat surface with food in center of sheet.
2. Bring front and back of wrapping together and fold in toward food, making at least two one-inch (2.5 cm) folds until wrapping fits tightly against food.
3. Crease ends close to food to eliminate air pockets.
4. Press all air from package. Fold each end over twice. Make sure fold is tight and fasten against end of package with freezer tape.

**NOTE:** Pad sharp edges of boned meat with extra wrap to protect the wrap from punctures.



# How To Freeze Food

## How to freeze fruits

Most fruits can be frozen satisfactorily, but the variety chosen, ripeness and type of pack used will determine the quality of the frozen fruits that come from your freezer.

1. Select ripe, blemish-free fruits for freezing and taste them to be sure of good flavor.
2. Wash 2 to 3 quarts (2 to 3 liters) at a time in cold water and drain thoroughly. Fruit that stands in water may lose food value and become water-soaked.
3. Sort fruit, peel, trim, pit and slice as necessary. Overripe or imperfect fruit can be pureed or crushed and frozen.
4. Pack using one of the three types of packs: syrup, sugar, or unsweetened. (See chart below.)
5. Pack fruit in rigid, wide-mouthed moisture-vapor-proof containers or in bags or sheets of moisture-vapor-proof material. Leave headspace to allow for expansion of liquids during freezing:

Container size	Headspace needed
pint (500 milliliters)	½ inch (1.25 cm)
quart (liter)	1 inch (2.5 cm)

6. Close containers; seal, mark with contents and date, and freeze at once. (Most containers have lids that fit tightly and require no additional sealing.)

7. Some light-colored fruits may darken when frozen. This can be prevented by the addition of a commercial preparation of citric acid, lemon, lime or pineapple juice. However, ascorbic acid, which is available at drug stores in crystalline, powdered, or tablet form, is the most satisfactory since it preserves color and flavor and adds nutritive value (vitamin C) as well. Ascorbic acid should be dissolved in a small amount of cold water and added to fruit just before packing. (Since it loses strength with exposure to air, ascorbic acid solution should be prepared just before using.) Crush ascorbic acid crystals before dissolving in water. If tablets are used in place of the crystalline form, use the following guide to give you an equivalent quantity:

Crystalline amount	Tablet amount
⅓ teaspoon (0.6 ml)	375 milligrams

Darkening also can be controlled in some fruits by steaming.

8. Freeze no more than 3 pounds of fruit for each cubic foot of capacity (1.35 to 1.8 kg of food for each liter of freezer space) at one time.

## Fruit packing chart

TYPE OF PACK	USE FOR	HOW TO DO														
Sugar	Uncooked fruit	Put fruit in shallow bowl. Sprinkle evenly with sugar. Mix gently until fruit is evenly coated and sugar is dissolved.														
Syrup	Desserts (syrup preserves shape and texture best, but dilutes juices)	<p>Determine the percent syrup needed from the recipe. Mix as follows:</p> <table> <thead> <tr> <th>Syrup</th> <th>Ingredients</th> </tr> </thead> <tbody> <tr> <td>30 percent</td> <td>2 cups (500 ml) sugar to 1 quart (1 l) water</td> </tr> <tr> <td>35</td> <td>2½ cups (625 ml) sugar to 1 quart (1 l) water</td> </tr> <tr> <td>40</td> <td>3 cups (750 ml) sugar to 1 quart (1 l) water</td> </tr> <tr> <td>50</td> <td>4¾ cups (1.2 l) sugar to 1 quart (1 l) water</td> </tr> <tr> <td>60</td> <td>7 cups (1.8 l) sugar to 1 quart (1 l) water</td> </tr> <tr> <td>65</td> <td>8¾ cups (2.2 l) sugar to 1 quart (1 l) water</td> </tr> </tbody> </table> <p>Dissolve sugar in water. Syrup can be made a day ahead of time and stored in the refrigerator. Syrup should be cold when adding to fruit. Allow 1 cup (250 ml) of syrup to each quart (liter) of fruit. Place fruit in container. Cover with syrup. Leave headspace. (See 5 on page 6.) To keep fruit submerged, place a piece of crumpled freezer wrap or other water-resistant wrapping material over fruit and push fruit down until syrup covers it. Seal and freeze.</p>	Syrup	Ingredients	30 percent	2 cups (500 ml) sugar to 1 quart (1 l) water	35	2½ cups (625 ml) sugar to 1 quart (1 l) water	40	3 cups (750 ml) sugar to 1 quart (1 l) water	50	4¾ cups (1.2 l) sugar to 1 quart (1 l) water	60	7 cups (1.8 l) sugar to 1 quart (1 l) water	65	8¾ cups (2.2 l) sugar to 1 quart (1 l) water
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65	8¾ cups (2.2 l) sugar to 1 quart (1 l) water															

TYPE OF PACK	USE FOR	HOW TO DO
Unsweetened	Special diets – cranberries – currants – gooseberries – rhubarb – figs	<b>Prepare fruit. Pack in either of two ways:</b> <b>1.</b> With water containing ascorbic acid. Use crumpled freezer wrap to keep fruit submerged in water. Seal and freeze. <b>2.</b> Without liquid, spreading out in individual layers on shallow pan to freeze. Pack into containers (works best with most berries as well as figs, pineapples, plums, grapes, and rhubarb). Seal and freeze.

## How to freeze vegetables

Vegetables (like broccoli or corn) that are ordinarily served cooked can be frozen satisfactorily. Salad greens, tomatoes and others that are to be served raw should not be frozen since they lose their crispness when thawed.

1. Freeze only fresh, high-quality vegetables picked when barely mature, before they've had a chance to become starchy. Vegetables are best frozen no more than 2 to 3 hours after they have been picked.
2. Prepare vegetables just as you do for the table, washing them carefully in cold water. Sort or cut into appropriate sizes for packaging.
3. The most important step in freezing vegetables is blanching or scalding. Boiling water, steam or microwave cooking is used to stop enzyme action, ripening, or maturing. Blanching also helps vegetables retain color, stabilizes vitamin content and aids in vitamin retention. Since blanched vegetables are partially cooked they require very little cooking when they come from the freezer.

4. After cooling, pack vegetables in moisture-vapor-proof containers, such as: rigid containers with flared sides for ease in filling; wide-mouthed glass jars; or freezer bags. For protection and stacking ease place bags and irregularly shaped packages in folding paper-board cartons, or freeze vegetables in single layer on trays, packing in polyethylene bags after freezing.

5. Leave headspace to allow for expansion. If recipe doesn't specify, follow this rule of thumb:

Container size	Headspace needed
pint (500 ml)	½ inch (1.25 cm)
quart (liter)	1½ inch (3.8 cm)

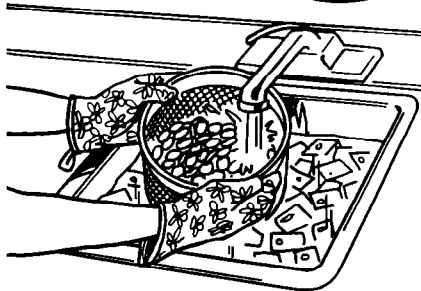
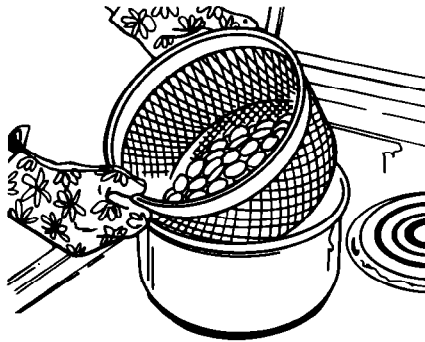
Close container and seal according to manufacturer's directions. Freeze at once.

6. Freeze no more than 3 pounds of vegetables for each cubic foot of capacity (1.35 to 1.8 kg of food for each liter of freezer space) at one time.

### Do not freeze:

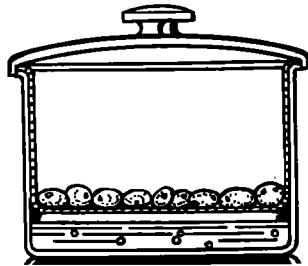
- Lettuce, celery, or raw carrot sticks – they become limp.
- Potatoes – they become mushy.
- Fresh tomatoes – their high water content causes the tomatoes to collapse when thawed.

## How To Freeze Food Continued



### **Blanching in boiling water is suitable for most vegetables.**

1. Bring 4 quarts (4 l) of water to boil in a large kettle.
2. Place no more than 1 pound (450 g) of vegetables in a wire basket and immerse in boiling water.
3. Cover kettle with lid and start timing at once.
4. When recommended blanching time has elapsed, cool vegetables quickly in ice water. Allow the same time for cooling as for blanching. To be sure vegetables have cooled, break one in half and check center. Drain well and pat dry.



### **Steam blanching is suitable for some vegetables.**

1. Pour 1 to 2 inches (2.5 to 5.0 cm) of water in steaming kettle with tight-fitting lid and rack at least 3 inches (7.5 cm) above its bottom. Bring water to a boil.
2. Put single layer of vegetables in steaming basket and set basket on rack.
3. Cover kettle. Start timing at once. Keep heat high.
4. Cool. Follow same procedures as for blanching in boiling water.

### **Microwave blanching is cool and fast.**

1. Place vegetables (1 pound or less) in an appropriately sized covered casserole.
2. Microwave on HIGH 3-4 minutes per pound. Stir or rearrange after  $\frac{1}{2}$  of the time. The vegetables should be evenly heated and a bright color throughout.
3. Cool. Follow same procedure as for blanching in boiling water.



## Getting fruits and vegetables ready for the freezer

FOOD	QUALITY	PREPARATION	WHAT TO DO
Applesauce	Tart, juicy full-flavored.	Wash, peel (if desired), core and slice. Cook until tender. Cool and strain (if needed).	Sweeten to taste. Pack, leaving headspace.*
Apple slices	Tart, juicy full-flavored.	Wash, peel, core and slice.	Soak for 15 minutes in solution of 2 tablespoons (30 ml) salt per 4 quarts (4 l) of water. Drain. Sprinkle ½ cup (125 ml) sugar over each quart (liter) of drained apples. Stir. Pack, leaving headspace.* <b>OR...</b> Steam slices for 1½ to 2 minutes. Cool in cold water. Drain. Sprinkle 1½ cups (375 ml) sugar over each quart (liter) of drained apples. Stir. Pack, leaving headspace.* <b>OR...</b> Add slices to containers partially filled with cold 40 percent syrup containing ½ teaspoon (2.5 ml) ascorbic acid crystals per quart (liter) of syrup. Press fruit down. Add syrup to cover. Pack, leaving headspace.*
Apricots	Firm, ripe	Wash, halve, pit. Peel and slice, if desired. If not peeled, dip in boiling water 30 seconds to keep skins from toughening during freezing. Cool and drain.	Cover with 40 percent syrup containing ¾ teaspoon (3.8 ml) ascorbic acid crystals per quart (liter) of syrup. Leave headspace.* <b>OR...</b> Dissolve ¼ teaspoon (1.3 ml) ascorbic acid crystals to ¼ cup (60 ml) cold water. Sprinkle over 1 quart (1 l) of fruit. Stir in ½ cup (125 ml) sugar. Leave headspace.*
Asparagus	Young, tender, stalks with compact, closed tips.	Wash thoroughly, cut or break off and discard tough end of stalks. Leave in lengths to fit packages, or cut into 2 inch (5 cm) pieces.	Blanch in boiling water 2 to 4 minutes depending on stalk thickness. Cool in ice water. Drain. Pack, leaving headspace.*
Avocados	Soft, ripe unblemished – not hard or mushy.	Peel, halve, and pit. Mash pulp.	Add ⅛ teaspoon (0.6 ml) ascorbic acid crystals to each quart (liter) puree. Leave headspace.* <b>OR...</b> Add 1 cup (250 ml) sugar to each quart (liter) puree. Leave headspace.*

\*See page 6 for discussion of headspace.

**How To Freeze Food  
Continued**

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Beans (lima)	Fully developed pods, green but not starchy or mealy.	Shell, wash and sort. Discard split or white beans.	Blanch in boiling water 2 to 4 minutes, depending on size. Cool in ice water. Drain. Pack, leaving headspace.*
Beans (snap, green or wax)	Young, tender stringless, no scars or discoloration, will snap when broken.	Wash thoroughly. Remove ends. Cut into 2 inch (5 cm) pieces or slice lengthwise, or freeze small whole beans.	Blanch for 3 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Beets	Young, no more than 3 inches (7.5 cm) diameter, deep red color.	Wash and trim tops, leaving ½ inch (1.25 cm) of stem.	Cook in boiling water until tender: small beets, 25 to 30 minutes; medium-size, 45 to 50 minutes. Cool in ice water. Peel and slice or cube, or freeze small beets whole. Pack, leaving headspace.*
Blackberries, dew berries, youngberries, etc.	Firm, plump, ripe.	Sort, wash in cold water, drain.	Pack in containers. Cover with cold 40 or 50 percent syrup. Leave headspace.* <b>OR...</b> Add ¾ cup (190 ml) sugar to 1 quart (1 liter) berries. Stir until sugar is dissolved. Leave headspace.* <b>OR...</b> Pack berries unsweetened into containers, leaving headspace.*
Blueberries	Ripe, fairly uniform in size.	Sort, wash, and drain. If desired, steam for 1 minute to tenderize skins. Cool in cold water.	Cover with cold 40 percent syrup. <b>OR...</b> Pack unsweetened into containers, leaving headspace.*
Broccoli	Compact, dark green heads with tender stalks.	Soak 30 minutes in solution of 4 teaspoons (20 ml) salt to 1 gallon (4 l) cold water to remove any insects (if necessary). Trim and peel stalks. Split lengthwise into pieces so flowerettes are approx. 1½ inches (3.8 cm) across.	Blanch in steam for 5 minutes or in boiling water for 3 minutes. Cool in ice water. Drain. Pack; do not leave headspace.

\*See page 6 for discussion of headspace.

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Brussels sprouts	Green, firm compact heads.	Remove coarse outer leaves. Wash.	Blanch for 3 to 5 minutes (depending on size). Cool in ice water. Drain. Pack; Do not leave headspace.
Carrots	Firm, fresh, smooth, well-shaped, good orange color.	Remove tops, wash and peel. Leave whole, slice, or cut into lengthwise strips.	Blanch in boiling water for 2 minutes if sliced or in strips; for 5 minutes if whole. Cool in ice water. Drain. Pack, leaving headspace.*
Cauliflower	Firm, tender white or creamy white head.	Break into flowerettes, wash. Soak 30 minutes in solution of 4 teaspoons (20 ml) salt to 1 gallon (4 l) water to remove any insects (if necessary). Drain.	Blanch in boiling water containing 4 teaspoons (20 ml) salt to 1 gallon (4 l) water for 3 minutes. Cool in ice water. Drain. Pack; Do not leave headspace.
Cherries (sour)	Bright red, ripe.	Stem, sort and wash. Drain and pit.	Cover with cold 60 or 65 percent syrup depending on sweetness of fruit. Leave headspace.* <b>OR...</b> Add ¾ cup (190 ml) sugar to 1 quart (1 l) cherries. Stir till sugar is dissolved. Pack, leaving headspace.*
Cherries (sweet)	Uniform color, ripe, sweet flavor.	Sort, stem, wash and drain. Remove pits if desired. Prepare quickly to avoid color and flavor changes.	Cover with 40 percent syrup containing ½ teaspoon (2.5 ml) ascorbic acid crystals to each quart (liter) of syrup. Leave headspace.*
Corn (corn-on-the-cob)	Plump, tender kernels with thin, sweet milk.	Husk, remove silk, and wash. Trim ends.	Blanch for 7 to 9 minutes, depending on size. Cool in ice water. Drain. Pack; do not leave headspace.
Corn (whole kernel, cream-style)	Plump, tender kernels, with thin, sweet milk.	Husk, remove silk, and wash. Trim ends.	Blanch 4 minutes. Cool in ice water. Drain. Cut or scrape off kernels from the cob. Pack, leaving headspace.*
Cranberries	Firm deep-red color, glossy skins.	Sort, stem, wash and drain.	Pack berries unsweetened into containers. Leave headspace.* <b>OR...</b> Cover with cold 50 percent syrup. Leave headspace.*

\*See page 6 for discussion of headspace.

**How To Freeze Food  
Continued**

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Currants	Plump, ripe, bright red.	Wash and stem.	Pack unsweetened in containers, leaving headspace.* <b>OR...</b> Cover with cold 50 percent syrup. Leave headspace.* <b>OR...</b> Add ¾ cup (190 ml) sugar to each quart (liter) of fruit. Stir until sugar is dissolved. Leave headspace.*
Dates	Fully ripe, plump, golden brown, smooth skin.	Wash and slit to remove pits, if desired.	Pack into containers, leaving headspace.* Seal and freeze.
Figs	Soft-ripe, are not sour in the center.	Sort, wash, Cut off stems. Peel if desired. Slice or leave whole.	Cover with cold 35 percent syrup containing ¾ teaspoon (3.8 ml) ascorbic acid crystals or ½ cup (125 ml) lemon juice to each quart (liter) of syrup. Leave headspace.* <b>OR...</b> Pack unsweetened into containers. Cover with water if desired. If water is used, add ¾ teaspoon (3.8 ml) ascorbic acid crystals to each quart (liter) of water. Leave headspace.*
Grapefruit, oranges	Firm, ripe, heavy for its size, free of soft spots.	Wash, dry, peel. Divide into sections. Remove membranes and seeds.	Cover with cold 40 percent syrup made with excess fruit juice and water. Add ½ teaspoon (2.5 ml) ascorbic acid crystals to 1 quart (1 l) syrup for better quality. Leave headspace.*
Grapes	Firm, ripe, tender skins, full-colored, full-flavored.	Wash and stem. Leave seedless grapes whole. Halve table grapes and remove seeds.	Pack unsweetened in containers, leaving headspace.* <b>OR...</b> Cover with cold 40 percent syrup. Leave headspace.*
Greens (beet, chard, collards, kale, mustard, spinach, turnip)	Young, tender leaves.	Wash, trim tough stalks. Cut into pieces if desired.	Blanch for 1½ to 3 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Melons	Firm, well-colored, ripe.	Halve and remove seeds. Peel. Cut into slices, cubes or balls.	Cover with cold 30 percent syrup. Leave headspace.*

\*See page 6 for discussion of headspace.

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Mushrooms	Free from decay, tender, white closed caps.	Wash. Trim off stem ends.	Soak in solution of 1 teaspoon (5 ml) lemon juice or 1½ teaspoons (7.5 ml) citric acid to 2 cups (500 ml) cold water for 5 minutes. Blanch in steam for 3 to 5 minutes. Cool in ice water. Drain. Freeze on trays, package and store. Leave headspace.* <b>OR...</b> Sauté in butter 4 minutes. Cool in ice water. Package and freeze. Leave headspace.*
Nectarines	Ripe, well-colored, firm.	Sort, wash, pit. Peel if desired. Cut in halves, quarters, or slices.	Cover with cold 40 percent syrup containing ½ teaspoon (2.5 ml) ascorbic acid crystals to each quart (liter) of syrup. Leave headspace.*
Okra	Young, tender green pods that puncture on slight pressure.	Wash. Remove stem end. Do not cut into seeded section.	Blanch for 3 to 4 minutes depending on size. Cool and drain. Freeze whole or slice crosswise. Pack, leaving headspace.*
Parsnips	Well-shaped, firm.	Remove tops. Wash and peel. Cut into ½ (1.25 cm) cubes or lengthwise slices.	Blanch for 2 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Peas (black-eyed)	Fully developed, flexible pods, tender seeds.	Shell peas. Discard pods.	Blanch 2 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Peas (green)	Bright green plump pods with tender sweet peas.	Shell peas. Discard pods.	Blanch for 1½ minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Peaches	Firm, ripe, no green color in the skins.	Sort, wash, pit and peel. Slice if desired.	Cover with cold 40 percent syrup containing ½ teaspoon (2.5 ml) ascorbic acid crystals to each quart (liter) of syrup. Leave headspace.* <b>OR...</b> Dissolve ¼ teaspoon (1.3 ml) ascorbic acid crystals in ¼ cup (60 ml) cold water for each quart (liter) of fruit. Sprinkle over fruit. Stir in ⅔ cup (160 ml) sugar for each quart (liter) of fruit. Leave headspace.* <b>OR...</b> Cover with cold water containing 1 teaspoon (5 ml) ascorbic acid crystals to each quart (liter) of water. Leave headspace.*

\*See page 6 for discussion of headspace.

**How To Freeze Food  
Continued**

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Pears	Ripe, firm but not hard.	Wash, peel, cut in halves or quarters. Remove cores.	Heat in boiling 40 percent syrup 1 to 2 minutes. Drain and cool. Pack into containers, cover with cold 40 percent syrup containing $\frac{3}{4}$ teaspoon (3.8 ml) ascorbic acid for each quart (liter) of syrup. Leave headspace.*
Peppers (green or red)	Firm, crisp.	Wash, remove stem and seeds. Cut into halves, strips or rings.	Freeze either unblanched or blanched. If blanched, heat in boiling water 2 to 3 minutes. Unblanched peppers. Do not require headspace. Blanched peppers do need headspace.
Pineapple	Firm, ripe with full-flavor and aroma.	Pare, remove core and eyes. Slice, dice, crush or cut into wedges or sticks.	Pack unsweetened into containers, leaving headspace.* <b>OR...</b> Cover with cold 30 percent syrup made with either pineapple juice or water. Leave headspace.*
Plums, fresh prunes	Ripe, deep color.	Sort and wash. Cut in halves or quarters if desired.	Pack unsweetened fruit into fresh containers, Do not leave headspace. Seal. Freeze. (To serve, dip frozen fruit in cold water 5 to 10 seconds. Remove skins and cover with 40 percent syrup to thaw.) <b>OR...</b> Cover with 40 or 50 percent syrup (depending on tartness of fruit) containing $\frac{1}{2}$ teaspoon (2.5 ml) ascorbic acid crystals to each quart (liter) of syrup. Leave headspace.*
Pumpkin, winter squash	Mature, fine texture.	Wash. Cut into pieces. Remove seeds.	Cook pieces until soft. Remove pulp from rind. Mash or puree pulp through sieve or strainer. Cool, stirring occasionally. Pack, leaving headspace.*
Raspberries	Ripe, juicy but firm.	Sort, wash carefully in cold water. Drain thoroughly.	Add $\frac{3}{4}$ cup (190 ml) sugar to 1 quart (1 l) of berries. Mix carefully to avoid crushing. Leave headspace.* <b>OR...</b> Cover with cold 40 percent syrup. Leave headspace.* <b>OR...</b> Pack unsweetened fruit into containers. Leave headspace.*

\*See page 6 for discussion of headspace.

<b>FOOD</b>	<b>QUALITY</b>	<b>PREPARATION</b>	<b>WHAT TO DO</b>
Rhubarb	Firm, tender well-colored stalks, good flavor, low fiber content. <b>DO NOT USE LEAVES. RHUBARB LEAVES ARE POISONOUS.</b>	Wash, trim, and cut into 1 or 2 inch (2.5 or 5.0 cm) pieces. Dip in boiling water for 1 minute to retain color and flavor. Cool in cold water. Drain.	Pack either raw or preheated fruit tightly into container without sugar. Leave headspace.* <b>OR...</b> Cover raw or preheated fruit with cold 40 percent syrup. Leave headspace.*
Rutabagas, turnips	Firm, young.	Cut off tops, wash, peel, and cut into ½ inch (1.25 cm) cubes.	Blanch for 2 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Strawberries	Firm, ripe, bright red color, slightly tart flavor.	Sort, wash and drain well. Remove hulls.	Cover with 50 percent syrup. Leave headspace.* <b>OR...</b> Add ¾ cup (190 ml) sugar to 1 quart (1 l) fruit. Mix well. Leave headspace.* <b>OR...</b> Cover with water containing 1 teaspoon (5 ml) ascorbic acid crystals to each quart (liter) of water. (Quality will not last as long as sweetened berries.) Leave headspace.*
Summer squash	Young, tender rinds.	Wash, slice into ½ inch (1.25 cm) pieces.	Blanch for 3 minutes. Cool in ice water. Drain. Pack, leaving headspace.*
Sweet potatoes, yams	Firm, medium to large size.	Wash.	Cook until tender in water, steam, pressure cooker or oven. Cool to room temperature. Peel. Cut into halves, slices, or mash. Dip for 5 seconds in solution of 1 tablespoon (15 ml) citric acid or ½ cup (125 ml) lemon juice to 1 quart (1 l) water to prevent discoloration. Pack, leaving headspace.*
Tomatoes (juice or stewed)	Firm, ripe.	Wash and trim. Cut into quarters or eighths.	Juice: simmer 5 to 10 minutes. Press through sieve. Add 1 teaspoon (5 ml) salt for each quart (liter) of juice, if desired. Leave headspace.* <b>OR...</b> Stewed: cook quartered tomatoes until tender 10 to 20 minutes. Cool in ice water. Leave headspace.*

\*See page 6 for discussion of headspace.



## How to freeze meats, poultry, game and fish

### How to freeze meats

1. Select high quality meats to ensure good texture and flavor. Freeze meats when they are at their lowest price:

Meat	When price is generally lowest
Beef	March or April
Pork	December or January
Lamb	December – February
Veal	After February

2. When deciding how much meat to freeze, consider:
  - Number and ages of persons to be served to help determine package sizes.
  - Proportion of freezer space allotted to meat at any one time.
  - Amount of money budgeted for purchasing meat at one time.

Meats should be completely frozen within 24 hours of the time they enter the freezer. To achieve this, freeze no more than 2 or 3 pounds for each cubic foot of capacity (.9 to 1.35 kg of food for each liter of freezer space) at one time. If freezer temperature does not return to 0°F (–17.8°C) within 24 hours after the meat has been stored, the quality will probably be affected.

3. Good packaging is essential for meat to retain its high quality during storage. Freezer burn occurs when meat is improperly wrapped; the meat dries and suffers permanent damage to texture and flavor; dried sections must be trimmed off and discarded.

To avoid freezer burn and ensure good quality:

- Wrap meats in meal-size packages.
- Wrap steaks, chops and ground meat patties flat or in layers separated by double thickness of freezer wrap.
- Use moisture-vapor-proof wrappings and make sure packages are airtight.
- Drugstore wrap is recommended for meats. (See page 5 for wrap illustrations.)



4. Meats can be thawed either before or during cooking. Nutritive value, taste, and texture are no different either way. However, cooking and browning of meat is more even if meat is thawed before cooking. If meat is thawed before cooking, thaw meat in the refrigerator to help retain quality and avoid spoilage. Keep meat in its packaging. Allow 12 to 24 hours. For rapid thawing, place unopened packages under cold or lukewarm running water. The defrost cycle on a microwave oven can also be used for rapid thawing.
5. When cooking hard-frozen meat, allow extra time. A thermometer can be inserted when the meat is about half done.

#### How to freeze poultry

1. Freeze young, well-fed birds that are fresh and of top quality.
2. Dress poultry carefully. Remove any pinfeathers and hairs.
3. Do not stuff poultry before freezing; stuffing takes a long time to freeze and bacterial growth can start. Such growth can continue during thawing and cooking, causing food poisoning.
4. **Freezing whole, uncut poultry**
  - Drugstore wrap (see page 5) in aluminum foil or other moisture-vapor-proof wrap.
  - Press and mold wrapping to bird. Fold over ends to make lock seam.
  - Seal with press-sensitive tape. (Aluminum foil is self-sealing and does not require tape.)

#### OR...

- Place bird in polyethylene bag.
- Lower bag into pan of water to force out air. Be sure bag opening is above water.
- Press bag against entire surface area of bird to squeeze out air bubbles.
- Twist end of bag and fold over.
- Secure with fastener.
- Label.
- Cover packages with stockinette for added protection, if desired.
- Freeze.

#### 5. Freezing cut-up poultry

- Nest halved or quartered poultry to make a compact package.
- Put a double layer of freezer wrap between sections so portions can be separated easily. Wrap or package in bags.
- Separate pieces of cut-up poultry in meal-size portions. Or, freeze separately wrapped pieces and store in polyethylene bag.
- Giblets should be stored separately from the rest of the poultry pieces. Wrap separately. Seal and freeze. Giblets can also be frozen on a tray first, then packaged for storage.

#### 6. Thawing poultry

Whole birds to be roasted should be thawed completely before cooking. Broilers and birds to be cooked by other methods can start being cooked when thawed enough for pieces to separate.

Thaw poultry in package in the refrigerator. In emergencies the bird can be thawed by placing it:

- under cold running water with package unopened.

#### OR...

- in a microwave oven.

Completely thawed poultry can be cooked exactly as fresh; allow about  $\frac{1}{3}$  longer cooking time for poultry started when frozen.

Thawing times will vary with the weight of the poultry and whether it is whole, halved, cut up, etc. (See chart.)

#### Poultry thawing time in refrigerator

POULTRY	SIZE	TIME
Chicken	Whole	1 to 2 days
	Halves	3 to 9 hours
	Cut up	3 to 9 hours
Duck	Whole, 4 lbs. (1.8 kg)	1 to 2 days
Goose	Whole, 4-14 lbs. (1.8-6.4 kg)	1 to 2 days
Turkey	Whole less than 18 lbs. (8.2 kg)	1 to 2 days
	Whole more than 18 lbs.	2 to 3 days
	Halves	1 to 2 days
	Cut up	3 to 9 hours

## How To Freeze Food Continued

### How to freeze game

1. Dress and cool all game as soon as possible after killing.
2. Big game (deer, elk, moose, antelope) should be aged 3 to 5 days at 34 to 36°F (1 to 2°C). Afterwards: Cut into pieces as desired; wrap as for similar cuts from domestic animals (if possible, have a commercial locker plant handle the processing); seal and freeze.
3. Small game (rabbits, squirrels) should be skinned and washed thoroughly in cold water after bleeding. Afterwards: Chill thoroughly (2 to 5 days of aging is generally preferred); cut into pieces as desired; wrap, seal, and freeze.
4. Clean game birds as soon as possible after killing and chill at once. Pluck if possible and skin if desired. (Skinning may cause dryness and loss of flavor.) Wash thoroughly. Prepare game birds like domestic poultry: Package as domestic fowl; seal and freeze.
5. Check state game regulations to determine how long game meat, fowl, and fish may legally be kept in your freezer.
6. The same methods for thawing and cooking domestic meat and fowl should be followed for game meat and birds.

### How to freeze fish

1. Freeze fish the same day they are caught. Keep iced or refrigerated until frozen.
2. To prepare fish for freezing: remove fins, scales, and head and tail if desired and wash thoroughly. Small fish can be frozen whole. Cut large fish, such as salmon or bass, into steaks or fillets.
3. Before freezing: To firm flesh and reduce leakage during thawing, dip lean-type fish in solution of chilled salt brine using  $\frac{1}{4}$  cup (60 ml) salt to 1 cup (250 ml) water for 20 seconds. Let drain a few seconds before packaging. Do not salt mackerel, salmon, or other fatty fish.
4. To prolong storage time of fatty fish (lake trout, salmon) dip for 1 minute in solution of  $1\frac{1}{2}$  teaspoons (7.5 ml) ascorbic acid to 1 quart (1 l) cold water.
5. Wrap in moisture-vapor-proof material such as:
  - Heavy-duty aluminum foil.
  - Polyethylene freezer bags.
  - Polyethylene-coated freezer paper.

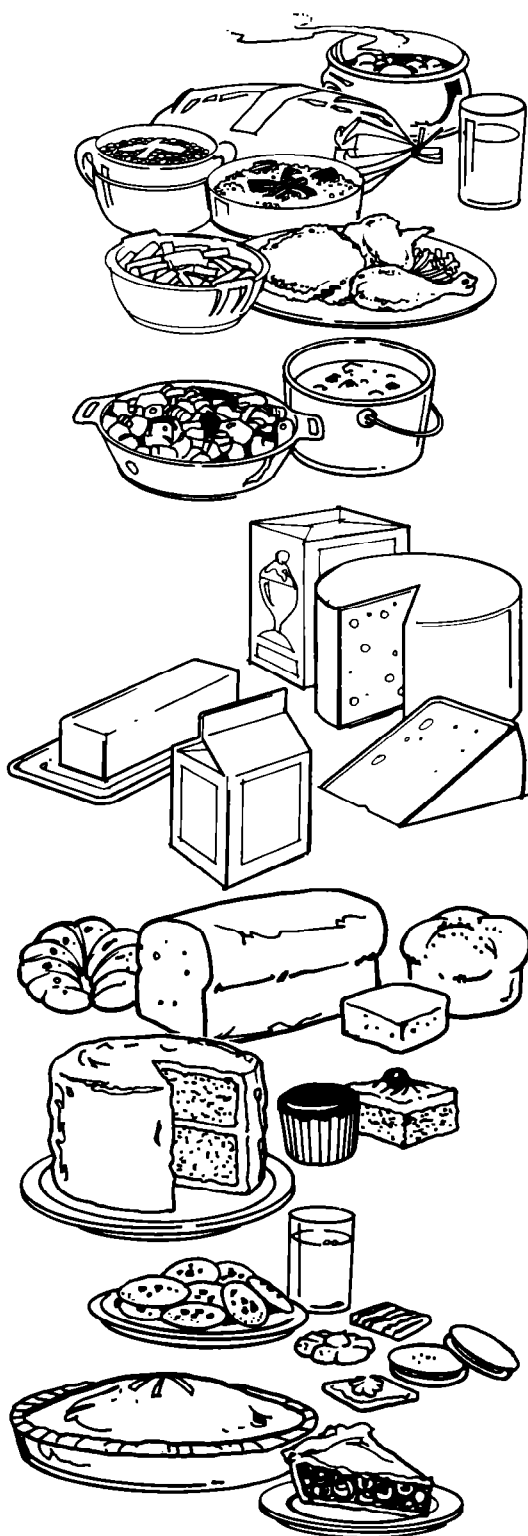
**OR...**

  - Non-permeable plastic wrap (made from a saran film).
6. Whole fish also can be glazed for freezer protection. After cleaning, freeze fish unwrapped, then dip in water chilled just above freezing temperatures to form ice film. Repeat until  $\frac{1}{8}$  inch (0.3 cm) glaze is built up. Wrap and freeze.
7. Whole fish to be baked can be thawed before cooking, if desired. Start cooking fish to be pan-fried, broiled or used in chowders when partly frozen; start at slightly lower heat and cook a bit longer than fresh fish. Fish to be coated with flour or other coating must be thawed before cooking since coatings do not adhere to frozen surfaces. Thaw shellfish, such as oysters, to be eaten raw. Fish should be thawed in the refrigerator allowing 8 to 10 hours per lb. (450 g); they can also be thawed under cold running water. Leave packages unopened during thawing.

## Fish freezing chart

<b>FISH</b>	<b>PREPARATION</b>	<b>HOW TO FREEZE</b>
Crab, lobster	Drop live fish in boiling salted water (1 tablespoon [15 ml] to 1 quart [1 L] water) and cook for 15 to 20 minutes. Cool thoroughly.	Remove meat from shells or crack shells and pack with meat. Pack in moisture-vapor-proof containers, leaving headspace.* Seal and freeze.
Large fish	Clean. Cut into steaks or fillets.	Package in meal-sized portions. Wrap securely, seal and freeze.
Oysters, clams scallops	Shuck. Wash meats in salted water (½ cup [125 ml] salt to 1 gallon [4 L] cold water). Drain.	Pack in moisture-vapor-proof containers, leaving headspace.* Seal and freeze.
Pan fish	Clean. Freeze whole.	Pack in rigid containers, fill with water, leaving headspace,* and freeze. Ice seals out air, seals in flavor. <b>OR...</b> Wrap in moisture-vapor-proof material.
Shrimp (cooked)	Wash in salted water, remove heads. Drain. Cook 10 minutes in boiling water. Cool. Remove sand veins. Shell, if desired. Rinse and drain.	Pack in moisture-vapor-proof containers. Leave headspace.* Seal and freeze. <b>NOTE:</b> Cooked shrimp will toughen during freezing.
Shrimp (raw)	Wash, remove heads and sand veins. Shell, if desired. Drain.	Pack in moisture-vapor-proof containers. Leave headspace.* Seal and freeze.

\*See page 6 for discussion of headspace.



## **How to freeze cooked food, dairy products and baked goods**

### **How to freeze cooked food**

Prepare two or three times the meal-size amount of stews, soups or casseroles and freeze...freeze leftovers...experiment with specialty dishes.

### **Main dishes, casseroles, soups, stews**

1. Prepare cooked food as for the table, shortening cooking time 10 to 15 minutes to allow for additional cooking during reheating.
2. Omit part of liquid, if possible, and add at time of reheating.
3. Plan to add seasoning at serving time, since many fade in freezing while others may grow stronger.
4. Potatoes should be added to stews and soups at serving time since they tend to become mushy when thawed.
5. Some foods, like rice, take as much time to prepare from the frozen state as they would to prepare from scratch. These should not be frozen except as leftovers.
6. Fried foods become soft and soggy, not crisp.
7. Add crumb and cheese toppings before reheating frozen dishes.
8. Gravies and cream sauces may separate when reheated. Stir continuously to smooth out. If still separated add a mixture of flour and water. Stir.
9. Canned soups do not separate and therefore can be used for dishes to be frozen.

### **Leftovers**

Most cooked food can be frozen satisfactorily, so freezing is an ideal method of keeping leftovers. Leftover meat can be sliced and packaged in meal- or serving-size portions. Package leftovers carefully and be sure to label them.

### **How to freeze**

Cool cooked food as rapidly as possible and freeze at once. Place food container in ice water to cool food more quickly. Liquid or semi-liquid dishes can be frozen in moisture-vapor-proof containers. (Be sure to leave headspace.) Casseroles and other more solid foods can be frozen in the container in which they were cooked:

1. Line the casserole with foil.
2. Add casserole ingredients and bake.
3. Cool and freeze in uncovered casserole.
4. When frozen, lift casserole and foil out in one piece.
5. Place in a polyethylene freezer bag.
6. To thaw, take frozen casserole out of bag and foil and place in the casserole dish it was originally baked in. This type of freezing frees the casserole dish for other uses while the food is in the freezer.

### How to serve

Most cooked food is best when heated without thawing:

1. Place in slow oven not more than 350°F (175°C), so food is warmed through. Higher heat may overcook outside of food before inside is thawed.

### How to freeze dairy products

1. Freeze only highest quality dairy foods; even the slightest "off" flavor can be intensified with storage.
2. Freeze in portions that will be used in a short time.

2. Cover container until thawing is completed. Remove lid for browning, if desired.
3. At 350°F (175°C) food will reheat in from ¾ to 1½ hours depending on the size of the container. Food can also be reheated in double boiler or microwave oven. Follow microwave oven instructions.

3. Thaw dairy foods, except ice cream and whipped cream, completely before using. Since gradual thawing produces superior quality, thawing overnight in the refrigerator is recommended.

### Dairy products freezing chart

FOOD	PREPARATION
Butter, margarine	Wrap airtight in aluminum foil or other vapor-proof material. Seal and freeze.
Cheese	Cheese stores well under normal refrigeration. If frozen, textures are altered. The frozen and thawed product may not be of the same high quality as the unfrozen, but the flavor will be good.
Ice cream	Store commercial or homemade ice cream in moisture-vapor-proof cartons. Seal and freeze. When carton is opened, cover exposed ice cream surface with foil or plastic to prevent formation of ice crystals.
Whipped cream	Unwhipped cream will not whip after freezing. Whip pasteurized cream until stiff. Sweeten and flavor, if desired. Drop by spoonfuls onto waxed paper and freeze. Package in bags or cartons. Take from freezer 10 to 20 minutes before serving.

### How to freeze eggs

Do not freeze eggs in shell. Freezing in the shell will cause the egg to crack. Whole eggs and yolks should be mixed with salt, corn syrup or sugar before freezing to prevent gumminess.

#### Whole eggs

1. Gently mix yolks and whites together; do not beat in air. To 2 cups (500 ml) of whole eggs add 1 tablespoon (15 ml) sugar or light corn syrup (for cakes, custards, etc.) or 1 teaspoon (5 ml) salt (for scrambled eggs, omelets, etc.) depending on the anticipated use.
2. Strain, pour into container leaving ½" headspace for expansion and skim off bubbles. Seal and freeze at 0°F (-17.8°C) or below.

#### OR...

Freeze mixture in ice cube trays or muffin pans. Then wrap the portions individually in moisture-vapor-proof material and store in bag or carton.

### Egg yolks

1. Mix 2 cups (500 ml) yolks with 2 tablespoons (30 ml) sugar or light corn syrup or 1 teaspoon (5 ml) salt; do not beat in air.
2. Package, leaving ½" headspace. Skim off bubbles.
3. Seal and freeze.

### Egg whites

1. Fill containers leaving ½ inch (1.25 cm) headspace.
2. Seal and freeze.

**NOTE:** Label egg packages with date and amount and whether sugar or salt was added.

### Thawing

1. Thaw in unopened container in refrigerator.  
**OR...**
2. If in cubes, place cubes in covered bowl and thaw in refrigerator.
3. Adjust recipes for sugar or salt added before freezing.

## **How To Freeze Food Continued**

### **How to freeze baked goods**

#### **Bread**

1. Wrap bread or rolls in moisture-vapor-proof wrapping or pack in polyethylene bag. Home baked bread or rolls should be cooled before packaging.
2. Seal and freeze.
3. To serve, thaw in wrapping. (Bread or rolls frozen in foil can be heated in a conventional oven in that wrapping, directly from freezer.)

Unbaked yeast breads can be frozen after the first rising.

1. Punch down.
2. Shape.
3. Wrap in foil.

#### **Quick breads**

Biscuits, muffins, doughnuts, cornbread, nutbread, waffles and other quick breads freeze well.

1. Cool before wrapping.
2. Slice, if desired.
3. Wrap, seal and freeze.

#### **Cake**

1. Bake and freeze whole cakes or freeze leftover portions whole or cut into individual pieces.
2. Wrap in moisture-vapor-proof material.
3. Seal and freeze.
4. Store in carton for protection.
5. Thaw at room temperature, or in 250°F (120°C) oven. Freeze frosted cakes before wrapping so frosting will not stick to wrap. When thawing, place a deep cake cover over the cake, not touching the frosting.

#### **Freezing is not recommended for:**

- Unbaked cake batter – it may not rise when baked
- 7-minute type frostings – they become soggy
- Cakes with soft fillings – they tend to become soggy
- Meringues – they become watery and tough
- Egg white frosting, custard pies, cream pies – they become watery and tough

#### **Cookies**

Cookies can be frozen either unbaked or baked; recipes high in fat content and low in moisture freeze best.

#### **Unbaked cookies**

1. Prepare as for baking.
2. Place drop, molded or rolled cookies on tray and freeze.
3. Store in bag or carton.
4. Bake without thawing.
5. Mold refrigerator-type dough in rolls or bars and wrap in moisture-vapor-proof wrapping.
6. Seal and freeze.
7. Thaw only enough to permit slicing; bake.

#### **Baked cookies**

1. Bake as usual.
2. Cool completely and freeze on trays.
3. Pack in bags or cartons.
4. Return to freezer for storage.
5. To serve, thaw 5 to 10 minutes.

#### **Pie**

Both baked and unbaked pies can be frozen. Fruit pies are best frozen unbaked since it takes as long to thaw a baked pie as to cook an unbaked one; in addition, freshly baked fruit pie has flakier crust and fresher flavor.

Bake pecan and similar pies before freezing; such rich fillings do not freeze solid and may soak through unbaked crust.

#### **To freeze pies**

1. Cool pies thoroughly before freezing. Wrap in moisture-vapor-proof material and seal.
2. Cover with a paper plate and protect with stock-inette or carton.
3. Thaw chiffon pies at room temperature about 1 hour.
4. Cut steam vents in top crusts of unbaked pies and bake, adding 10 to 15 minutes to usual baking time.
5. When center of pie puffs up, pie is baked.

Pie crust alone can be frozen unbaked or baked, as preferred. Do not cut steam vents in top crusts until pie is ready to be baked.

**Freezing unbaked pie crust:**

1. Roll dough out larger than pie pan.
2. Place two layers of freezer wrap between layers of rolled dough.
3. Stack, wrap, and freeze.
4. Thaw about 10 minutes at room temperature before adding filling and baking. Be sure to prick crust.

**Special freezing tips**

1. Freeze canapes on trays in advance.
  - Cut day-old bread into desired shapes and butter before freezing. Thaw slightly before adding spreads.
  - Prepare dips and spreads and freeze separately.
  - Do not freeze salad dressings, crisp vegetables, or hard-boiled eggs. These can be added when canapes are spread. If you want to use crackers, freeze spread only. Spread on crackers just before serving.
2. Freeze bread crumbs, buttered or plain. Store in freezer bag or container.
3. Grate orange or lemon peel, a teaspoonful to a small piece of foil. Fold into packet and freeze. Store packets in labeled bag.
4. Freeze chopped nuts and meats in bags or rigid containers. Package candied fruits in foil or freezer bags and freeze.
5. Make up a pound of garlic butter, freeze in individual portions on cookie sheet and store in polyethylene freezer bag.
6. Make up herb bouquets (small cheesecloth pouches filled with herbs). Pack in bags or wrap in foil and freeze. Use while frozen to flavor soups, stews, gravies, etc.
7. Freeze fresh coconut.
  - Shred coconut meat.
  - Pack in containers.
  - Cover with coconut milk.
  - Leave headspace.
  - Seal and freeze.

8. Freeze soups, eggs, sauces, liquids, etc. Use plastic ice cube tray. When frozen, remove from tray and store in polyethylene freezer bags. Use as needed.

9. Keep foods like steaks, hors d'oeuvres, chicken pieces, mushrooms, meatballs, vegetables, etc., from sticking together.

- Spread pieces in a single layer on a cookie sheet.
- Place in freezer unwrapped.
- Once frozen, remove food from cookie sheet and store in polyethylene freezer bags.
- Label and date.
- Place bag in freezer.
- You can take out just the quantity you want without prying several pieces apart or thawing more than you need.

10. Apple cider, fruit juices, etc., freeze well. Store in container and leave headspace for expansion.

**OR...**

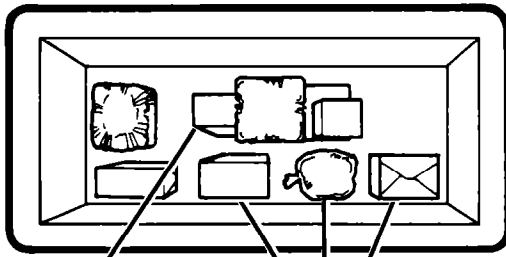
Pour into ice trays and freeze.

11. Freeze sandwiches.

- Use a salad dressing such as French or Italian or use cream cheese, milk, etc. as the binder in the sandwich filling. Do not use mayonnaise since it will separate when it freezes.
- Butter bread before adding filling so filling doesn't soak through bread.
- Add lettuce after sandwich has thawed.

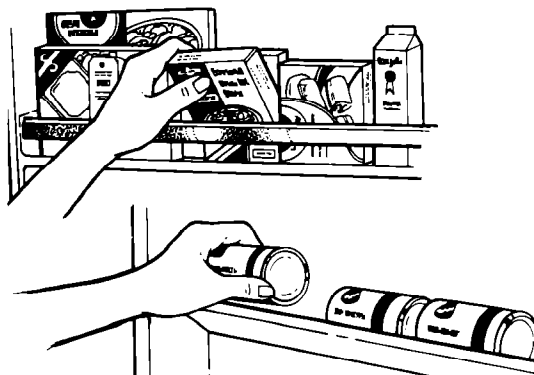
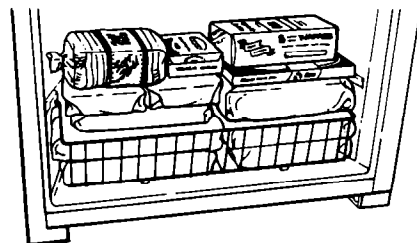
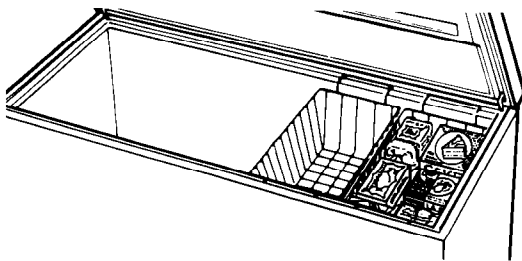
For further information about freezing techniques, contact your local county extension agent or public utility home economist.

# Food Storage



Packages already frozen

Foods to be frozen near side walls



## Loading unfrozen food

1. Before freezing large quantities of food, turn Temperature Control to highest setting and let freezer operate for several hours. After loading all load items, return Temperature Control to the usual setting.
2. To speed freezing in a chest freezer, place unfrozen packages near a side wall. Leave space between packages.
3. To speed freezing in an upright freezer, lay packages in a single layer so each rests on the surface of a shelf. Leave space between packages.
4. Add more unfrozen food after first load is frozen (approximately 18 to 24 hours). In a chest freezer, stack frozen packages in the center.

## Storing frozen food

After food is frozen, stock packages anywhere in the freezer. Packages should not extend above the cabinet edge in a chest freezer, or beyond the shelf edge in an upright freezer. Such package placement may keep the lid or door from closing and sealing properly.

**Baskets** – Store small packages here to avoid losing them in the bottom of a chest freezer.

**Trivet** – Store heavy and bulky packages here in an upright freezer. Trivet should be in place at all times for proper air circulation.

**Door storage** – Store packages on the door shelves behind the retaining bar.

**Juice can shelves** – Store juice cans on door shelves as shown.



# Food storage chart

Storage times vary according to the quality of the food before it was frozen, the packaging or wrap used (moisture-proof, vapor-proof), and the storage temperature (around 0°F or below). For best results, use frozen foods within the recommended storage times.

FOOD	STORAGE TIME*
<b>Baked goods</b>	
yeast breads, rolls	2 to 3 months
brown & serve breads	3 months
unbaked breads	1 month
quick breads	2 to 3 months
cakes, unfrosted	2 to 4 months
cakes, frosted	8 to 12 months
fruit cakes	12 months
cookies:	
dough	3 months
baked	8 to 12 months
pies:	
baked	1 to 2 months
pastry dough only	4 to 6 months
unbaked; fruit pie	8 months
<b>Dairy products</b>	
salted sweet cream butter	6 to 9 months
unsalted butter, margarine	12 months
cheese:	
Camembert, cottage (dry curd only), farmer's, Roquefort, blue	3 months
creamed cottage Cheddar, Edam, Gouda, Swiss, Brick, etc.	6 to 8 weeks
Cheese texture changes during freezing.	
ice cream, ice milk, sherbet	4 weeks
<b>Eggs</b>	
whole yolk & white mixed together, whites only, or yolks only**	9 to 12 months
**Add ½ teaspoon salt or 1 teaspoon sugar to each 6 whole eggs or egg yolks to prevent coagulation of solids during freezing.	
<b>Fish</b>	
cod, flounder, haddock, sole	6 months
bluefish, salmon, mackerel, perch	2 to 3 months
breaded fish (purchased)	3 months
clams, oysters, cooked fish, crabs, scallops	3 to 4 months
Alaskan king crab	10 months
shrimp, uncooked	12 months

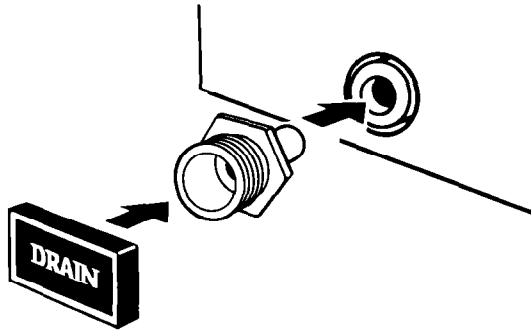
FOOD	STORAGE TIME*
<b>Fruits</b>	
berries, cherries, peaches, pineapples	12 months
citrus fruit and juices	4 to 6 months
fruit juice concentrate (commercially frozen)	12 months
<b>Main dishes (commercially frozen)</b>	
stews: meat, poultry, fish casseroles	2 to 3 months
TV dinners, entrees	3 to 6 months
<b>Meat</b>	
bacon	4 weeks or less
corned beef	2 weeks
cured ham, frankfurters	1 month
Cured, smoked meats do not freeze well. Salt speeds spoilage. If frozen, use within a month.	
ground beef, lamb, veal	2 to 3 months
roasts:	
beef	6 to 12 months
lamb, veal	6 to 9 months
pork	3 to 6 months
sausage, fresh	1 to 2 months
steaks and chops:	
beef	8 to 12 months
lamb, veal cutlets, pork	3 to 4 months
venison, game birds	8 to 12 months
<b>Nuts</b>	8 to 12 months
<b>Poultry</b>	
chicken or turkey, whole or pieces	12 months
duck	6 months
giblets	2 or 3 months
cooked poultry w/gravy	6 months
slices (no gravy)	1 month
<b>Vegetables (blanched or cooked)</b>	
home frozen	8 to 12 months
commercially frozen	8 months
Most raw vegetables do not freeze well (except as juice). They lose crispness.	
*Based on U.S.D.A., Michigan Cooperative Extension Service and Food Marketing Institute suggested storage times.	

# Cleaning Your Freezer

## **⚠ WARNING**

### **Personal Injury Hazard**

When cleaning or moving a freezer, wipe up any water that may have spilled. Failure to do so could result in personal injury.



## **Cleaning a chest freezer**

The freezer should be cleaned when frost build-up is about ¼ inch (6 mm) thick. Complete defrosting and cleaning should be done at least once a year. In high humidity areas, a freezer may need more frequent defrosting. If the freezer is a No-Frost model, it will defrost automatically but should be cleaned at least once a year.

### **To defrost and clean a chest freezer:**

1. Unplug freezer.
2. Take out all food and sliding baskets.  
**NOTE:** Wrap frozen food and packages in several layers of newspaper and cover with a blanket. Food will stay frozen several hours.
3. If your freezer has a drain:
  - Remove drain cover by pulling out.
  - Insert hose adapter provided into drain outlet.
  - Remove rubber stopper from inside bottom of freezer.
  - Place a pan under the drain, or attach a hose to the threaded end of the adapter and direct water into a separate drain.
4. Clean freezer according to the directions in the "Cleaning chart."

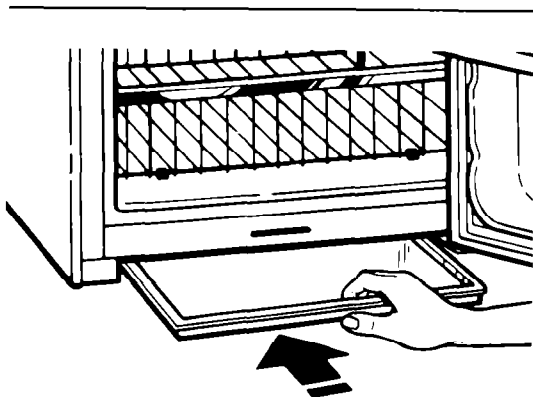
### **After defrosting a chest freezer:**

1. If your freezer has a drain:
  - Remove hose adapter.
  - Replace drain cover and rubber stopper.
2. Plug in freezer.
3. See directions for "Setting the temperature control" in the Use and Care Guide.

## **Cleaning an upright freezer**

### **To defrost and clean an upright freezer:**

1. Turn the Temperature Control to OFF.
2. Unplug the power cord.
3. Take out all food and removable parts.  
**NOTE:** Wrap frozen food and packages in several layers of newspaper and cover with a blanket. Food will stay frozen for several hours.
4. If your freezer is a manual defrost model:
  - Place a shallow pan on floor under drain hole in bottom of freezer.



- Place pan of hot water inside freezer to speed melting of frost. Keep door open. Ice can be removed in large pieces as it melts. Direct air from electric fan into freezer to speed defrosting.
5. Clean freezer according to the directions in the "Cleaning chart."

**After defrosting an upright freezer:**

1. If your freezer is a manual defrost model, remove the shallow pan from underneath the freezer.
2. Replace the shelves and trivet.
3. Plug in the power cord.
4. See the directions for "Setting the temperature control" in the Use and Care Guide.

## Cleaning chart

PART	WHAT TO USE	HOW TO CLEAN
Removable parts (baskets, shelves, trivets, etc.)	Sponge or cloth; mild detergent and warm water.	<ul style="list-style-type: none"> <li>• Wash removable parts by hand with warm water and a mild detergent.</li> <li>• Rinse and dry.</li> </ul>
Outside	<p>Sponge, cloth or paper towel; mild detergent.</p> <p>Appliance wax (or good auto paste wax).</p>	<ul style="list-style-type: none"> <li>• Wash with warm water and a mild detergent.</li> <li>• Do not use abrasive or harsh cleansers.</li> <li>• Rinse and dry.</li> <li>• Wax painted metal surfaces at least twice a year with appliance wax or a good auto paste wax. Apply wax with a clean, soft cloth. Do not use wax on plastic parts.</li> </ul> <p><b>Waxing painted metal surfaces provides rust protection.</b></p>
Inside walls – Manual defrost freezers	Plastic scraper, pans of hot water, electric fan, sponge or towel, baking soda and warm water.	<ul style="list-style-type: none"> <li>• Use plastic scraper to remove frost.</li> <li>• Place pans of hot water in freezer with lid or door open to speed melting. Directing air from an electric fan into the freezer will also help.</li> <li>• Remove water from walls with a towel or sponge.</li> </ul>
All other freezers (Freezer should be allowed to warm up so cloth won't stick.)	Sponge, soft cloth or paper towel, baking soda, warm water, mild detergent.	<ul style="list-style-type: none"> <li>• Wash with warm water and – mild detergent <b>OR</b> – baking soda (2 tablespoons [26 g] to 1 quart [.95 L] warm water).</li> <li>• Rinse and dry.</li> <li>• Do not use abrasive or harsh cleansers.</li> </ul> <p><b>Do not use an ice pick, knife or other sharp-pointed tool or any type of electric defroster to defrost freezer. They can cause damage to the liner and interior parts.</b></p>
Lid or door liners and gaskets	Sponge, soft cloth or paper towel; mild detergent, warm water.	<ul style="list-style-type: none"> <li>• Wash with mild detergent and warm water.</li> <li>• Rinse and dry.</li> </ul> <p><b>Do not use cleaning waxes, concentrated detergents, bleaches or cleansers containing petroleum on plastic parts.</b></p>

**Cleaning Your Freezer  
Continued**

<b>PART</b>	<b>WHAT TO USE</b>	<b>HOW TO CLEAN</b>
Defrost pan – No-frost upright freezers (behind freezer on top of compressor)	Sponge, soft cloth or paper towel; mild detergent and warm water.	<ul style="list-style-type: none"><li>• Slide freezer out away from wall.</li><li>• Wash defrost pan with warm water and mild detergent. Do not remove defrost pan to clean.</li><li>• Rinse and dry.</li><li>• Make sure defrost drain tube points into pan.</li><li>• Slide freezer back into place.</li></ul>
Condenser coils – Upright freezers	Use vacuum cleaner with brush attachment.	<ul style="list-style-type: none"><li>• Slide freezer out away from wall.</li><li>• Clean dust and lint from condenser coils behind the freezer at least every other month.</li></ul>

**⚠ WARNING**

**Personal Injury Hazard**  
Watch out for sharp wire ends at top of condenser coils. Failure to do so could result in personal injury or damage to brush.

# Vacation And Moving Care

## Vacations

Arrange for someone to make regular checks of your freezer to make sure it is operating and electricity has not been interrupted.

## Long vacations

If freezer is shut off for more than 24 hours:

1. If your freezer is equipped with an automatic ice maker:
  - Shut off the ice maker water supply a day ahead of time.
  - After the last supply of ice drops, lift the signal arm to turn off the ice maker.
2. Remove and store all food.
3. Unplug freezer.
4. Clean thoroughly. See "Cleaning your freezer," page 26.
5. Block lid or door open for air circulation. Place blocks between lid or door and cabinet and tape in place with self-adhesive filament tape.
6. If your freezer has a lock, turn lock to locked position with door open.

### **WARNING**

#### **Personal Injury Hazard**

**Do not allow children near the freezer when the doors are blocked open. They may become injured or trapped.**

## Moving

1. If your freezer is equipped with an automatic ice maker:
  - Shut off the ice maker water supply a day ahead of time.
  - Disconnect the water line.
  - After the last supply of ice drops, lift the signal arm to turn off the ice maker.
2. Remove and store all food.
3. Unplug freezer.
4. Clean thoroughly. See "Cleaning Your Freezer," page 26.
5. Remove everything that comes out. Wrap all parts well and tape them together so they don't shift and rattle.
6. Tape doors shut on an upright freezer.
7. Lock the lid or door closed if your freezer has a lock.
8. Screw in the levelling legs if the freezer has them.
9. Tape the electric cord to the cabinet.

When you get to your new home, put everything back, level the freezer and refer to "Before using your freezer" in the Use and Care Guide. Don't forget to reconnect the water supply line if you have an ice maker.

# Common Freezer Problems

## Food freezes too slowly

Too Much Food Added at Once

- Do not load freezer with too much food at one time. Too much warm food overloads the freezer, slows the rate of freezing and lowers food quality.
- During a 24-hour period, you can freeze about 3 pounds of food per cu. ft. of freezer space. (See "Loss of quality" problem for more specific suggestions.)

## Foods removed from freezer need to be refrozen

Food Taken Out and Not Used

- Do not refreeze any packages that have thawed completely.
- Cook thawed food immediately, package properly and refreeze. **Do not cook completely thawed fish and shellfish. Throw it away.**
- You can safely refreeze most food that has thawed if it still contains ice crystals. There may be some loss of food quality. (See "Loss of quality" problem for more specific suggestions.) Do not refreeze partially thawed fish or shellfish.

## Freezer burn

**(Food dries out and toughens, becomes gray or white, and may lose flavor.)**

Improper Packaging Method or Material

Use moisture-vapor-proof packaging material or containers, such as heavy-duty foil, non-permeable plastic wrap, polyethylene-coated freezer wrap or freezer bags.

Punctures in Wrap

Good packaging is airtight and nonporous, with no holes or openings.

## Frost build-up in freezer

**(Reduces space and may raise storage temperature.)**

Freezer Needs Defrosting

- Between regular defrost periods, scrape off thin layers of frost as they form, using a plastic scraper.
- Defrost completely when frost build-up is about ¼ inch (6 mm) thick.
- Never use an ice pick or other sharp tools to remove frost.

## Frost/ice crystals in food packages

Too Much Air Left in Packages (Air space in packages lets moisture evaporate from food, then condense as ice crystals.)

Remove as much air as possible from freezer bags, rigid plastic containers and wrapped packages before sealing and putting into the freezer.

## Loss of quality

Food Not Highest Quality When Frozen

Use only high quality food for freezing. Freezing does not improve food quality.

Food Frozen Too Slowly

- Put food to be frozen in a single layer in coldest part of the freezer. This provides good air circulation and helps speed freezing.
- Add no more unfrozen food to the freezer than can be frozen in 24 hours – up to 2 or 3 pounds of food per cu. ft. of freezer space.

Partial Thawing and Refreezing

- Do not add large amounts of warm food to the freezer at one time.
- Keep warm, unfrozen food packages separate from frozen to prevent partial thawing.

#### Storage Temperature Too High

Store frozen food at about 0°F (–17.8°C).  
Adjust temperature control (if freezer has one)  
to a colder setting.

#### Food Improperly Wrapped or Packaged

Use only moisture-vapor-proof packaging specifically designed and recommended for freezer use. (See “Freezer burn” problem and pages 3 and 4.)

#### No power

##### Freezer Unplugged

Reconnect plug to outlet. Install freezer so that plug cannot be accidentally pulled out.

##### Overloaded Circuit

Check house fuse or circuit breaker. Make sure freezer is on separate circuit.

##### Power Failure

- Determine how long power will be off.

**Short period:** If lid/door is not opened, a fully-loaded freezer will keep food frozen for up to two days; a half-full (or less) freezer may not stay frozen for more than one day.

**Long period:** As soon after the power goes off as possible, place 2 lbs. (0.9 kg) of dry ice in freezer for every cu. ft. of freezer space. This should keep temperature below freezing for 3-4 days in a fully-loaded 10 cu. ft. freezer, and 2-3 days in one that is half-full (or less).

- Keep freezer closed except to add more dry ice or remove it when power comes on.

### **WARNING**

#### **Personal Injury Hazard**

**Wear gloves when handling dry ice to protect hands. Failure to do so could result in dry ice burns.**

#### Off-taste/odor in ice

##### Ice in Uncovered Bin Attracts Airborne Odors

Use ice cubes rapidly to prevent them from getting old and stale. Store large quantities of ice in freezer bag or covered container.

##### Old Ice

Dump ice that has developed an odor or off-taste and make new supply.

##### Water Quality

Some water contains minerals (such as sulfur) that have a strong taste or odor which may require a softener or filter to remove.

##### Improper Wrapping of Food in Freezer or Refrigerator

Wrap all food in moisture-vapor-proof packages to prevent transfer of odors to ice. (See pages 3-5.)

##### Ice Bin/Freezer Need Cleaning

- Clean up spills as they occur to prevent odor transfer. When defrosting, clean freezer parts with warm water and mild detergent.
- Wash freezer with a baking soda and water solution.
- Rinse and dry.

##### Plumbing to Ice Maker/New Ice Maker

Follow freezer installation instructions for proper hook-up of water to the ice maker. The first few loads of ice from a new ice maker may have an off-taste and should be disposed of, readying the unit to make a new supply.

#### Storing food while defrosting freezer

##### Time for Regular Defrosting and Cleaning

- When possible, defrost freezer when frozen food supply is low.
- Store packages in the freezer section of the refrigerator.
- Put frozen packages in an insulated ice chest.  
**OR...** Wrap food in newspaper, stack and cover with a blanket to insulate.  
**OR...** Pack food packages in a cooler and cover with dry ice.

(See “No power” problem for details on dry ice usage.)

