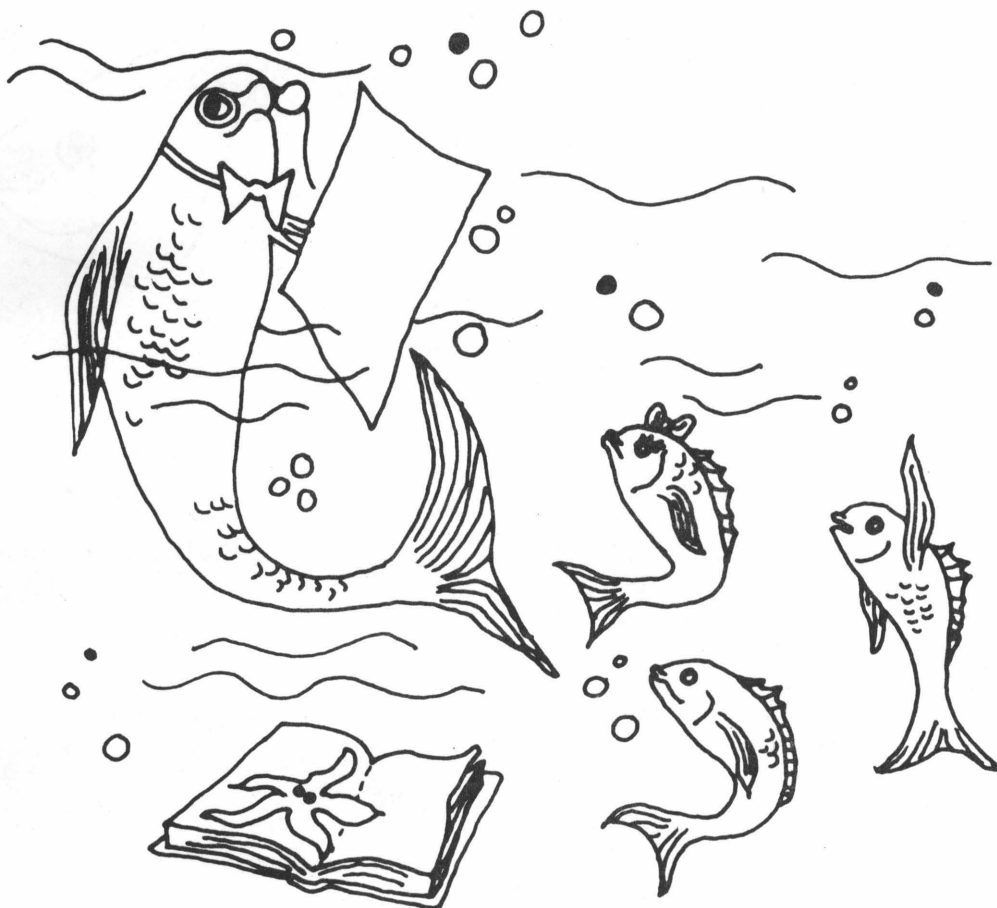


Filleting Fish



This pamphlet is an educational service provided by Sea Grant at Virginia Tech, and is intended to accompany the film "Filleting Fish." Included are the script of the film, illustrated filleting techniques, recipes, and cooking tips. Text by John W. Long. Illustrations by Jackolyn Richards.



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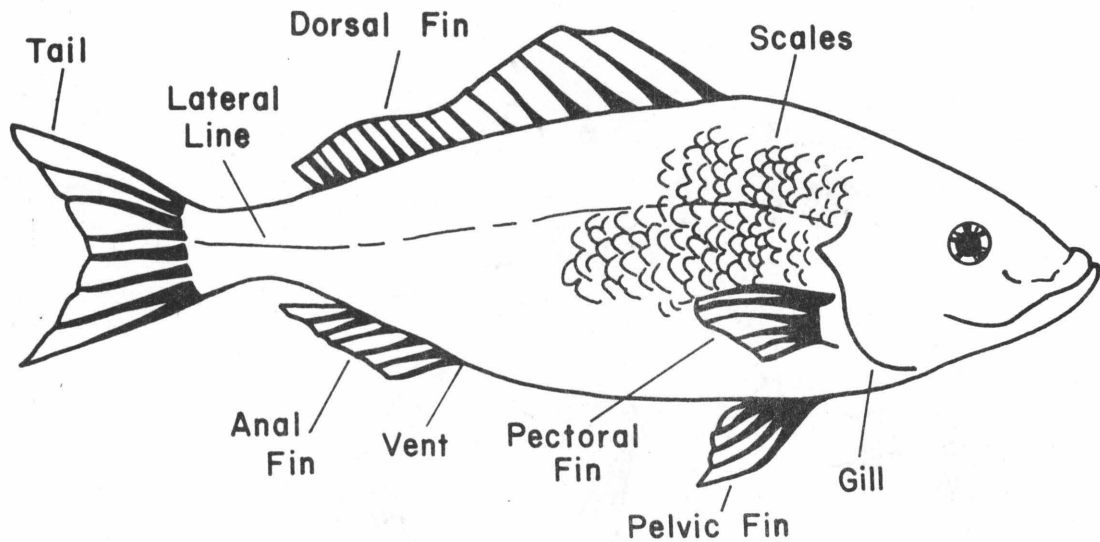
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In order to clean and dress fish it is important that the correct utensils be used. Fish knives are long and thin when compared to others found in the kitchen. While the other knives can be used to clean and dress fish, a fish knife will make the job easier and produce more favorable results.

Once the proper tools have been obtained, it is important that the consumer know how to purchase fresh fish.

Fish should be bright and shiny, with metallic luster, very little if any bleaching.

If the color is faded or bleached or there is no bloom or luster, don't buy that fish.

Eyes should be bright and translucent, but may be slightly sunken and a little dull.

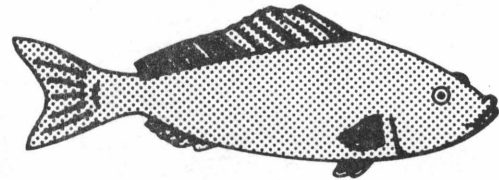
If the eyes are cloudy, dull, white, opaque, or sunken, don't buy.

Gills should be bright red or pinkish red, and have a characteristic odor depending on the species.

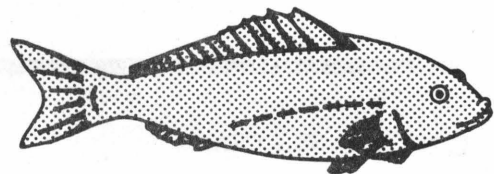
If gills are brownish or gray, or covered with mucus, or have a strong or sour odor, don't buy.

The fish flesh should be firm and elastic, or slightly soft. If it feels

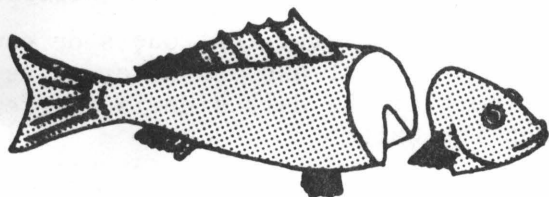
very soft or flabby, don't buy.



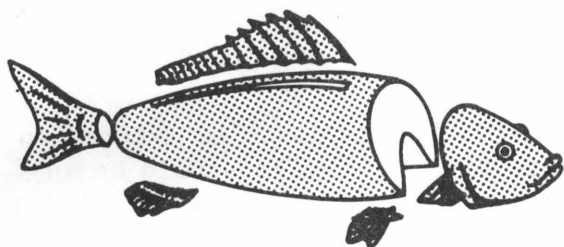
If you're looking at WHOLE fish, you are seeing the fish just as it came from the water, with its head, entrails, tail, fins, and scales included.



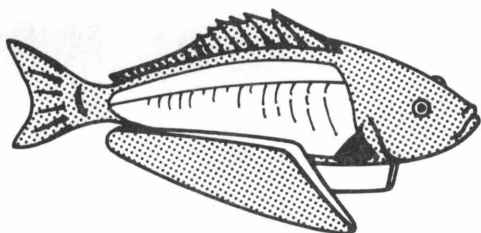
But you may prefer to choose a partly cleaned fish, known as a DRAWN fish, which has been eviscerated; that is, its entrails have been removed.



A small PAN-DRESSED* fish can be cooked after it is drawn and scaled. Fish often served in this way include trout, croaker, and butterfish.



DRESSED fish usually also have the head, tail, and fins removed, as well as the scales.



A FILLET is defined legally as a "single, irregularly shaped piece of fish flesh cut from either side of a fish from nape to tail." Any one fish can produce only two fillets. Different species of fish are filleted somewhat differently.

*"PAN-DRESSED" is a term used to describe several forms of fish, including head-off, head-off and drawn, and whole (head-on) without scales.

The following procedures should be useful to someone unfamiliar with the preparation of fish:

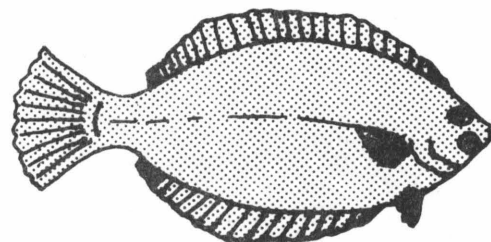
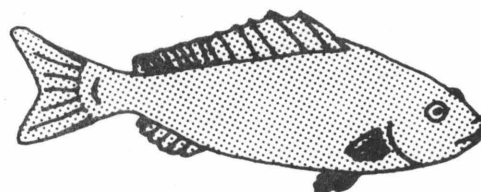
Remove scales by scraping the fish gently from the tail to the head with the dull edge of a knife or a fish scaler purchased from a retail or hardware store.

Remove the entrails after cutting the entire length of the belly from the vent to the head.

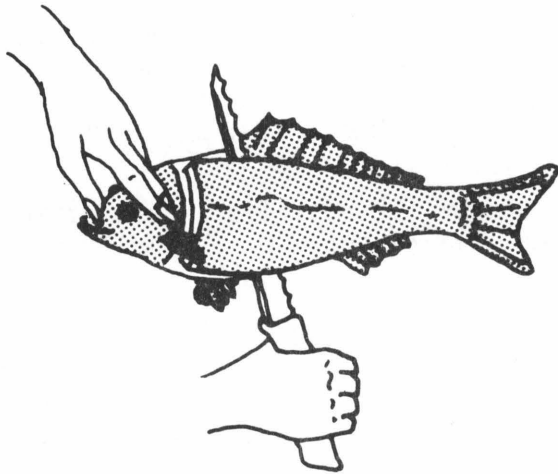
Remove the head by cutting above the collarbone.

Remove the dorsal or large back fin by cutting the flesh along each side, and pulling the fin out. Never trim the fins off with shears or a knife because the bones at the base of the fin will be left in the fish. Many individuals, however, do not remove the fins, since the fish can be prepared with them on.

Wash the fish thoroughly in cold running water. The fish is now dressed or pan-dressed.

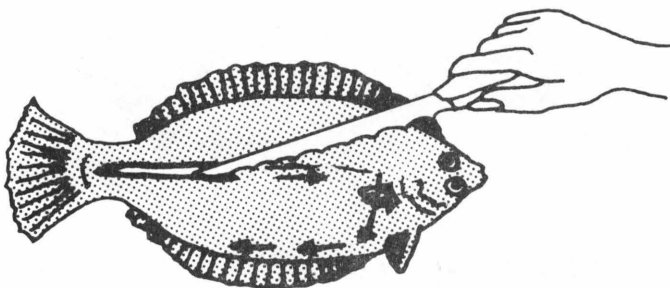


Both round and flat fish may be filleted or fileted.



For the round fish, take a sharp knife, cut down the back of the fish from the head to the tail. The cut should be just above the collarbone down to the backbone. With the knife flat, cut the flesh along the backbone, allowing the knife to run over the rib bones. Lift off the entire side of the fish in one piece, freeing the fillet at the tail. Turn the fish over and cut the fillet from the other side. The rib cage should be removed to remove all remaining bones.

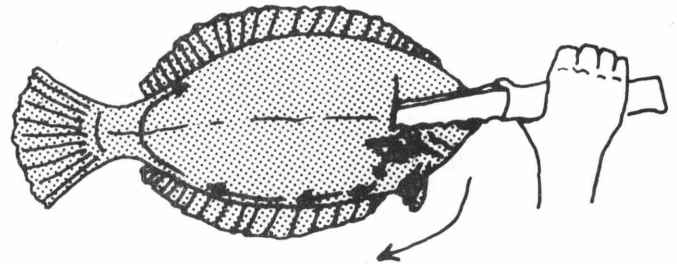
A flat fish is filleted in a similar manner. However, an inexperienced individual may find it easier to remove the meat in two sections from one side rather than a single piece.



First, make a lateral cut along the backbone. Turn the knife flat and

cut away from the backbone to the top and then the bottom of the fish. Turn the fish over and repeat the process.

You will observe that one side contains dark meat and the other white. Notice that the dark side is thicker than the white.



If the fillet is to be removed in one piece, the knife should be inserted behind the head in the flesh to the backbone. It is important that the knife be held at an angle less than 45 degrees.

Slide the knife along the backbone and begin a circular cutting motion to the bottom of the fish. With the knife flat cut the flesh along the backbone toward the top of the fish. Turn the fish over and cut the fillet from the other side.

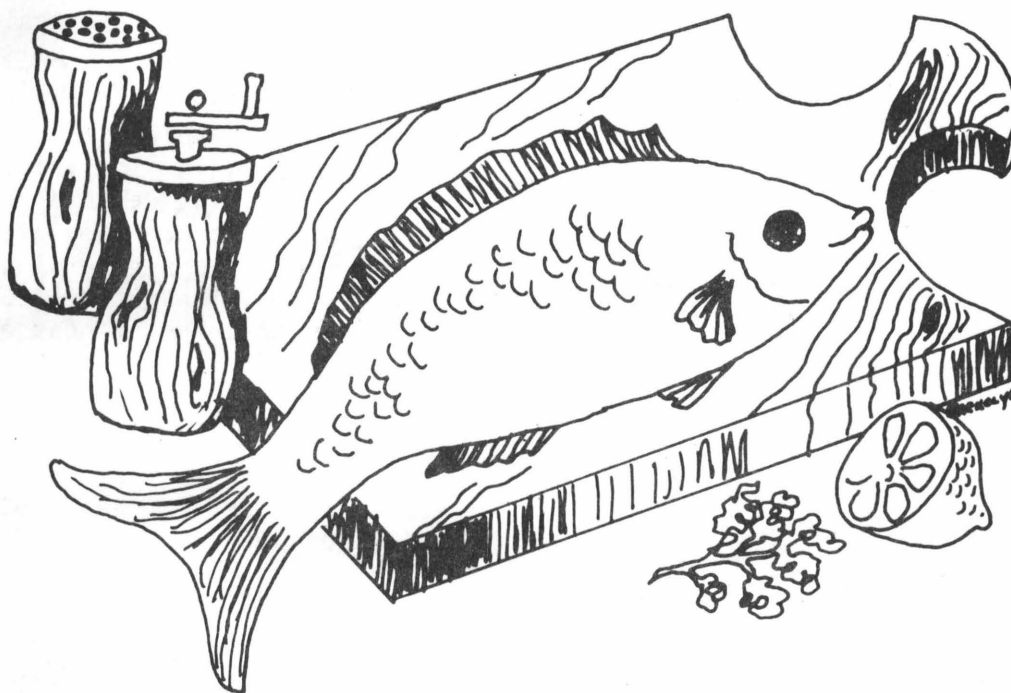


If you wish, you may skin the fillets. Lay the fillet flat on the cutting board, skin side down. Hold the tail with your fingers and cut through the flesh to the

skin. Flatten the knife on the skin and cut the flesh away from the skin by running the knife forward while holding the free end of the skin

between your fingers. A gentle sawing motion of the knife will provide the best results.

RECIPES AND COOKING TIPS



How To Cook Fish

Fish are delicious--if cooked properly. We cook fish to develop their flavor, to soften the small amount of connective tissue present, and to make the protein easier to digest. Cooking fish at too high a temperature or for too long a time toughens them, dries them out, and destroys their fine flavor.

How can you tell when fish are cooked? Raw fish have a watery, translucent look. During the cooking process the watery juices become milky colored, giving the flesh an opaque, whitish tint. This color change is

unmistakable. When the flesh has taken on this opaque whitish tint to the center of the thickest part, fish are completely cooked. At this point flesh will easily separate into flakes, and if there are bones present, the flesh will come away from them readily.

Most cooked fish tend to break up easily, so handle fish as little and as gently as possible during and after cooking to preserve their appearance.

Baking: Baking is a form of dry heat cooking and is one of the easiest ways to cook fish. But "bake fish easy"

is the most important guide to follow in fish cookery. Fish like a pre-heated, moderate oven set a 350°F for a relatively short period of time. This keeps the moistness and flavor in the fish, prevents drying, and keeps the fish tender and palatable. Fish not baked in a sauce or with a topping are basted with melted fat or oil to keep the surface moist.

Can fish be baked from the frozen state? Yes, provided the cooking time is increased to allow for thawing during the baking process and provided the recipe does not call for special handling such as stuffing or rolling.

Baked Stuffed Fish

1 dressed fish (3 pounds fresh or frozen)
Salt
2 tablespoons melted fat or oil
Pepper
Bread stuffing

Thaw frozen fish. Clean, wash, dry fish. Sprinkle inside with salt and pepper. Place fish on a well-greased bake and serve platter, 18 by 13 inches. Stuff fish loosely. Brush fish with fat. Bake in a moderate oven, 350°F for 45 to 60 minutes or until fish flakes easily when tested with a fork. Makes 6 servings.

Bread Stuffing

1/2 cup chopped celery
1/4 cup chopped onion
1/4 cup butter or margarine, melted
1 quart dry bread cubes
Dash pepper
1 egg, beaten
1/2 teaspoon sage
1/2 teaspoon salt
1/4 teaspoon thyme

Cook celery and onion in butter until tender. Combine all ingredients and mix well. Makes 3 cups stuffing.

Broiling: Broiling, like baking, is a dry heat method of cookery but in broiling the heat is direct, intense, and comes from only one source. Thin foods tend to dry out under the broiler so when planning to use this method, choose pan-dressed fish, fillets, or steaks which are about 1 inch thick in preference to the thinner ones. If frozen, the fish should be thawed. Baste fish well with melted fat or oil or a basting sauce before placing them under the broiler. Baste again while broiling to keep the fish moist.

Follow the range manufacturer's directions for the operation of the broiler and preheating. The length of time it takes to broil fish depends on the thickness and the distance they are placed from the heat. As a general guide, have the surface of the fish about 3 to 4 inches from the source of heat and place thicker cuts farther from the heat than thin ones.

Cooking time will usually range from 10 to 15 minutes to reach the "fish flake easily" stage. As a rule, the fish do not need to be turned because the heat of the pan will cook the underside adequately. Turn the thicker pieces such as pan-dressed fish, when half the allotted cooking time is up. Baste again with fat or sauce. Always serve broiled fish sizzling hot.

Broiled Fillets or Steaks

2 pounds fish fillets
2 tablespoons melted fat or oil
1/2 teaspoon paprika
2 tablespoons lemon juice
1 teaspoon salt
Dash pepper

Thaw frozen fish. Cut fish into 6 portions. Place fish in a single layer, skin side down, on a well-greased baking pan, 15 by 10 by 1 inches. Combine remaining ingredients and mix well. Pour sauce over fish. Broil about 4 inches from source of heat for 10 to 15 minutes or until fish flake easily when tested with a fork. Baste once during

broiling with sauce in pan. Makes 6 servings.

Charcoal Broiling: Charcoal broiling is a dry heat method of cooking over hot coals and in recent years has become a popular form of recreation. Fish, because they cook so quickly, are a natural for this method of cookery.

Pan-dressed fish, fillets, and steaks are all suitable for charcoal broiling. If frozen, the fish should be thawed in advance. Because fish flake easily as their cooking nears completion, use of a well-greased, long-handled, hinged wire grill is recommended.

Since charcoal broiling is a dry heat cooking method, thicker cuts of fish are preferable as they tend to dry out less during the process than thin ones. Also, to ensure serving juicy and flavorful fish, use a sauce that contains some fat and baste them generously before and while cooking.

Fish are usually cooked about 4 inches from moderately hot coals for 10 to 20 minutes, depending on the thickness of the fish.

Frying: Frying is a method of cooking food in fat. For frying, choose a fat that may be heated to a high temperature without danger of smoking. This is necessary because a smoking fat begins to decompose and will give the food an unpleasant flavor. Because they begin smoking at higher temperatures, vegetable oils and fats are preferable to fats of animal origin.

The temperature of the fat is extremely important. Too high heat will brown the outside of the fish before the centers are cooked. Too low heat will give a pale, greasy, fat-soaked product. The most satisfactory frying temperature for fish is 350°F.

Frozen fish must be thawed before frying. Separate the pieces and cut to uniform size.

After frying, drain the fish immediately on absorbent paper to remove

excess fat. Keep the fish warm in a low oven until all pieces are cooked, then serve immediately.

Pan-frying: Pan-frying is a term applied to cooking in a small amount of fat in a fry pan. Of all the ways of cooking fish, pan-frying is probably the most frequently used--and most frequently abused method. When well controlled, it is an excellent way of cooking pan-dressed fish, fillets, and steaks.

The general procedure is to dip the fish in a liquid and then coat them with a breading. Heat about 1/8 inch of fat in the bottom of a heavy fry pan. For pans with a temperature control, the right heat is 350°F. Place one layer of breaded fish in the hot fat. Fry until brown on one side, then turn and brown the other side. Cooking time will vary with the thickness of the fish. In general, allow about 8 to 10 minutes.

Fried Pan-Dressed Fish

3 pounds pan-dressed fish, fresh or frozen
 1/4 cup milk
 1 egg, beaten
 1 teaspoon salt
 Dash pepper
 1 1/2 cups dry bread, cereal or cracker crumbs
 Fat for frying

Thaw frozen fish. Clean, wash, and dry fish. Combine milk, egg, salt, and pepper. Dip fish in milk and roll in crumbs. Place fish in a single layer in hot fat, in a 10-inch fry pan. Fry at a moderate heat for 4 to 5 minutes or until brown. Turn carefully. Fry 4 to 5 minutes longer or until fish are brown and flake easily when tested with a fork. Drain on absorbent paper. Makes 6 servings.

Deep-fat frying: Deep fat frying is a term applied to cooking in a deep layer of fat. It is a quick method of cooking and is an excellent way to cook tender foods and precooked foods.

For deep-fat frying you need a heavy, deep saucepan or French fryer with straight sides, a fry basket to fit the fryer, a deep-fat frying thermometer, or an electric fryer with automatic temperature control. Use enough fat to float the fish but do not fill the fryer more than half full. You must allow room for the fish and for the bubbling fat.

The fish may be dipped in a liquid and coated with a breading, or dipped in batter. The coating will keep the fish moist during frying and will give them a delicious crispness.

Place only one layer of fish at a time in the fry basket and allow enough room so that the pieces do not touch. This prevents the temperature of the fat from dropping suddenly and assures thorough cooking and even browning. When the fat has heated to the proper temperature, lower the basket into the fryer slowly to prevent excessive bubbling. If the fat is at the right temperature when the fish are added, a crust forms almost immediately, holding in the juices and at the same time preventing the fat from soaking in. Fry until the fish are golden brown and flake easily, usually about 3 to 5 minutes.

Deep-Fat Fried Fillets or Steaks

- 2 pounds fish fillets or steaks, fresh or frozen
- 1/4 cup milk
- 1 egg, beaten
- 1 teaspoon salt
- Dash pepper
- 1 1/2 cups dry bread, cereal, or cracker crumbs
- Fat for frying

Thaw frozen fish. Cut fish into 6 portions. Combine milk, egg, salt, and pepper. Dip fish in milk and roll in crumbs. Place in a single layer in a fry basket. Fry in deep fat, 350°F for 3 to 5 minutes or until fish

are brown and flake easily when tested with a fork. Drain on absorbent paper. Makes 6 servings.

NOTE: A commercial breading may be used. Follow the directions on the package.

Oven-frying: Oven-frying is not actually a true frying method. It is a hot oven method which simulates fried fish. This method of cooking fish was developed by Evelene Spencer, a former Bureau Home Economist, and is sometimes referred to as the Spencer method.

For oven-frying, the fish are cut into serving-size portions, dipped in salted milk, and coated with toasted, fine, dry crumbs. The fish are then placed on a shallow, well-greased baking pan. A little melted fat or oil is poured over the fish, and they are baked in an extremely hot oven (550°F). Nice features of ovenfrying are that the fish don't require turning, basting, or careful watching, and the cooking time is short, usually 10 to 15 minutes. The crumb coating and the high temperature prevent the escape of flavorful juices and give an attractive, brown crust.

Oven-Fried Fillets or Steaks

- 2 pounds fish fillets or steaks, fresh or frozen
- 1 teaspoon salt
- 1/4 cup melted fat or oil
- 1/2 cup milk
- 1 1/2 cups cereal crumbs or toasted dry bread crumbs

Thaw frozen fish. Cut fish into 6 portions. Combine milk and salt. Dip fish in milk and roll in crumbs. Place fish in a single layer, skin side down, on a well-greased baking pan, 15 by 10 by 1 inches. Pour fat over fish. Bake in an extremely hot oven, 500°F for 10 to 15 minutes or until fish are brown and flake easily when tested with a fork. Makes 6 servings.

Poaching: Poaching is a method of cooking in a simmering liquid. In poaching, the fish are placed in a single layer in a shallow, wide pan, such as a large fry pan, and barely covered with liquid. The liquid used in poaching may be lightly salted water, water seasoned with spices and herbs, milk, or a mixture of white wine and water, to name just a few. As with other methods of fish cookery, it is important not to overcook the fish. Simmer the fish in the liquid in a covered pan just until the fish flakes easily, usually 5 to 10 minutes. Because the poaching liquid contains flavorful juices, the liquid is often reduced and thickened to make a sauce for the fish.

Poaching is a favorite method of cooking fish--and with good reason. As an entree, poached fish can be simply served with a sauce or used as the main ingredient of a casserole or other combination dish. Chilled and flaked, poached fish makes a delicious salad.

Poached Fish with Egg Sauce

- 2 pounds fish fillets or steaks, fresh or frozen
- 2 cups boiling water
- 1/4 cup lemon juice
- 1 small onion, thinly sliced
- 1 teaspoon salt
- 3 peppercorns
- 2 sprigs parsley
- 1 bay leaf
- Egg sauce
- Paprika

Thaw frozen fish. Remove skin and bones from fish. Cut fish into 6 portions. Place fish in a well-greased 10-inch fry pan. Add remaining ingredients. Cover and simmer for 5 to 10 minutes or until fish flakes easily when tested with a fork. Carefully remove fish to a hot platter. Pour Egg Sauce over the fish. Sprinkle with paprika. Makes 6 servings.

Egg Sauce:

- 1/4 cup butter or margarine
- 2 tablespoons flour
- 3/4 teaspoon powdered mustard
- 1/2 teaspoon salt
- Dash pepper
- 1 1/4 cups milk
- 2 hard-cooked eggs, chopped
- 1 tablespoon chopped parsley

Melt butter. Stir in flour and seasonings. Add milk gradually and cook until thick and smooth, stirring constantly. Add eggs and parsley. Heat. Makes 1 1/2 cups sauce.

Steaming: Steaming is a method of cooking fish by means of the steam generated from boiling water. When cooked over moisture in a tightly covered pan, the fish retain their natural juices and flavors. A steam cooker is ideal, but any deep pan with a tight cover is satisfactory. If a steaming rack is not available, anything may be used that prevents the fish from touching the water. The water used for steaming may be plain, or seasoned with various spices, herbs, or wine. When the water boils rapidly, the fish are placed on the rack, the pan is covered tightly, and the fish are steamed for 5 to 10 minutes or until they flake easily when tested with a fork. Steamed fish may be served the same as poached fish.

Steamed Fish

- 1 1/2 pounds fish fillets, steaks, or pan-dressed fish, fresh or frozen
- 1 1/2 teaspoons salt
- 1 quart boiling water

Thaw frozen fish. Place fish in a well-greased steamer insert pan. Sprinkle fish with salt. Cover and cook over boiling water for 5 to 10 minutes or until fish flakes easily when tested with a fork. Cool. Remove skin and bones. Makes 2 cups cooked fish.

