

Quick Study



CHEF'S MATH



HOME

Tips to Use in the Kitchen

Your handy source for conversions, equivalents, substitutions and temperatures.

Measuring Devices

- Keep two basic measuring sets for the kitchen - one for liquid and one for dry ingredients.
- Never use tableware for measuring - a dinnerware spoon has little resemblance in volume to a measured tsp.
 - Set of measuring spoons - 1/4 tsp, 1/2 tsp, 1 tsp, 1 tbsp
 - Set of measuring cups - 1/4 c, 1/3 c, 1/2 c, 1 c
 - Measuring pitcher (glass or plastic, see-through with graduated markings) better for liquids - 1 c/1/2 pt, 2 c/1 pt, 4 c/1 qt
 - Scales - 2 to 4 pound capacity. Balance type scales tend to be more accurate than spring scales.



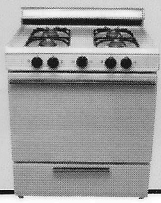
Liquid Measuring Tips

- Do not pour liquids into measuring device over mixing bowl.
- Use a clear measuring device with graduated scale placed on level surface. Bend down to sight along the marking for accuracy. Don't raise the cup to eye level...it won't be level.
- Exact-sized devices, such as teaspoons and 1/2 cups, must be filled to the rim or marking indicated.
- When measuring sticky liquids, such as honey or syrup, first coat the device with a tiny amount of vegetable oil or spray. The syrup will release more easily from the device.
- Fats such as butter, margarine and/or shortening, pack better and measure more accurately at room temperature.

LIQUID MEASURE CONVERSIONS

1 gal	4 qt	8 pt	16 c	128 fl oz	3.79 L		
1/2 gal	2 qt	4 pt	8 c	64 fl oz	1.89 L		
1/4 gal	1 qt	2 pt	4 c	32 fl oz	.95 L		
	1/2 qt	1 pt	2 c	16 fl oz	.47 L		
	1/4 qt	1/2 pt	1 c	8 fl oz	.24 L		
			1/2 c	4 fl oz	.12 L	8 tbsp	24 tsp
			1/4 c	2 fl oz	.06 L	4 tbsp	12 tsp
			1/8 c	1 fl oz	.03 L	2 tbsp	6 tsp
				1/2 fl oz	.015 L	1 tbsp	3 tsp

Oven Temperature



	Fahrenheit	Celsius
Very Slow	250° - 275°	121° - 135°
Slow	300° - 325°	149° - 163°
Moderate	350° - 375°	177° - 191°
Hot	400° - 425°	204° - 218°
Very Hot	450° - 475°	232° - 246°
Extremely Hot	500° - 525°	260° - 274°

Safe Cooking Temperatures

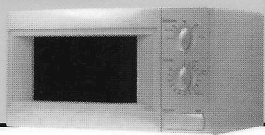
Taken with internal meat thermometer

Beef	140°	rare
Beef	160°	medium
Beef	170°	well-done
Pork	165°	done
Ham, precooked	140°	done
Chicken, whole	175°	done
Turkey, whole	180°	done
Stuffing	165°	done
Poultry parts	170°	done



Microwave Power

Power	Time to add to each minute
700 Watt	per recipe
650 Watt	10 seconds
600 Watt	20 seconds
500 Watt	40 seconds



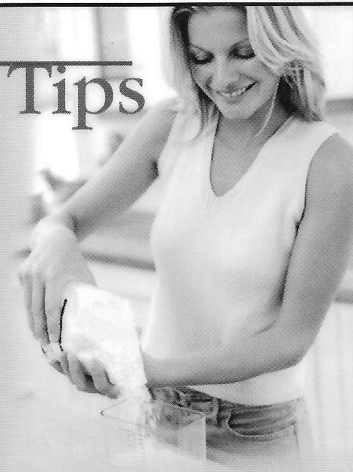
High Altitude

Above sea level, certain foods and methods of preparation can be affected by changes in air pressure.

- The boiling point of liquid and oil is lower. Vegetables and eggs take longer to cook.
- Cooking liquid evaporates faster. Use 10% to 25% more liquid.
- Flour will be dryer and absorb more liquid. Use minimum amount, up to 1/2 c less.
- Braised meats may take twice as long to cook, as there is less pressure to force steam into the meat. Increase heat slightly. Add more liquid.
- Yeast breads will rise quicker.
- Baking powder is more efficient. Use scant less or increase cooking temperature by 20° to 30°.

Dry Measuring Tips

- Do not pour dry ingredients into measuring device while over mixing bowl - eliminates accidental spilling or overflow of too much of the ingredient. Flour quantities, for instance, can be over or under by just one tbsp—a slightly rounded top in a one cup measure.
- Measure dry ingredients over a saucer or paper to be able to put overflows back into original container.
- Scoop or fill the exact-size measuring device (cup or tsp) and then tap gently once or twice with knife (eliminates air pockets) and level with knife to the top surface of the device. Try to avoid using larger devices and shaking to level to a mark.
- When measuring by weight, zero out the container on the scales first.
- Make sure you measure the final form called for in the recipe (chopped, diced, sliced, etc.).
- Flour, sifted means measure first, then sift. Sifted flour means sift first, then measure. The location of the word "sifted" defines the procedure.
- If not using a measure, as with dry spices or salt and pepper, first shake the amount into your hand and then into the mixing bowl or pot. Prevents over-seasoning, which may be difficult to correct. This technique also allows you a visual check on the amount.
- A pinch means 1/8 tsp or less of a dry ingredient. A dash, usually referring to a liquid (but not always), means 1 or 2 drops or 1/8 tsp for dry.
- Sticky ingredients, such as brown sugar or raisins, should be packed tightly in the device for accuracy.



DRY MEASURE CONVERSIONS

1 cup	8 fl oz	16 tbsp	48 tsp	237 ml
3/4 cup	6 fl oz	12 tbsp	36 tsp	177 ml
2/3 cup	5 1/3 fl oz	10 2/3 tbsp	32 tsp	158 ml
1/2 cup	4 fl oz	8 tbsp	24 tsp	118 ml
1/3 cup	2 2/3 fl oz	5 1/3 tbsp	16 tsp	79 ml
1/4 cup	2 fl oz	4 tbsp	12 tsp	59 ml
1/8 cup	1 fl oz	2 tbsp	6 tsp	30 ml
1/16 cup	1/2 fl oz	1 tbsp	3 tsp	15 ml
1/48 cup	1/6 fl oz	1/3 tbsp	1 tsp	5 ml

More Inside!

Braising

Brown over medium heat, add a bit of liquid, and simmer, covered, over low heat until done.

- Typical cuts to braise are pork and lamb chops, chicken breasts and thighs, beef or pork ribs, beef pot roasts (chuck, blade, arm or round).
- Common liquids to add are a good stock or broth, wine, fruit or vegetable juices, or just plain water. Additional liquid may be needed during longer cooking times.
- For large (4 lb +) whole pieces of meat, add about 20% to total time.

BRAISING BEEF

Times after browning, in hours.

Weight/lbs	Whole	Chunks
1	3/4	3/4
2	1 1/4	1
3	2	1 1/4

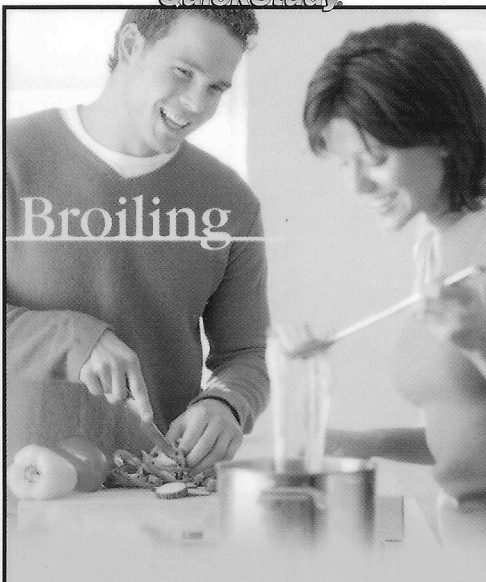
BRAISING PORK Times after browning, in minutes. Use for lamb as well.

Chops (thickness)	Bone-in	Boneless
1/2"	6	4
3/4"	9	8
1"	13	11
1 1/2"	17	15

BRAISING CHICKEN (PARTS)

Times after browning, in minutes.

Bone-in	Boneless
25	10



Broiling

BROILING BEEF
Times are in minutes. Turn half-way through time.

Thickness	Boneless	Bone-in
1/2"	8	11
3/4"	12	15
1"	14	18
1 1/2"	20	22
2"	25	30

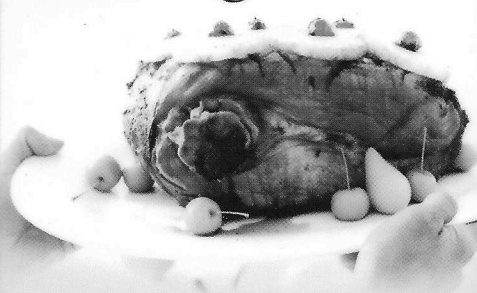
BROILING PORK *
*Use for lamb as well. Times are in minutes. Turn half-way through.

Thickness	Boneless	Bone-in
1/2"	6	8
3/4"	8	11
1"	14	16
1 1/2"	20	23
2"	23	27

BROILING CHICKEN
Using chicken parts only (drumstick, thigh, breast).

Place on pan, about 8 inches (2nd shelf down, in oven) away from heat source. Broil, turning every 10 minutes or so, for 35 to 45 minutes until cooked through. For outdoor grilling, pre-cook in microwave about 10 minutes or high to reduce charring.

Roasting



- The cooking times for beef are calculated at the listed oven temperature.
- Allow large pieces of beef and pork to come to room temperature (30 - 60 minutes depending on thickness) before placing in the preheated oven. This will provide more even cooking to the center without over-browning.
- Remove meats from oven about 5° before desired internal meat temperature is reached (see chart at right).
- An after-oven rest time of 15-30 minutes is included in listed total times.
- All times reflect MEDIUM doneness for beef and SAFE, well-doneness for all others. For the beef, subtract about 5 minutes per pound for rare; add 5 minutes per pound for well-done.
- Use internal thermometer for actual doneness.
- Cooking times are in hours.
- Choose meats with a fat covering, or coat liberally with choice of oil or butter to preserve internal moisture and enhance browning.
- Do not salt. Salt causes moisture to leave the meat. A light sugar coating promotes browning.
- Higher than listed oven temperatures promote over-browning and cause uneven roasting, such as a rare center and too-well-done exterior. Alternative: start roasting in a pre-heated oven, 100° above listed time (to brown and seal), then reduce heat after 15 or 20 minutes. Total roasting time will be reduced slightly.
- Bone-in meats roast slightly faster because the bone conducts heat to the interior.
- Dashes (-) indicate size /weight not available.

ROASTING BEEF

Times in hours.

Weight	Beef Rib bone-in 325°	Beef Rib boneless 325°	Beef Rib eye 350°
2 lb	3/4	1 1/4	1
3 lb	1	1 3/4	1 1/2
4 lb	1 1/2	2	2
5 lb	2	2 1/2	2 1/4
6 lb	2 3/4	3	-
7 lb	3 1/2	3 3/4	-
8 lb	4 1/4	4 1/2	-

Weight	Round eye 350°	Round tip 325°	Round top 325°
2 lb	1 3/4	1 1/2	-
3 lb	2 1/4	1 3/4	1
4 lb	-	2 1/4	1 1/4
5 lb	-	2 1/2	1 3/4

Weight	Sirloin top 325°	Tenderloin whole 425°	Rump rolled 325°
2 lb	1 1/2	1/2	-
3 lb	2	3/4	-
4 lb	2 1/2	1	1 1/4
5 lb	3	1 1/4	2
6 lb	3 1/2	1 1/3	2 3/4

ROASTING HAM

Most ham is sold smoked or precooked. Roast at 325° until internal temperature reaches 140° on a meat thermometer. For vacuum packed hams, subtract about 5 minutes per pound. Times in hours.

Weight	Ham precooked bone-in	Ham precooked boneless	Ham precooked spiral-cut
3 lb	-	1	-
4 lb	-	1 1/4	-
5 lb	1 1/2	1 1/2	3/4
6 lb	2	1 3/4	1
8 lb	2 1/2	2 1/4	1 1/4
10 lb	3	2 3/4	1 3/4
12 lb	3 3/4	-	2
14 lb	4 1/2	-	2 1/4

ROASTING PORK

Roast pork at 325° to an internal meat temperature of 165° to 170°. Keep pork moist by searing the outside briefly in a skillet on the stove top. Times for cooking using this method will only be a scant less. Times in hours.

Weight	Loin bone-in	Loin boneless	Tenderloin
1/2 lb	-	-	1/2
1 lb	-	-	3/4
2 lb	1	1 1/4	-
3 lb	1 1/4	1 1/2	-
4 lb	1 1/2	1 3/4	-

Weight	Ribs country 350°	Ribs spare 325°	Ribs crown 7lb/325°
4 - 6 lbs	2	1 1/2	3

ROASTING POULTRY

Roast chicken at 375°, turkey at 325°. Meat thermometer inserted in the thigh should read 180° and in the stuffing 165°. Times in hours.

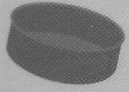
Weight	Chicken unstuffed	Chicken stuffed	Chicken parts oven-fried/425°
2 lb	1	1 1/4	1/2
3 lb	1 1/4	1 1/2	1/2
4 lb	1 3/4	2	3/4
5 lb	2	2 1/4	3/4
6 lb	2 1/4	2 1/2	-

Weight	Turkey unstuffed	Turkey stuffed	Turkey breast, whole
4 lb	-	-	3/4
5 lb	-	-	1
6 lb	-	-	1 1/2
8 lb	2 1/2	3	2
10 lb	2 3/4	3 1/2	-
12 lb	3	3 3/4	-
14 lb	3 1/2	4	-
16 lb	4	4 1/4	-
18 lb	4 1/4	4 1/2	-
20 lb	4 1/2	4 3/4	-

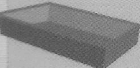
Cookware Capacities

It is not always possible to have the exact size pan called for in a given recipe. Additionally, bakeware manufacturers seem to produce endless different dimensions, such as 8^{7/64}" instead of 8". All sizes below are rounded to nearest 1/2" and 1/2 c. These conversions may be helpful when modifying a recipe to fit a particular pan. Plan on about 1/4 c error rate depending on actual pan size. Baking times may also change with pan configuration.

ROUND BAKING PANS TO FILL

	7" x 2 1/2" springform	7 c
	8" x 1 1/2" cake	4 c
	8" x 2 1/2" springform	8 c
	9" x 1 1/2" cake	6 c
	9" x 2 1/2" springform	9 c
	9 1/2" x 2 1/2" springform	11 c
	10" x 2" cake	10 c

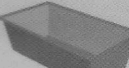
RECTANGULAR BAKING PANS

	8" x 8" x 1 1/2"	6 c
	8" x 8" x 2"	7 c
	9" x 9" x 1 1/2"	8 c
	9" x 13" x 2"	16 c


PIE PANS (1 1/2" DEEP)

	8"	4 c
	9"	7 c

BREAD LOAF PANS

	6 x 3 x 2 mini	2 c
	7 1/2 x 3 3/4 x 2 1/4	4 c
	8 1/2 x 4 1/2 x 2 1/2	5 1/2 c
	9 x 5 x 3	8

MUFFIN PANS

	12 large	3 1/2 c
	12 mini	1 1/2 c

Company for Dinner



Use this chart for sit-down dinners

Below is listed the uncooked ingredient amount to purchase in order to yield an average per-guest cooked serving portion of about 6 oz (7 - 8 oz uncooked, 8-10 oz with bone).

Example: A three-lb broiler/fryer chicken weighing 3-3 1/2 pounds (48-56 ounces) should yield about six, 6 oz cooked portions or 8-9 oz x 6. These calculations assume an average amount of waste (bone, skin, or fat) that will be not be consumed.

Ingredient	To buy
Beef (boneless, steaks/roasts/stews)	7-8 oz
Beef (bone-in, steaks/roasts)	8-10 oz
Beef (short ribs)	14-16 oz
Veal (cutlets)	4-5 oz
Veal (bone-in, chops)	5-6 oz
Pork (boneless, loin)	6 oz
Pork (bone-in, chops)	6-8 oz
Pork (spareribs)	14-16 oz
Pork (country-style ribs)	8-9 oz
Ham (boneless)	6 oz
Ham (bone-in)	8-10 oz
Chicken (boneless, breasts/thighs)	6-7 oz
Chicken (bone-in, parts)	7-8 oz
Chicken (whole, broiler/fryer)	8-9 oz

QuickStudy

Food

Storage



DRY STORAGE

The three constants for retaining the freshness of already dry ingredients and some vegetables are dry, dark and cool. Humidity, light and heat all promote the growth of organisms that will spoil the food. Many root vegetables such as onions, potatoes, turnips and beets may be kept indoors in dark, dry, airy bins* for a month or more. (Traditional root-cellarling is not covered in this chart). Dried pastas, peas, beans and grains, as well as herbs and spices, should be kept in sealed containers away from heat and light. Select a cupboard away from appliances or a humidity controlled basement.

* Air circulation allows the vegetable's natural respired moisture to be removed. Take items out of bags.



Item	Refrigerator	Freezer
Apples	1 month	N/R
Berries, (straw, blue, black, rasp)	3 days	10 months ¹
Butter (see margarine below)	2 weeks	2 months
Cheese, soft (cream, cottage, brie, feta)	1 week	N/R
Cheese, firm (slices, blocks)	3 weeks	N/R
Cheese, hard (parmesan, whole)	4 weeks	6 months
Condiments (ketchup, mustard)	12 months	N/R
Eggs, in shell	3 weeks	N/R
Egg yolks or whites, separated	3 days	12 months
Eggs, hard-boiled	1 week	N/R
Egg substitute, unopened	1 week	12 months
Fish, fresh (including shellfish)	1 day	8 months
Fish, and shellfish, cooked	N/R	3 months
Fish, uncooked previously frozen	1 day	N/R
Margarine, spreads	4 weeks	2 months
Melons	5 days	N/R
Milk	5 days	N/R
Ham, corned beef, slices	4 days	2 months
Ham, fully cooked, whole, packaged	1 week	2 months
Meats, roasts	5 days	12 months
Meats, ground (beef, pork, chicken)	2 days	4 months
Meats, steaks, chops, slabs	5 days	12 months
Meats, cooked	4 days	3 months
Meats, luncheon, hot dogs, unopened	2 weeks	2 months
Meats, luncheon opened (resealed)	1 week	2 months
Onions, cut pieces (wrapped)	3 da	N/R
Peaches, pears, pineapple	4 da	N/R
Poultry, raw, whole	2 da	12 months
Poultry, raw, parts	2 da	9 months
Poultry, cooked, parts & pieces	4 da	4 months
Vegetables, carrots, celery, radishes	2 wk	8 months ²
Vegetables, potatoes	N/R	N/R
Vegetables, peas, beans, broccoli	5 days	8 months ²
Vegetables, cooked, leftovers	2 days	8 months ²
Vegetables, corn	1 day	8 months ²
Vegetables, greens	5 days	N/R

N/R=Not Recommended

1 To prepare berries, trim as desired, rinse, and dry gently with paper towels. Package or quick freeze.

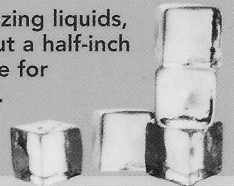
2 To prepare vegetables, trim as desired, rinse. Plunge them into large pot of rapidly boiling water (on high heat). Boil 2 to 4 minutes, depending on thickness of vegetable. Using strainer, move vegetables to large pot of prepared ice water and stir to cool. This is blanching. Strain vegetables again and use paper towels to dry. Package or quick freeze.

COLD STORAGE

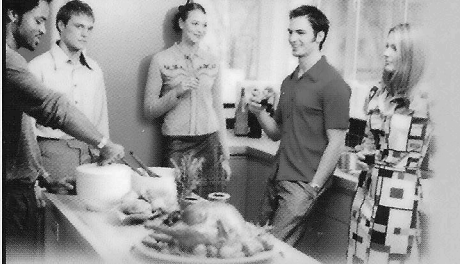
Cold food storage today is a commonly accepted method of preserving food. However, there are important requirements and limitations to observe.

- Refrigerators should be set no higher than +40°F [+4.4°C]. Freezers should maintain a temperature below 0°F [-17°C] down to -10°F [-23°C].
- Wrap items securely in plastic wrap, sealed containers or bags (double thick or specially for freezer).
- Crisper drawer vegetables may be stored in plastic bags with a few holes punched to promote air circulation.
- Always store meats wrapped, on a plate or pan, in refrigerator to prevent juices from contaminating other foods.
- Rewrap (discard store wraps) all meats and poultry for freezing in double plastic wrap or freezer bags.
- Freeze layers of hamburgers, steaks or chops with wax/plastic wrap between slices to facilitate separating for thawing.
- Do not refreeze foods. Check, especially when purchasing meats, poultry and fish, to ensure that they have not been frozen in transit.
- Place thermometers in both refrigerator and freezer compartments to periodically monitor temperature.
- New additions to freezer should be placed in a single layer until frozen (24 hours).

When freezing liquids, leave about a half-inch head space for expansion.



Party Planner



Use this chart for buffet style parties

Quantities assume that several entree-type items will be chosen for the party; no single quantity will be sufficient by itself. Not every guest will partake of every item.

Ingredient	Number of Guests		
	10	20	40
Cold cuts (lbs)	2 lbs	3 lbs	6 lbs
Carving meats (bone-in)	4 lbs	7 lbs	12 lbs
Carving meats (boneless)	2 lbs	5 lbs	9 lbs
Cheese	1 lb	2 lbs	3 lbs
Crackers	1 lb	2 lbs	3 lbs
Wings or ribs (halved)	6 lbs	10 lbs	16 lbs
Vegetables (inc. potatoes)	3 lbs	5 lbs	8 lbs
Fruits	2 lbs	3 lbs	5 lbs
Berries	3 qts	5 qts	8 qts
Pasta/Rice (before cooking)	1 lb	2 lbs	4 lbs
Soup (condensed, cans)	4	8	30
Ice cream	1/2 gal	1 gal	2 gal
Bread (sliced loaves)	1	2	4
Rolls (large, sandwich)	1 doz	2 doz	4 doz
Rolls (small dinner)	2 doz	3 doz	4 doz



Substitutions

If you don't have any...	Try this...
Arrowroot, 1 tsp	Cornstarch, $\frac{3}{4}$ tsp or $1\frac{1}{2}$ tsp flour
Bread crumbs, 1 c	Cracker crumbs $\frac{3}{4}$ to 1 c
Butter, 1 c	Vegetable oil, scant less than 1 c
Buttermilk, 1 c	Vinegar or lemon juice, 1 tbsp + warm milk to = 1 c. Let stand for 5 minutes.
Baking powder, 1 tsp	Baking soda $\frac{1}{2}$ tsp + cream of tartar $\frac{1}{2}$ tsp
Broth (chicken, beef), 1 c	Bullion cube, 1 (or 1 tsp granules) + 1 c hot water
Cake flour, 1 c	All-purpose flour, 1 c - 2 tbsp
Chocolate, semisweet, 1 c	Unsweetened cocoa, $\frac{1}{2}$ c + $\frac{1}{3}$ c sugar + 6 tbsp butter or margarine
Chocolate, unsweetened	Baking cocoa + 1 tbsp margarine or butter
Cornstarch, 1 tsp	Flour, 2 teaspoons
Corn syrup, light, 1 cup	Granulated sugar, $1\frac{1}{4}$ c + $\frac{1}{4}$ c water
Corn syrup, dark, 1 c	Brown sugar, $1\frac{1}{4}$ + $\frac{1}{4}$ c water or $\frac{3}{4}$ c light corn syrup + $\frac{1}{4}$ c molasses
Cream, half & half, 1 c	Butter, $\frac{1}{2}$ tbsp + enough whole milk to = 1 c or $\frac{1}{2}$ c light cream + $\frac{1}{2}$ c whole milk
Cream, sour, 1 c	Yogurt, 1 c or 1 tbsp lemon juice + enough evaporated or plain milk to make 1 c
Flour, for thickening, 2 tbsp	Cornstarch 1 tbsp
Flour, all-purpose, 1 c	Cake flour, 1 c + 2 c tbsp
Flour, cake, 1 c	All-purpose flour - 2 tbsp
Gingerroot, grated, 1 tsp	Ginger, $\frac{3}{4}$ teaspoon, dry, ground
Herbs, fresh, 1 tbsp	Herbs, dried, $\frac{1}{2}$ - $\frac{3}{4}$ tsp
Honey, 1 c	Sugar $1\frac{1}{4}$ c + $\frac{1}{4}$ c water
Lemon juice, 1 tbsp	Vinegar, $\frac{1}{2}$ tbsp
Milk, whole, 1 c	Skim milk, 1 c + 2 tbsp butter
Milk, sour (buttermilk), 1 c	Milk, 1 c + 1 tbsp vinegar or lemon juice
Mustard, prepared, 1 tbsp	Mustard, dry, 1 tsp
Molasses, 1 c	Honey, $\frac{1}{2}$ c or $1\frac{1}{4}$ c brown sugar, melted
Oil, cooking, vegetable, 1 c	Butter or margarine, $\frac{1}{2}$ pound
Pine nuts, 1 tbsp	Slivered almonds, 1 tbsp
Poultry seasoning, 1 tsp	Sage $\frac{1}{2}$ tsp, $\frac{1}{4}$ tsp thyme, plus a pinch each of marjoram, rosemary, nutmeg and pepper
Pumpkin Pie spice, 1 tsp	Cinnamon, $\frac{1}{2}$ tsp, $\frac{1}{4}$ tsp ground ginger, plus a pinch each of all spice and nutmeg
Sugar, light brown, 1 c	Granulated sugar, $\frac{1}{2}$ c + $\frac{1}{2}$ c dark brown sugar
Sugar, dark brown, 1 c	Granulated sugar, 1 c + 2 tbsp molasses or dark corn syrup
Sugar, granulated, 1 c	Confectioners' sugar, $1\frac{3}{4}$ c or 1 c honey + 1 tsp baking soda
Tomato juice, 1 c	Tomato sauce, $\frac{1}{2}$ c + $\frac{1}{2}$ c water
Tomato paste, 2 tbsp	Tomato sauce, $\frac{1}{4}$ c reduced by heating to half
Vanilla bean, 1 bean	Pure vanilla extract, 1 tsp
Vinegar, 1 tbsp	Lemon juice, 2 tbsp
Wine, 1 c	Apple juice/cider, or chicken or beef broth, 1 c
Yogurt, 1 c	Milk, 1 c + 1 tbsp lemon juice, let stand 5 min



Equivalents

The following chart lists the necessary quantity to have on hand in order to equal a resulting yield to cook or serve.

Ingredient	Quantity	Yield
Almonds	1 lb w/shell	1 c shelled
Apple	1 med	1 c sliced
Apple	1 lb	3 medium
Apricot	1 lb	4 c sliced
Banana	1 med	1 c sliced
Beans	1 c dry	2 $\frac{1}{2}$ -3 c cooked
Bell pepper	1 large	1 c diced
Butter	2 tbsp	1 oz
Bread	2 slices	1 c soft crumbs
Bread	3 slices	1 c dry crumbs
Cabbage	1 lb	4+ c shredded
Carrots	1 lb fresh	3 c diced
Celery	1 lb fresh	4 c diced
Cheese (blocks)	$\frac{1}{4}$ lb	1 c shredded
Chocolate	4 oz baking	1 c grated
Chocolate	6 oz chips	1 c
Cocoa	$\frac{1}{4}$ lb	1 c
Corn	3 ears	1 c kernels
Crackers (salted, squares)	18	1 c coarse crumbs
Crackers (graham squares)	12	1 c fine crumbs
Cream, heavy	1 c ($\frac{1}{4}$ pt)	2 c whipped
Egg whites	8-10	1 c
Egg yolks	12-13	1 c
Flour	1 lb	4 c
Garlic	1 clove	$\frac{1}{2}$ tsp minced
Lemon	1 med	3-4 tbsp juice
Lemon	1 med	1 tsp zest
Noodles	$\frac{1}{4}$ lb (2 c)	2 $\frac{1}{2}$ c cooked
Onion	1 med	$\frac{1}{2}$ c diced
Orange	1 med	$\frac{1}{3}$ c juice
Orange	1 med	2 tsp zest
Pasta (macaroni, penne, shells, ziti)	1 c dry	2 + c cooked
Pasta (spaghetti, linguini, fettuccini)	1" dia. bunch	4 c cooked
Peas (in pod)	1 lb	1 c cooked
Potatoes	1 lb (3 med)	2 $\frac{1}{2}$ c diced
Raisins	1 lb	3 c
Rice	1 c dry	4 c cooked
Strawberries	1 quart	4 c sliced
Strawberries	1 pint	2 c sliced
Sugar, brown	1 lb	2 $\frac{1}{4}$ c
Sugar, granulated	1 lb	2 c
Sugar, powdered	1 lb	4 c
Tomato	1 med	1 c chopped
Walnuts	1 lb w/shells	2 c shelled
Zucchini	1 med	2 c sliced

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April 2004

Price: U.S.\$4.95

Can.\$7.50

Author: Jim Ashley



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ISBN 157222618-8



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