

## Weights & Measures: The Math of Cooking

Recipes require accurate weighing and measuring of ingredients to ensure product quality and consistency. Ingredients are listed in recipes by volume and/or weight.

### Fractions to Decimals to Percents:

1/4	=	.25	=	25%
1/3	=	.33	=	33%
1/2	=	.50	=	50%
2/3	=	.66	=	66%
3/4	=	.75	=	75%

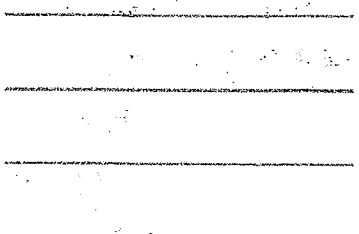
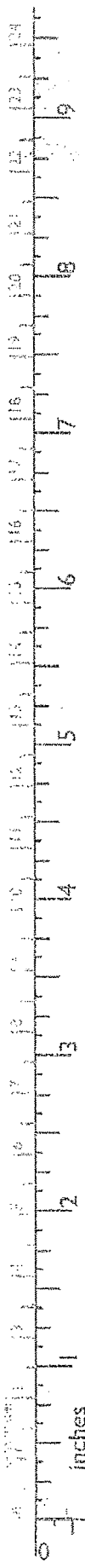
### Customary/Standard to Metric:

#### Volume

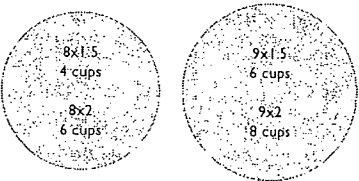
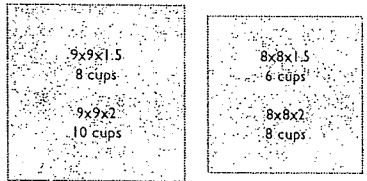
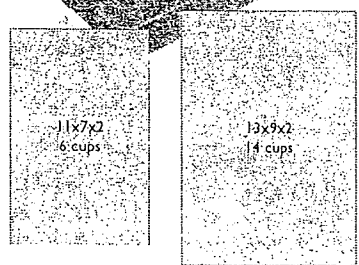
1 tsp	=	5 ml
1 Tbsp (3 t)	=	15 ml
1 fl. oz. (2 T)	=	30 ml
1/4 cup	=	50 ml
1/3 cup	=	75 ml
1/2 cup	=	125 ml
2/3 cup	=	150 ml
3/4 cup	=	175 ml
1 cup (8 fl oz/16T)	=	250 ml
1 pt (16 fl oz/2c)	=	500 ml
1 qt (32 fl oz/4c/2pt)	=	1,000 ml or 1 L
1 gal (128 fl oz/4qt)	=	4,000 ml or 4 L

#### Weight

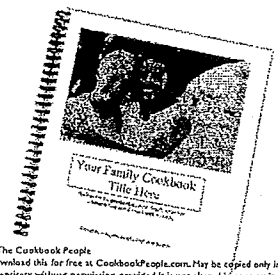
1 oz	=	28 g
1 lb (16 oz)	=	500 g
2 lb (32 oz)	=	1,000 g or 1 kg
5 lb (80 oz)	=	2,500 g or 2.5 kg



Long pan dimensions and volume



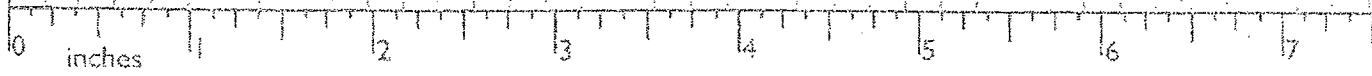
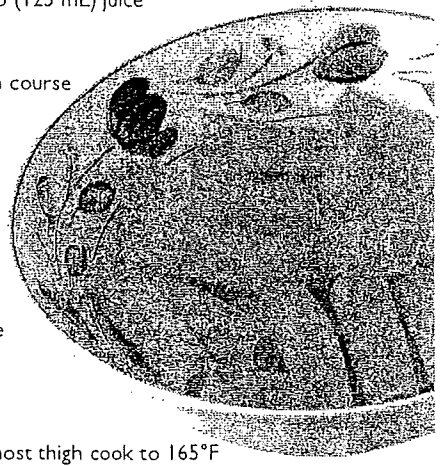
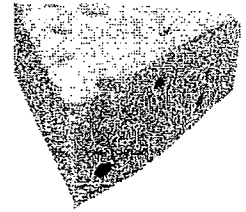
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Egg	Boil
Hard boiled	13 min
Creamy yolk	7 min
Runny yolk	5 min

- altitude over 3500 ft: bake at 25° higher, 20% more water, 5% more flour, 20% less time
- bread 1 slice = 1/4 cup (50 mL) dry = 1/2 cup (125 mL) soft crumbs
- butter 1 stick = 1/2 cup = 110 grams
- cheese 2 oz (50 g) grated = 1/2 cup (125 mL)
- cheese 1 lb (500 g) = 4 to 5 cups (1 L to 1.25 L) grated
- chocolate 1 square = 1/4 cup (50 mL) grated
- cocoa 4 cups (1 L) = 1 lb (500 g)
- corn on cob shuck; drop in boiling water and boil 6 minutes
- cottage cheese 1 lb (500 g) = 2 cups (500mL)
- cup 1 cup = 8 ounces = 16 tbsp
- dash 1 dash = less than 1/8 tsp
- eggs 1 = 3-tbsp or 2 oz; 1 yolk = 1 tbsp or 1 oz; 1 white = 2 tbsp; 1 cup = 8-10 eggs
- firmly packed tightly press as much of ingredient as will fit into the measure
- flour 1 pound = 3 1/2 cups
- gallon 1 gallon = 4 quarts = 8 pints
- gelatin 1 envelope (1 tbsp) will gel 2 cups = (500mL) liquid
- gram 1 gram = .0353 ounces
- heap pile as much ingredient as will stay on measuring device
- herbs 1 tbsp fresh = 1 teaspoon dried
- lemon 1 lemon = 2 tbsp (25 mL) rind and 3 tbsp (50 mL) juice
- lemon 1 tsp (5 mL) grated rind = 1/2 tsp (2 mL) lemon extract
- lightly packed lightly press ingredient only enough to remove air pockets
- marshmallows 8 oz (250 g) = 32 large = 3 1/4 cups (800 mL) mini
- onion 1 med 3" diameter = 1 1/4 cups chopped
- orange 1 orange = 2 tbsp (25 mL) rind and 1/2 cup (125 mL) juice
- ounce 1 ounce = 6 tsp = 29.6 ml = 28.3 gram
- pasta 1 lb dried or fresh pasta serves 4 as a main course
- pinch 1 pinch = less than 1/8 tsp
- pint 1 pint = 2 cups = 1/2 quart
- pound 1 pound = 16 oz = 453 grams
- quart 1 quart = 2 pints = 4 cups = 1/4 gallon
- raisins 3 cups (750 mL) = 1 lb (500 g)
- rice 1 cup + 2 cups water = 3 cups cooked rice
- sugar 1 pound = 2 1/4 cups
- tablespoon 1 tablespoon = 3 teaspoons = 1/16 cup
- turkey thaw in fridge 24 hours every 5 lbs; innermost thigh cook to 165°F
- water/liquid 1 lb = 2 cups; 1 oz = 2 tbsp; 1 tbsp = .5 oz = 15 g; 1 tsp = .17 oz = 5 g
- yeast 1 envelope dry granular yeast = 1 tbsp (15 mL)





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# Kitchen Conversion Cheat Sheet

Tea Spoons	Table Spoons	Cups	Fluid ounces	Milli-liters
tsp	tbsp	c	oz	mL
1	1/3	0	1/6	4.9
2	2/3	0	1/3	9.9
3	1	0	1/2	14.8
4	1 1/3	0	2/3	19.7
5	1 2/3	1/9	5/6	24.6
6	2	1/8	1	29.6
7	2 1/3	1/7	1 1/6	34.5
8	2 2/3	1/6	1 1/3	39.4
9	3	1/5	1 1/2	44.4
10	3 1/3	1/5	1 2/3	49.3
11	3 2/3	1/4	1 5/6	54.2
12	4	1/4	2	59.1
13	4 1/3	2/7	2 1/6	64.1
14	4 2/3	2/7	2 1/3	69.0
15	5	1/3	2 1/2	73.9
16	5 1/3	1/3	2 2/3	78.9
17	5 2/3	1/3	2 5/6	83.8
18 tsp	6 tbsp	3/8 c	3 oz	88.7 mL
19	6 1/3	2/5	3 1/6	93.7
20	6 2/3	3/7	3 1/3	98.6
21	7	4/9	3 1/2	103.5
22	7 1/3	1/2	3 2/3	108.4
23	7 2/3	1/2	3 5/6	113.4
24	8	1/2	4	118.3
25	8 1/3	1/2	4 1/6	123.2
26	8 2/3	5/9	4 1/3	128.2
27	9	4/7	4 1/2	133.1
28	9 1/3	3/5	4 2/3	138.0
29	9 2/3	3/5	4 5/6	142.9
30	10	5/8	5	147.9
31	10 1/3	2/3	5 1/6	152.8
32	10 2/3	2/3	5 1/3	157.7
36	12	3/4	6	177.4
48	16	1	8	236.6
96	32	2	16	473.2
144	48	3	24	709.8
151 2/5	50 1/2	3 1/6	25 1/4	750.0
192	64	4	32	946.4
384	128	8	64	1892.7
768	256	16	128	3785.5

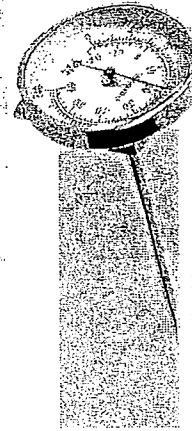
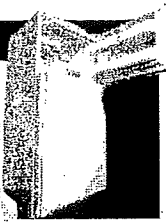


## Oz Pound

1	1/16
2	1/8
4	1/4
5	1/3
8	1/2
11	2/3
12	3/4
16	1
32	2

## Freezer life span

Months	F	C
bacon and sausage	1 to 2	-10 -23
casseroles	2 to 3	0 -18
egg whites or egg substitutes	12	10 -12
frozen dinners and entrees	3 to 4	20 -7
gravy, meat or poultry	2 to 3	30 -1
ham, hotdogs and lunchmeats	1 to 2	40 4
meat, uncooked roasts	4 to 12	50 10
meat, uncooked steaks or chops	4 to 12	60 16
meat, uncooked ground	3 to 4	70 21
meat, cooked	2 to 3	80 27
poultry, uncooked whole	12	90 32
poultry, uncooked parts	9	100 38
poultry, uncooked giblets	3 to 4	250 121
poultry, cooked	4	275 135
soups and stews	2 to 3	284 140
wild game, uncooked	8 to 12	300 149



**Grease fire:** Do not use water! Smother with a pan lid or use a fire extinguisher. Baking soda works, but it takes a lot and is usually too slow to get at. If clothing catches, stop, drop and roll. Call 911 if necessary.

**Deep fat fryers:** Never allow water or any other liquid but cooking oil come in contact with hot oil or else it may instantly turn into steam and splatter hot oil.

**Boiling:** Always lift the lid of a boiling pot far side first.

**Hot pot/pan:** Always leave a hot pad on a hot lid as a warning to others. Never leave handle hanging over edge, especially if children are around.



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**Steak:** Place a finger against the base of your thumb. Compare firmness of steak to firmness of thumb base. Touch your thumb to your:  
Tip of index finger = Rare Ring finger = Medium  
Middle finger = Medium-rare Pinky = Well done

**Beef/lamb roast guidelines:** Preheat oven to 425°F. Roast for 30 min at 425°F. Reduce to 325°F and cook as follows: Rare 9 min per pound; Medium 14 min per pound; Well done 18 min per pound. Remove from oven and rest for 20-30 min before slicing. Meat thermometer should read 120°F+ for rare, 130°F+ for medium-rare, 145°F+ for medium, 155-165°F for well done.

**Pork roast guidelines:** Preheat oven to 425°F. Roast for 30 min at 425°F. Reduce to 325°F and continue for 23 minutes per pound. Juice is clear when done. Remove and rest 20-30 min before slicing. Meat thermometer should read at least 145°F.

**Chicken roast guidelines:** Preheat oven to 400°F. Roast for 20 min at 400°F. Reduce to 350°F and continue for 45 min (small chicken) to 70 min (large chicken). Juice is clear when done. Remove and rest 20 min before slicing. Meat thermometer should read at least 165°F.

