

*Recipes
for
Steam Jacketed Kettle*



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Steam Jacketed Kettle Recipes

Here are some recipes prepared by Market Forge Test Kitchen to help you achieve the best possible results from your steam jacketed kettle. A steam jacketed kettle is the most efficient and economical method of sauteing, simmering or boiling a wide variety of ducts, such as soups, sauces, gravies, pasta, stews, mixed casserole type dishes, cereals, and puddings. A Steam Jacketed Kettle is a stainless steel kettle jacketed by a second outer stainless steel kettle, creating a space between the two kettles. Cooking is achieved by allowing steam to flow within the space. The amount of steam allowed to flow into the jacket controls the heat of the kettle. A steam jacketed kettle will not burn foods, however, foods that caravelize at relatively low temperature, such as eggs and milk based products will coat and cook onto the sides of the kettle. Care should be taken to use the smallest flow of steam to lessen the possibility of scorching these products. To achieve this, allow products to come up to temperature, stirring frequently, then turn steam, flow off and gradually turn on a small flow of steam - just enough to allow food to cook. Cooking times vary considerably depending on the size of the kettle and the amount and temperature of the product to be prepared.

Market Forge compact cooking centers offer complete flexibility of arrangement. Standard matching base cabinets 33" (838mm) deep and 18" (457mm) high - 24" (609mm), 36" (914mm) and 48" (1220mm) wide are utilize a house wide variety of Market Forge cooking equipment in a virtually limitless number of combinations. You can choose the specific equipment that exactly meets you needs now, assured that additions matching kettles, convection or pressure/convection steam cookers, steam-it cookers, convection ovens, tilting skillets and surface heating units.

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BASIC METRIC CONVERSIONS:

1 ounce = 28 grams
 1 pound = 450 grams or .45 kilograms
 2.2 pounds = 100 grams or 1 kilogram
 1 fluid ounce = 30 milliliters
 1 quart = 946 milliliters or .946 liters

1 liter = 1000 milliliters or 1.057 quarts
 1 teaspoon = 5 milliliters
 1 tablespoon = 15 milliliters
 1 gallon = 3.78 liters

To convert ounces to grams, multiply by 28.0. To convert pounds to kilograms, divided the pounds by 2.2.

Water boils at 100°C - 212°F. Water freezes at 0°C - 32°F.

Beverages

Cocoa

Yield: 5 Gallons (19 liters) 100 six ounce (1.75 ml) portions.

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
1 lb.	450 g.	Cocoa	1. Mix cocoa, sugar, and salt together in steam jacketed kettle.
2 lbs.	900 g.	Sugar	2. Add 1 qt. (1 liter) of water (milk) slowly and mix thoroughly.
3/4 lb.	20 g.	Salt	3. Add remaining water (milk) and hot milk and mix well. Heat until scalded.
2 1/2 qt.	2.4 liter	Water or Milk	
4 1/2 gal.	17 liter	Hot Milk	

Desserts

Cornstarch Pudding

Yield: 100 four ounce (115 g.)- 1/2 c servings-Approximately 3 gallons (11.4 liters).

Recommended Pan - 12" x 20" x 2 1/2"

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
1 lb. 5 oz.	559 g.	Cornstarch	1. Blend cornstarch, sugar and salt with water.
2 lbs. 8 oz.	1.1 kg.	Sugar	2. Heat milk in steam jacketed kettle and add cornstarch mixture to it and cook stirring constantly until thickened.
1/2 oz.	14 g.	Salt	3. Cover and cook for 25 minutes; stir occasionally.
4 1/2 cups	1.1 liters	Cold Water	4. Blend 1 qt. (1 liter) of hot mixture with eggs and add to rest of mixture.
2 1/2 gal.	9.5 liters	Milk	5. Cook for 5 minutes, remove from kettle and add vanilla; cool in shallow steam table pans.
1 lb. 8 oz.	681 g.	Eggs -Fresh or Frozen	
3 oz.	85 g.	Vanilla	

Variations:

1. Tapioca Pudding: Use 2 lbs. (907 g.) tapioca in place of cornstarch.
2. Coconut Pudding: Add 1 1/4 lbs. (567 g.) shredded coconut after cooking.
3. Chocolate Pudding: Add 12 oz. (340 g.) melted chocolate to hot mixture. Add more sugar if desired when using bitter chocolate, or use 2 lbs. (907 g.) cocoa mixed in with cornstarch mixture instead of melted chocolate.

Cereal Products

Pasta Products

Yield: 100 eight ounce (230 g.) servings (20 gallon or larger kettle required for this volume).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
11 lbs.	5 kg.	Spaghetti, Macaroni or Noodles	<ol style="list-style-type: none"> 1. Fill steam jacketed kettle with water, cover and bring to a rolling boil. 2. Add salt, oil and pasta. Stir thoroughly. 3. Boil to desired doneness, 6-15 min., depending on the size and thickness of the pasta. 4. Drain and rinse with cold water to prevent further cooking. Remove pasta from kettle.
5 oz.	142 g.	Salt	
3 oz.	85 g.	Oil, Margarine or Butter	
11 gallons	42 liters	Water	

Maximum Kettle Capacities

Kettle Size	Raw Weight Pasta	Approx. No. Cooked Servings (8 oz. 1 /)-2309
5 gal.	3# (1.4 kg.)	27
25 gal.	15# (6.8 kg.)	135
40 gal.	24# (10.9 kg.)	216
60 gal.	36# (16.3 kg.)	324

White Rice

Yield: 100 three ounce (85 g.) 1/2 c cooked servings-approximately 3 1/2 gallons (13 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
6 lbs. 8 oz.	2.9 kg.	Rice, long grain	<ol style="list-style-type: none"> 1. Fill steam jacketed kettle with water, cover and bring to a rolling boil. 2. Add remaining ingredients and stir thoroughly. 3. Cover and return to a boil, lower steam to allow rice to simmer slowly. Simmer for approximately 15 to 20 minutes. 4. Transfer cooked rice to steam table pan as soon as possible.
2 oz.	56 g.	Salt	
4 oz.	113 g.	Oil, Margarine or Butter	
2 gal.	7.6 liters	Water	

Maximum Kettle Capacities

Kettle Size	Raw Weight Pasta	Approx. No. Cooked Servings (8 oz. 1 /)-2309
5 gal.	4# (1.7 kg.)	65
25 gal.	20# (9 kg.)	320
40 gal.	35# (15.8 kg.)	560
60 gal.	50# (22.6 kg.)	800

Entrees

Baked Beans

Yield: 100 five ounce (142 g.) servings approximately 4 gallons (15.2 liters) 2 1/2 lins. (1.1 kg) dry beans = 1 gallon (3.8 liters) cooked beans.

Measures (U.S.)	Measures (Metric)	Ingredients	Directions						
10 lbs.	4.536 kg.	Dry Beans	<ol style="list-style-type: none"> Place beans in the kettle and cover with water. Soak overnight. Draw off water in morning and cover again with 3 gallons (11.4 liters) fresh water. Add salt pork and par-boil for one hour. Combine red peper, brown sugar, dry mustard, salt, onions, molasses and add to beans Simmer covered for 6-8 hours as follows: 						
1 lb. 8 oz.	680 kg.	Salt Pork							
1/2 tsp.	1/2 tsp.	Red Pepper							
14 oz.	396 g.	Brown Sugar							
1/2 oz.	14 g.	Dry Mustard							
2 oz	56 g.	Salt	<table border="0"> <tr> <td><u>Pressure</u></td> <td><u>Time</u></td> </tr> <tr> <td>5 PSI</td> <td>3 - 4 hrs.</td> </tr> <tr> <td>15 PSI</td> <td>2 1/2 - 3 1/2 hrs.</td> </tr> </table>	<u>Pressure</u>	<u>Time</u>	5 PSI	3 - 4 hrs.	15 PSI	2 1/2 - 3 1/2 hrs.
<u>Pressure</u>	<u>Time</u>								
5 PSI	3 - 4 hrs.								
15 PSI	2 1/2 - 3 1/2 hrs.								
12 oz.	340 g.	Chopped onions							
2 cups	470 ml	Molasses							

NOTE: If preferred, cook only 5 hours in kettle and finish off in oven for 1 1/2 hours at 350°-400°F (157°-205°C).

Barbecued Beef

Yield: 100 four ounce (115 g.) 1servings approximately 3 gallons (11.4 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
17 lbs. 8 oz.	7.9 kg.	Ground Beef	<ol style="list-style-type: none"> Brown beef in butter or margarine in kettle. Add celery and onions to beef and sauté. Add remaining ingredients and mix well. Simmer slowly for approximately 20 minutes. Remove to serving pans.
1 lb. 4 oz.	565 g.	Butter or Margarine	
1 1/4 qts.	1.2 liter	Vinegar	
1 1/2 qts.	1.4 liter	Water	
6 lbs. 5 oz.	2.9 kg.	Ketchup	
5 1/2 oz.	155 g.	Brown Sugar	
11 oz.	310 g.	Chopped Onions	
2 lbs.	900 g.	Chopped Celery	
3/4 oz.	20 g.	Dry Mustard	
2 oz.	55 g.	Salt	

Entrees

Beef Stew

Yield: 100 eight ounce (225 g.) portions approximately 6 gallons (22.5 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
20 lbs.	9 kg.	Cubed Beef	1. Brown beef in hot fat (<i>oil</i>) in kettle.
2 lbs.	900 g.	Fat or Oil	
4 1/2 gal.	17 liter	Stock or Water	
2 lbs.	900 g.	Onions	
9 lbs.	4 kg.	Potatoes	2. Add water (<i>stock</i>) and seasoning, cover and simmer until beef is tender, about 1-2 hours.
7 lbs.	3.2 kg.	Carrots	
4 lbs.	1.8 kg.	Celery	3. Add vegetables and bring to a full boil for about 10 minutes, reduce steam and let simmer about 45 minutes until vegetables are tender.
4 oz.	115 g.	Salt	
1 tbsp.	15 g.	Pepper	
1 tbsp.	15 ml.	Gravy Seasoning	4. Mix flour with a small amount of cold water and add to stew to thicken, if desired. Cook until starchy taste is cooked out.
8 oz.	225 g.	Flour	

Chili Con Carne

Yield: 50 eight ounce (227 g.) servings approximately 3 gallons (11.4 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
10 lbs.	4.5 kg.	Beef, ground or diced	1. Sauté onions, garlic and beef together until meat is browned lightly. Mix well to break up beef.
2 lbs.	907 g.	Onions, chopped	
3 cloves		Garlic, finely minced	2. Add all remaining ingredients except beans and blend well. Cover and simmer slowly for 1-2 hours stirring occasionally.
6 qts.	5.7 liters	Tomatoes, canned	
2 lbs.	907 g.	Green Pepper, chopped	
2 oz.	57 g.	Chili Powder	3. Add cooked beans and simmer for an additional 10-15 minutes.
2 oz.	57 g.	Salt	
1 1/2 tsp.	3 g.	Cayenne Pepper	
10 lbs.	4.5 kg.	Pinto Beans, canned*	

* Raw pinto beans can be substituted: Beans, raw 4 1/2 lbs. (2.04 kg.) place washed beans in kettle, cover with boiling water. Soak overnight. Simmer until tender. Drain off excess water and proceed to use as canned beans in recipe.

Entrees

Chop Suey (Poultry)

Yield: 100 five ounce (225 g.) servings approximately 4 gallons (15.2 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
2 lbs. 8 oz.	1.1 kg.	Shortening or Poultry Fat	1. Melt fat (<i>shortening</i>) in kettle. Add flour to make a roux.
2 lbs. 4 oz. 3 gal.	1 kg. 11.4 liter	Flour	2. Add water (<i>stock</i>), stir constantly until thickened.
7 lbs. 8 oz.	3.4 kg.	Stock or Water	3. Cook celery and onions as follows:
3 lbs. 8 oz.	1.6 kg.	Celery, diced	
4 lbs. 8 oz.	2 kg.	Onions, thinly sliced	
14 lbs.	6.4 kg.	Bean Sprouts	<u>Pressure</u> <u>Time</u>
1 qt.	1 liter	Turkey, cooked, diced	5 lbs. (0.33 kg/cm ²) 10 minutes
3 oz.	85 g.	Soy Sauce	15 lbs. (1 kg/cm ²) 8 minutes
1/2 oz.	15 g.	Salt	4. Heat dices poultry for 10 minutes in steam cooker.
2 tsp.	10 ml.	Pepper	5. Combine poultry, bean sprouts, celery, onions, soy sauce and seasonings with above gravy.
		Gravy Seasoning**	6. A little gravy seasoning may be added is a darker product is desired.
			7. Serve on fluffy rice. (Page 2)

** *Optional.*

Dried Peas and Beans

- All types of peas and beans should be sorted and cleaned, then put in water (10 lbs. [4.5 kg.] of beans or peas to 4 gallons [15 liters]) of water in kettle and brought to a boil and boiled for 2 minutes.
- The heat should be turned off after 2 minutes and the peas or beans allowed to soak for at least an hour or as long as overnight.
- Peas or beans should then be brought to a boil in the same water in kettle and cooked until soft, which will take from half an hour to 2 hours.

Variety	Measure	Water	Cooking Time	Approximate Cooked Yield
Blackeye	1 1/2 gal. (5.7 liter)	3 3/4 gal. (14 liter)	1/2 hour	23 lbs. (3 3/4 gal.) 10.4 kg. (14 liter)
kidney	1 1/4 gal. (4.7 liter)	3 1/2 gal. (12 liter)	1 - 1 1/4 hours	23 1/2 lbs. (3 1/4 gal.) 10.7 kg. (12 liter)
Lima	1 1/2 gal. (5.7 liter)	3 3/4 gal. (14 liter)	3/4 hour	23 1/2 lbs. (3 1/2 gal.) 10.2 kg. (13 liter)
Navy	1 1/4 gal. (4.7 liter)	3 gal. (11 liter)	1 1/2 - 2 1/2 hours	20 lbs. (3 1/8 gal.) 9 kg. (12 liter)
Pinto	1 1/2 gal. (5.7 liter)	3 1/2 gal. (13 liter)	2 hours	20 3/4 lbs. (3 1/2 gal.) 9 kg. (13 liter)

Entrees

Eggs (Scrambled)

Yield: 100 four ounce (115 g.) portions approximately 3 gallons (11.4 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
21 lbs. (18 doz.) 3 qts. 1 lb. 8 oz.	9.5 kg. 2.8 liter 680 g.	Eggs Milk Butter or Margarine	1. Beat eggs and milk together. 2. Preheat kettle to warm, melt butter (<i>margarine</i>) and eggs, cook at low temperature, stirring with whip every 2 or 3 minutes until desired consistency is reached. (<i>Eggs will continue to cook on serving line.</i>)

Escaloped Beef and Macaroni

Yield: 100 six ounce (170 g.) servings total yield approximately 4 1/2 gallons (17 liters).

Recommended Pan - 12" x 20" x 2 1/2"

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
6 lbs. 2 lbs. 5 oz. 2 cups 17 lbs. 4 oz. 1/2 oz. 2 lbs. 2 lbs. 21 lbs.	2.7 kg. 1 kg. 475 ml. 7.7 kg. 115 g. 14 g. 900 g. 900 g. 9.5 kg.	Elbow Macaroni Onions Fat or Oil Ground Beef Salt Pepper Tomato Puree Tomato Ketchup Tomatoes	1. Cook macaroni in kettle. Drain, rinse, reserve. 2. Sauté onions in fat (<i>oil</i>) in kettle. 3. Add beef and cook till lightly browned. 4. Add seasonings and tomato products. Simmer to blend flavors 15 - 20 minutes. 5. Combine cooked macaroni and tomato - beef mixture just before serving. Place in steam table pans for service.
<u>Optional Additions:</u>	Green Peppers Pimiento Mushrooms Garlic Cloves	3 lbs. 1.4 kg. 2 lbs. 900 g. 2 lbs. 900 g. 7	

Entrees

Macaroni and Cheese

Yield: 4 pans 25 five ounce (140 g.) servings total yield approximately 4 gallons (15.2 liters).

Recommended Pan - 12" x 20" x 2 1/2"

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
5 lbs. 12 oz. 6-7 gal. 8 oz. 8 oz. 4 oz. 3/4 oz. 1 3/4 gal. 7 lbs.	2.6 kg. 23-26 liter 225 g. 225 g. 115 g. 20 g. 6.6 liter 3.2 kg.	Elbow Macaroni Water, boiling Butter or Margarine Flour Salt Dry Mustard Milk Cheddar Cheese, Shredded	<ol style="list-style-type: none"> 1. Bring water to a full boil. Add macaroni, stir and cook until just barely tender. Drain immediately and rinse in cold water, retain for later use. 2. Melt butter (<i>margarine</i>) in kettle and blend in flour and seasonings. 3. Stir in milk and cook until thickened. 4. Add shredded cheese and stir until melted. 5. Combine sauce and macaroni. 6. Pour into buttered steam table pans. 6 1/4 lbs. (2.8 kg.) approximately 1 gallon (3.7 liters) per pan. 7. If desired, top with buttered bread crumbs and bake at 350°F (175°C) until browned on top.

Pot Roast of Beef

Yield: 100 four ounce (114 g.) 20 gallon or larger kettle required for this volume.

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
35-40 lbs. 1 lb. 3 lbs. 4 cloves 8 oz. 4 each 2 tsp. 3 oz. 1 tbsp. 4 1/2 qts. to cover	16-18 kg. 454 g. 1.4 kg. 228 g. 3 g. 86 g. 7 g. 4.3 liters	Beef, bottom round Shortening or Oil Onions, chopped Garlic, minced Parsley, chopped Bay leaves Thyme Salt Pepper Tomato Puree Water or Broth	<ol style="list-style-type: none"> 1. Brown beef on all sides in shortening (<i>oil</i>). 2. Add onions, garlic, parsley and seasonings. Simmer until onions are wilted. 3. Add tomato puree and sufficient water (<i>stock</i>) to cover meat. Cover and simmer slowly for 3-4 hours or until meat is tender. 4. Remove meat for portioning, strain liquid and use for gravy.

Entrees

Spaghetti Sauce

Yield: 100 five ounce (140 g.) servings approximately 4 gallons (15 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
15 lbs.	6.8 kg.	Ground Beef	1. Sauté ground beef in kettle, add onions, and garlic and sauté until tender.
1 oz.	28 g.	Garlic, minced	
3 lbs.	1.36 kg.	Onions, fine chopped	2. Add remaining ingredients, blend well and let simmer slowly for 2-3 hours, stirring occasionally until desired consistency and flavors are well developed.
2 oz.	56 g.	Parsley, chopped	
2 tbsp.	4 g.	Basil	
2/3 cup	170 g.	Salt	
2 tbsp.	14 g.	Pepper	
2 - #10 cans	6.6 liters	Tomatoes, canned	
2 - # 10 cans	6.6 liters	Tomato Puree	

Tamale Pie

Yield: 2 pans 48 servings one ounce (28 g.) protein. Recommended Pan - 12" x 20" x 2 1/2"

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
1 lb. 9 oz.	700 g.	Cornmeal	1. Combine cornmeal, water, chili powder and salt. Dived into 2 solid pans, spread smoothly.
3 qts.	28. liter	Water	
2 tsp.	10 g.	Chili Powder	2. Steam cook as follows:
1/2 oz.	14 g.	Salt	
9 lbs.	4 kg.	Ground Beef	<u>Pressure</u> <u>Time</u>
2 lbs.	907 g.	Onions (<i>fresh</i>), chopped	5 lbs. (0.33 kg/cm ²) 10 minutes
2 lbs.	907 g.	Green Peppers, Chopped	15 lbs. (1 kg/cm ²) 8 minutes
1 lb. 12 oz.	795 g.	Ripe Olives, sliced	3. Brown meat in kettle, add onions, pepper, olives, chili powder and tomato sauce. Cook until flavors are blended.
1 oz.	30 g.	Chili Powder	
1 qt.	946 ml.	Tomato Sauce	4. Pour over cooked cornmeal. Top with cheese.
1 lb.	455 g.	Shredded Cheese	
			5. Bake in 400°F (200°C) oven for 5 minutes or long enough to melt and brown the cheese.

Entrees

Turkey (Chicken) A La King

Yield: 100 four ounce (115 g.) servings approximately 3 gallons (11.4 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
2 lbs.	900 g.	Butter or Margarine	<ol style="list-style-type: none"> 1. Cook mushrooms and green pepper slowly in butter (<i>margarine</i>). 2. Add flour to make roux, stir well. Reduce heat and add stock (<i>water</i>), stirring constantly. 3. Sift dry non-fat milk powder into mixture. Beat until smooth whip. Add salt and pepper. 4. Increase heat, stir constantly until mixture thickens. Reduce steam and cook approximately 15 minutes. 5. Add turkey and pimientos to mixture, stir to blend. Serve hot over rice, toast points or patty shell.
4 lbs.	1.8 kg.	Mushrooms, sliced	
2 lbs.	900 g.	Green Pepper, diced	
2 gal.	7.6 liters	Lukewarm Water or Stock	
2 lbs.	900 g.	Non-Fat Dry Milk	
3 oz.	85 g.	Salt	
1/2 tap.	3 g.	Pepper	
14 lbs.	6.4 kg.	Turkey, cooked, diced	
8 oz.	226 g.	Pimientos, diced	

Turkey Tetrazzini

Yield: 4 pans - 100 eight ounce (225 g.) approximately 6 1/4 gallons (24 liters).

Recommended Pan - 12" x 20" x 2 1/2"

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
5 lbs.	2.3 kg.	Spaghetti	<ol style="list-style-type: none"> 1. Cook spaghetti in kettle until just barely done. Drain and reserve. 2. Sauté mushrooms and peppers in butter until tender. 3. Mix in flour and soup base. 4. Add hot milk. Cook and stir until thick. 5. Add pimiento, pepper and turkey. Mix well. 6. Combine cooked spaghetti with above mixture. 7. Pour in 4 steam table pans. Sprinkle each pan with 3 oz. (85 g.) parmesan cheese. 8. Bake in 425°F (220°C) oven for 15 minutes or until browned.
1 lbs. 8 oz.	680 g.	Mushrooms, sliced	
4 oz.	115 g.	Green Peppers, chopped	
2 lbs.	900 g.	Butter	
1 lb.	455 g.	Flour	
1 lb.	455 g.	Chicken Soup Base	
3 1/2 gal.	13.2 liter	Hot Milk	
1 lb.	455 g.	Pimiento, chopped	
1 tsp.	5 g.	Black Pepper	
14 lbs.	6.4 kg.	Turkey, cooked, diced	
12 oz.	340 g.	Parmesan Cheese	

Soups

Navy Bean Soup (or Split Pea Soup)

Yield: 160 eight ounce (240 ml.) 10 gallons (37.5 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
10 gal.	37.5 liters	Water	1. Soak beans overnight in water to cover.
6 lbs.	2.7 kg.	Ham Shank or Bone	
15 lbs.	6.8 kg.	Dry Navy Beans or	
3 lbs.		Split Peas	2. Add water, simmer beans and ham bone (<i>shank</i>) until beans are tender at 250°F. (120°C) about 2 hours. Stir occasionally.
3 lbs.	1.4 kg.	Celery, diced	
3 lbs.	1.4 kg.	Onions, chopped	3. Add vegetables and seasonings and simmer for a 1/2 an hour.
4 oz.	1.4 kg.	Carrots, grated	
1/2 oz.	115 gm.	Salt	
	15 gm.	Pepper	

Vegetable Soup

Yield: 96 eight ounce (240 ml.) 6 gallons (23 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
6 lbs.	2.7 kg.	Ground Beef	1. Sauté beef in kettle for 10 minutes.
3 gal.	11.4 liters	Beef Stock	
2 lbs.	907 g.	Onions, chopped, raw	2. Add beef stock, vegetables (<i>except peas and beans</i>), tomato juice and raw rice. Simmer for 30 minutes or until vegetables are tender.
1 lb. 8 oz.	680 g.	Potato, chopped, raw	
1 lb.	454 g.	Carrots, diced, raw	3. Add salt, garlic salt and pepper.
8 oz.	226 g.	Celery, diced, raw	
1 - #10 can	3.3 liters	Tomatoes	
3 cups	710 ml.	Tomato Juice	4. Add green beans and peas and simmer for 1 hour.
12 oz	340 g.	Rice, raw	
1 1/2 oz.	42 g.	Salt	
1/4 oz.	7 g.	Garlic Salt	
1/4 oz.	7 g.	Pepper	
1 lb.	454 g.	Green Beans	
3 lbs.	1.4 kg.	Green Peas	

Soups

New England Fish Chowder

Yield: 100 six ounce (177 ml.) 5 gallons (19 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
24 lbs.	10.9 kg.	Haddock	1. Sauté salt pork. Remove it from fat and sauté the onions.
2 1/2 gal.	9.5 liters	Water	
8 oz.	226 g.	Salt Pork, diced	
11 oz.	311 g.	Onions, chopped	2. Combine salt pork, onions, potatoes, and water. Simmer until potatoes are almost tender, about 20 minutes.
1 1/2 gal.	5.71 liters	Milk	
3 oz.	85 g.	Salt	3. Add all remaining ingredients and simmer slowly until fish and potatoes are cooked, about 10 minutes. DO NOT BOIL.
1/2 tsp.	1.1 g.	Pepper	
12 oz.	340 g.	Butter	
12 lbs.	5.4 kg.	Potatoes, diced	

French Onion Soup

Yield: 96 eight ounce (240 ml.) 6 gallons (23 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
15 lbs.	6.8 kg.	Onions, sliced fine	1. Slowly sauté onions in butter (margarine) until lightly brown and tender.
14 oz.	397 gm.	Butter or Margarine	
6 gal.	23 liters	Beef Stock	2. Add beef stock and seasoning and simmer for 30 minutes.
1 oz.	28 gm.	Salt	
1/4 oz.	7 gm.	Pepper	
			3. Serve topped with crouton and grates or shredded cheese.

Minestrone Soup

Yield: 96 eight ounce (240 ml.) 6 gallons (23 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
6 gals.	23 liters	Water	1. Place water in kettle with beef bones and bring to a full boil. Let boil for about 1 hour. Remove any scum as it forms.
12-15 lbs.	5.4-6.8 kg.	Beef Bones	
2 lbs.	907 g.	Carrots	2. Add all vegetables and seasonings. Bring to a rapid boil.
4 lbs.	1.8 kg.	Onions	
2 lbs.	907 g.	Celery	
1 lb. 8 oz.	680 g.	Green Peppers	3. Reduce steam and simmer for about 1 hour. Cook macaroni separately, drain and add during last 15 minutes of cooking.
1 lb.	454 g.	Corn	
1 lb.	454 g.	Lima Beans	* Any macaroni product will due.
1 lb.	454 g.	Green Beans	
2 qts.	2.3 liters	Tomatoes, crushed	
1 lbs.	454 g.	Peas	
2 oz.	56 g.	Salt	
1 tsp.	2.3 g.	Pepper	
4 oz.	113 g.	Romano or Parmesan, grated cheese	
		Ditalure (Macaroni)*	
8 oz.	226 gm.		

Soups

Beef Rice Soup

Yield: 96 eight ounce (240 ml.) 6 gallons (22.7 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
4 lbs.	1.8 kg.	Ground Beef	1. Sauté beef in kettle until brown.
5 gal.	20 liters	Beef Stock	2. Add beef stock, rice and vegetables to meat. Simmer until well cooked.
12 oz.	340 g.	Rice, raw	
1 lb.	454 g.	Onions, chopped	
1 lb. 8 oz.	680 g.	Carrots, sliced	3. Add tomatoes, ketchup, worcestershire sauce, salt and pepper.
1 - 10# can	3.3 liters	Tomatoes, broken	
6 oz.	180 ml.	Ketchup	4. Simmer for 1/2 - 1 hour to allow the flavor to develop.
2 oz.	60 ml.	Worcestershire Sauce	
1/2 oz.	14 g.	Salt	
		Pepper	

Pot Roast of Beef

Yield: 100 four ounce (114 g.) 20 gallon or larger kettle required for this volume.

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
1 lb. 8 oz.	680 g.	Butter or Margarine	1. Melt butter (<i>margarine</i>) in kettle, add flour and seasonings, blending to form a smooth paste, do not brown.
12 oz.	340 g.	Flour	
2 oz.	56 g.	Salt	
1 tap.	2.2 g.	Pepper, white	
4 1/2 gal.	17 liters	Milk	2. Add milk, stirring constantly with whip to blend thoroughly. Cook slowly, stirring occasionally until thickened.
20-25 lbs.	9-11 kg.	Pureed Vegetables*	
4-5 oz.	115-140 g.	Onions, chopped**	3. Add pureed vegetables and optional onions. Cook to blend flavor.

* Pureed Vegetables: Such as, asparagus puree, cream style corn, pureed peas, pureed spinach and/or mashed potato.

** Optional (*finely chopped*).

Gravies and Sauces

Brown Gravy

Yield: 100 two ounce (60 ml.) 1 1/2 gallons (5.6 liters).

Measures (U.S.)	Measures (Metric)	Ingredients	Directions
1 lb. 4 oz.	565 g.	Mat drippings or other fat	1. Blend melted fat, flour and salt. Cook in kettle until brown, stirring steadily.
1 lb.	455 g.	Flour	
3 tsap.	45 g.	Salt	2. Gradually add broth (<i>water</i>).
1 1/2 gal.	5.7 liters	Water or Meat Stock	3. Cook until it is thickened. Continue to cook for 2 minutes.

Variations:

Poultry - Use poultry stock and fat.

Cream Gravy - Use milk in place of water or meat stock.

Gravies and Sauces

White Sauce

Yield: 2 gallons (7.6 liters).

THIN Measures (U.S.)	THIN Measures (Metric)	THIN Ingredients	Directions:
1 lb. 8 oz. 1 1/2 oz. 2 gal.	453 g. 227 g. 42 g. 7.6 liters	Butter or Margarine Flour, A.P. Salt Milk*	
MEDIUM Measures (U.S.)	MEDIUM Measures (Metric)	MEDIUM Ingredients	
2 lb. 1 lb. 1 1/2 oz. 2 gal.	907 g. 453 g. 42 g. 7.6 liters	Butter or Margarine Flour, A.P. Salt Milk*	
THICK Measures (U.S.)	THICK Measures (Metric)	THICK Ingredients	
3 lb. 1 lb. 8 oz. 1 1/2 oz. 2 gal.	1.361 kg. 680 g. 42 g. 7.6 liters	Butter or Margarine Flour, A.P. Salt Milk*	

* Non-fat dry milk solid - 2 lbs. (907 g.) and water - 2 gal. (7.6 liters) may be substituted for milk. Follow same directions, adding water in place of milk, then slowly sift non-fat dry milk solids into the mixture.

VELOUTE SAUCE: Follow white sauce recipe substituting stock (*chicken stock or light colored meat stock*) for milk. Stock can be made by combining 4 - 6 ounces (114-170 g.) soup base with 1 gal. (3.79 liters) of hot water.

Variations: 1 Gallon (3.8 liters)	Measures (U.S)	Measures (Metric)	Ingredients
Cheese Sauce	3 qts. 2 lbs. 1 tbsp. 1 tbsp. 1 tsp.	2.84 liters 907 g. 4.5 g. 14 ml. 1.9 g.	White Sauce Grated Sharp Cheese Dry Mustard Worcestershire Sauce Paprika
Parsley Sauce	3 1/2 qts. 3 cups 2 cups 1/4 cup	3.31 liters 340 g. 283 g. 59 ml.	White Sauce Chopped Fresh Parsley Minced Onions Lemon Juice
Egg Sauce	3 qts. 2 lbs. 1 tsp.	2.84 liters 907 g. 1.5 g.	White Sauce Hard Cooked Egg, diced Mustard
Tomato-Cheese	3 qts. 1 qt. 2 tbsp. 1 tbsp. 2 cups	2.84 liters 947 liters 28 ml. 474 ml.	White Sauce Grated Cheese Worcestershire Sauce Prepared Mustard Tomato Puree

Reference Material

FOOD ITEMS COMMONLY USED WITH WEIGHT AND MEASURE EQUIVALENTS.

FOOD ITEM	WEIGHT	METRIC	MEASURE
Baking Powder	6 oz.	170 gm.	1 cup
	1 oz.	28 gm.	2 2/3 tbsp.
	3/8 oz.	12 gm.	1 tbsp.
Baking Soda	1 oz.	28 gm.	2 1/2 tbsp.
Beef, ground, raw	1 lb.	450 gm.	2 cups
Bread Crumbs, dried, sifted	1 lb.	450 gm.	2 qts.
Butter	1 lb.	450 gm.	2 cups
Cinnamon	1 oz.	28 gm.	4 tbsp.
Clove, ground	1 oz.	28 gm.	3 tbsp.
Cocoa	1 lb.	450 gm.	4 1/2 cups
Cornmeal	1 lb.	450 gm.	3 cups
Cornstarch	1 lb.	450 gm.	3 cups
	5 1/3 oz.	150 gm.	1 cup
	1 oz.	28 gm.	3 tbsp.
Eggs, unbeaten	1 each	1 each	3 tbsp.
Flour, sifted	1 lb.	450 gm.	4 cups
Ginger	1 oz.	28 gm.	4 tbsp.
Milk, powdered	1 lb.	450 gm.	3 1/2 cups
Milk, whole	8 1/2 oz.	240 gm.	1 cup
Molasses	1 lb.	450 gm.	1 1/2 cups
Mustard, dry	1 oz.	28 gm.	5 tbsp.
Nutmeg	1 oz.	28 gm.	4 2/3
Nuts, chopped	1 lb.	450 gm.	4 cups
Onions, chopped	1 lb.	450 gm.	2 1/2 - 3 cups
Paprika	1 oz.	28 gm.	3 3/4
Parsley	1 oz.	28 gm.	15 sprigs
Parsley, chopped	1 oz.	28 gm.	1/3 cup
Pepper, ground	1 oz.	28 gm.	4 tbsp.
Salt	1 oz.,	450 gm.	2 1/8
Shortening	1 lb.	450 gm.	2 cups
Sugar, brown	1 lb.	450 gm.	3 cups
Sugar, confectioner's	1 lb.	450 gm.	3 1/2 cups
Sugar, granulated	1 lb.	450 gm.	2 cups
Vanilla	1 oz.	28 gm.	2 tbsp.
Water	1 lb.	450 gm.	1 pint
Yeast, dry	5 oz.	140 gm.	1 cup
Yeast, food	1 oz.	28 gm.	1 tbsp.
Frozen Eggs	8 oz.	224 gm.	1 cup
	1 cup		5 large whole eggs

Steam Jacketed Kettle Capacities

This chart merely shows single load capacity as it is felt that in most cases the kettle would be used only once per meal.

ITEM	COOKED PORTION SIZE	KETTLE SIZE			
		5 GALLON (19 LITERS)	25 GALLON (95 LITERS)	40 GALLON (150 LITERS)	60 GALLON (225 LITERS)
BEVERAGES					
Cocoa or Coffee	6 oz or 3/4 cup (180 ml.)	Yield: 4 gal. (15 l.) Portions = 85	Yield: 20 gal. (75 l.) Portions = 425	Yield: 35 gal. (132 l.) Portions = 745	Yield: 50 gal. (190 l.) Portions = 1065
BREAKFAST FOODS					
Cereal	6 oz or 3/4 cup (180 ml.)	Amt. Raw: 4 1/2 # (2 kg.) Portions = 60	Amt. Raw: 20# (9 kg.) Portion = 270	Amt. Raw: 36 # (16.3 kg) Portion = 480	Amt. Raw: 48 # (21.7 kg.) Portion = 640
Scrambled Eggs	4 oz or 2 eggs each (115 g.)	Eggs: 18 dz. 3 3/4 gal. (68 l.) Portions = 108	Eggs: 90 dz. 18 gal. (120 l.) Portions = 540	Eggs: 160 dz., 32 gal. (166.5 l.) Portions = 960	Eggs: 220 dz. 44 gal. Portions = 1320
DESSERTS					
Cornstarch Pudding	4 oz. or 1/2 cup (120 ml.)	Yield: 3 gal. (11 l.) Portions = 96	Yield: 17 gal. (64.3 l.) Portions = 545	Yield: 30 gal. (113.5 l.) Portions = 960	Yield: 40 gal. (151 l.) Portions = 1280
Gelatin	4 oz. or 1/2 cup (120 g.)	Yield: 4 gal. (15 l.) Portions = 128	Yield: 20 gal. (75 l.) Portions = 640	Yield: 35 gal. (132 l.) Portions = 1120	Yield: 50 gal. (190 l.) Portions = 1600
MAIN ENTREES *					
Macaroni, Beef and Tomato	6 oz. or 3/4 cup (170 g.)	Yield: 3 gal. (11 l.) Portions = 64	Yield: 17 gal. (65 l.) Portions = 360	Yield: 30 gal. (113 l.) Portions = 640	Yield: 45 gal. (170 l.) Portions = 960
Baked Beans	5 oz. or 2/3 cup (140 g.)	Yield: 3 gal. (11 l.) Portions = 75	Yield: 20 gal. (75 l.) Portions = 500	Yield: 32 gal. (120 l.) Portions = 800	Yield: 50 gal. (190 l.) Portions = 1250
Beef Stew	8 oz. or 1 cup (225 g.)	Yield: 3 gal. (11 l.) Portions = 48	Yield: 17 gal. (65 l.) Portions = 270	Yield: 30 gal. (113 l.) Portions = 480	Yield: 45 gal. (170 l.) Portions = 725
Macaroni and Cheese	5 oz. or 2/3 cup (140 g.)	Yield: 3 gal. (11 l.) Portions = 75	Yield: 17 gal. (64 l.) Portions = 425	Yield: 30 gal. (113 l.) Portions = 750	Yield: 45 gal. (170 l.) Portions = 1125
Turkey A La King	4 oz. or 1/2 cup (115 g.)	Yield: 3 gal. (11 l.) Portions = 96	Yield: 17 gal. (64 l.) Portions = 545	Yield: 30 gal. (113 l.) Portions = 960	Yield: 45 gal. (170 l.) Portions = 1280
MISCELLANEOUS					
Gravy/Sauce	2 oz. or 3/4 cup (60 ml.)	Yield: 4 gal. (15 l.) Portions = 250	Yield: 20 gal. (75 l.) Portions = 1200	Yield: 35 gal. (132 l.) Portions = 2000	Yield: 50 gal. (190 l.) Portions = 3000
MACARONI AND RICE					
Noodles	4 oz. or 3/4 cup (115 g.)	Amt. Raw: 4 #. (1.8 kg.) Portions = 45	Amt. Raw: 20 gal. (9 kg.) Portions = 220	Amt. Raw: 35 # (15.8 kg.) Portions = 385	Amt. Raw: 50 #. (22.6 kg.) Portions = 555
Rice	3 oz. or 1/2 cup (85 g.)	Amt. Raw: 4 #. (1.8 kg.) Portions = 65	Amt. Raw: 20 gal. (9 kg.) Portions = 320	Amt. Raw: 35 # (15.8 kg.) Portions = 560	Amt. Raw: 50 #. (22.6 kg.) Portions = 800
Spaghetti or Macaroni	4 oz. or 3/4 cup (115 g.)	Amt. Raw: 4 #. (1.8 kg.) Portions = 45	Yield: 20 gal. (9 kg.) Portions = 320	Amt. Raw: 35 # (15.8 kg.) Portions = 385	Amt. Raw: 50 #. (22.6 kg.) Portions = 555
SOUPS					
Basic Cream Soup	6 oz. or 3/4 cup (180 ml.)	Yield: 3 gal. (11 l.) Portions = 60	Yield: 20 gal. (75 l.) Portions = 400	Yield: 35 gal. (132 l.) Portions = 700	Yield: 50 gal. (190 l.) Portions = 1000
Broth Type Soup	8 oz. or 1 cup (240 ml.)	Yield: 3 gal. (11 l.) Portions = 50	Yield: 20 gal. (75 l.) Portions = 325	Yield: 35 gal. (132 l.) Portions = 560	Yield: 50 gal. (190 l.) Portions = 800
VEGETABLES					
Fresh	4 oz. or 1/2 cup (115 g.)	Amt. Raw: 15#. (6.8 kg.) Portions = 65	Amt. Raw: 80#. (36.3 kg.) Portions = 335	Amt. Raw: 120 # (54.4 kg.) Portions = 500	Amt. Raw: 180#. (81.6 kg.) Portions = 750
Frozen Loose Pack	4 oz. or 1/2 cup (115 g.)	No. Of Packages: 10 Portions = 110	No. Of Packages: 50 Portions = 550	No. Of Packages: 80 Portions = 880	No. Of Packages: 120 Portions = 1320
Frozen Solid Pack	4 oz. or 1/2 cup (115 g.)	No. Of Packages: 5 Portions = 55	No. Of Packages: 25 Portions = 275	No. Of Packages: 40 Portions = 440	No. Of Packages: 60 Portions = 660

* All main entree figures are given in terms of raw ingredients.