

Class #11: Let's Practice Chicken

A. General Background – History & Fun Facts

Chicken is the number one species consumed by Americans. Interest in the safe handling and cooking of chicken is reflected in thousands of calls to the USDA Meat and Poultry Hotline, second only to turkey in number of specific inquiries.

1. History The chicken is a descendant of the Southeast Asian red jungle fowl first domesticated in India around 2000 B.C. Most of the birds raised for meat in America today are from the Cornish (a British breed) and the White Rock (a breed developed in New England). Broiler-fryers, roasters, stewing/baking hens, capons and Rock Cornish hens are all chickens.

2. Chicken Inspection

All chickens found in retail stores are either inspected by USDA or by state systems which have standards equivalent to the Federal government. Each chicken and its internal organs are inspected for signs of disease. The "Inspected for wholesomeness by the U.S. Department of Agriculture" seal insures the chicken is free from visible signs of disease.

3. Fresh or Frozen

The term *fresh* on a poultry label refers to any raw poultry product that has never been below 26 °F. Raw poultry held at 0 °F or below must be labeled *frozen* or *previously frozen*. No specific labeling is required on raw poultry stored at temperatures between 0-25 °F.

4. Dating of Chicken Products

Product dating is not required by Federal regulations, but many stores and processors voluntarily date packages of chicken or chicken products. If a calendar date is shown, immediately adjacent to the date there must be a phrase explaining the meaning of that date such as *sell by* or *use before*.

The use-by date is for quality assurance; after the date, peak quality begins to lessen but the product may still be used. It's always best to buy a product before the date expires. If a use-by date expires while the chicken is frozen, the food can still be used.

5. Hormones & Antibiotics

No hormones are used in the raising of chickens. Antibiotics may be given to prevent disease and increase feed efficiency. A "withdrawal" period is required from the time antibiotics are administered before the bird can be slaughtered. This ensures that no residues are present in the bird's system. FSIS randomly samples poultry at slaughter and tests for residues. Data from this monitoring program have shown a very low percentage of residue violations.

6. Additives

Additives are not allowed on fresh chicken. If chicken is processed, however, additives such as MSG, salt, or sodium erythorbate may be added but must be listed on the label.

B. Chicken Nutrition:

1. Chicken is high in protein, low in fat and low in cholesterol, making it a good selection for a healthy diet. Chicken is lower in fat than most other meats and over half of the fat is unsaturated fat, the type that helps lower cholesterol. The white meat is lower in fat than the dark meat of the chicken but the dark meat is higher in iron, an important nutrient for a healthy body. Shown below is a list of suggestions on how to make chicken even healthier.
- Remove the skin from the chicken before eating. The skin can be removed either before or after cooking to reduce the fat content by almost half. Leaving the skin on during cooking will provide juicier meat.
 - Trim all excess fat from the chicken before cooking.

- Rather than using fat, such as butter and oils, to enhance the chicken's flavor, try other ingredients, such as flavored vinegars, wines, herbs, spices, or citrus fruit.
- Cook chicken without the use of fats by baking, roasting, broiling, grilling, or poaching. Pan fry or stir-fry in olive oil or use a fat free nonstick cooking spray.

Nutrition Chart - Chicken in Comparison to Other Meats

Based on a 3-ounce boneless serving - Cooked without adding fat, salt or other ingredients.

Type of Meat	Calories	Total Fat	Saturated Fat	Protein	Cholesterol
Chicken Breast (skinless)	120	1.5 g	.5 g	24 g	70 mg
Chicken Breast (with skin)	170	7 g	2 g	25 g	70 mg
Chicken Drumstick (skinless)	130	4 g	1 g	23 g	70 mg
Chicken Drumstick (with skin)	180	9 g	3 g	23 g	75 mg
Beef Tenderloin (fat trimmed)	180	8.5 g	3.2 g	24 g	70 mg
Beef Sirloin (fat trimmed)	170	6.1 g	2.4 g	26 g	75 mg
Pork Chop (fat trimmed)	170	7 g	2 g	26 g	70 mg

Lamb Chop (fat trimmed)	180	8 g	3 g	25 g	80 mg
Ground Beef (90% lean)	210	11 g	4 g	27 g	85 mg

C. Handling and Cooking Chicken Safely

1. Rinsing or Soaking Chicken

It is not necessary to wash raw chicken. Any bacteria which might be present are destroyed by cooking.

2. Liquid in Package

Many people think the pink liquid in packaged fresh chicken is blood, but it is mostly water which was absorbed by the chicken during the chilling process. Blood is removed from poultry during slaughter and only a small amount remains in the muscle tissue. An improperly bled chicken would have cherry red skin and is condemned at the plant.

3. How to Handle Chicken Safely

Fresh Chicken:

1. Chicken should feel cold to the touch when purchased. Select fresh chicken just before checking out at the register. Put packages of chicken in disposable plastic bags (if available) to contain any leakage which could cross-contaminate cooked foods or produce. Make the grocery your last stop before going home.
2. At home, immediately place chicken in a refrigerator that maintains 40 °F, and use within 1 or 2 days, or freeze at 0 °F. If kept frozen continuously, it will be safe indefinitely.
3. Chicken may be frozen in its original packaging or repackaged. If freezing longer than two months, over wrap the porous store plastic packages with airtight heavy-duty foil, plastic wrap or freezer paper, or place the package inside a freezer bag. Use these materials or

airtight freezer containers to repackage family packs into smaller amounts or freeze the chicken from opened packages.

4. Proper wrapping prevents "freezer burn," which appears as grayish-brown leathery spots and is caused by air reaching the surface of food. Cut freezer-burned portions away either before or after cooking the chicken. Heavily freezer-burned products may have to be discarded because they might be too dry or tasteless.

Ready-Prepared Chicken

1. When purchasing fully cooked rotisserie or fast food chicken, be sure it is hot at time of purchase. Use it within two hours or cut it into several pieces and refrigerate in shallow, covered containers.
2. Eat within 3 to 4 days, either cold or reheated to 165 °F (hot and steaming). It is safe to freeze ready-prepared chicken. For best quality, flavor and texture, use within 4 months.

Safe Defrosting

There are three ways to defrost chicken: in the refrigerator, in cold water and in the microwave. Never defrost chicken on the counter or in other locations.

1. It's best to plan ahead for slow, safe thawing in the refrigerator. Boneless chicken breasts will usually defrost overnight. Bone-in parts and whole chickens may take 1 to 2 days or longer.
2. Once the raw chicken defrosts, it can be kept in the refrigerator an additional day or two before cooking. During this time, if chicken defrosted in the refrigerator is not used, it can safely be refrozen without cooking first.
3. Chicken may be defrosted in cold water in its airtight packaging or in a leak proof bag. Submerge the bird or cut-up parts in cold water, changing the water every 30 minutes to be sure it stays cold. A whole (3 to 4-pound) broiler fryer or package of parts should defrost in 2 to 3

hours. A 1-pound package of boneless breasts will defrost in an hour or less.

4. Chicken defrosted in the microwave should be cooked immediately after thawing because some areas of the food may become warm and begin to cook during microwaving. Holding partially cooked food is not recommended because any bacteria present wouldn't have been destroyed. Foods defrosted in the microwave or by the cold water method should be cooked before refreezing.

5. Do not cook frozen chicken in the microwave or in a slow cooker. However, chicken can be cooked from the frozen state in the oven or on the stove. The cooking time may be about 50% longer.

Stuffed Chicken

6.

1. We do not recommend buying retail-stuffed fresh whole chicken because of the highly perishable nature of a previously stuffed item. Consumers should not pre-stuff whole chicken to cook at a later time. Chicken can be stuffed immediately before cooking. Some USDA-inspected frozen stuffed whole poultry **MUST** be cooked from the frozen state to ensure a safely cooked product. Follow preparation directions on the label.

Marinating

Chicken may be marinated in the refrigerator up to 2 days. Boil used marinade before brushing on cooked chicken. Discard any uncooked leftover marinade.

Safe Cooking

Cook a whole chicken to a safe minimum internal temperature of 165 °F as measured using a food thermometer. Check the internal temperature in the innermost part of the thigh and wing and the thickest part of the breast. For reasons of personal preference, consumers may choose to cook poultry to higher temperatures.

For approximate cooking times to use in meal planning, see the following chart compiled from various resources.

Approximate Chicken Cooking Times				
Type of Chicken	Weight	Roasting 350 °F	Simmering	Grilling
Whole broiler fryer+	3 to 4 lbs.	1 1/4 - 1 1/2 hrs.	60 to 75 min.	60 to 75 min*
Whole roasting hen+	5 to 7 lbs.	2 to 2 1/4 hrs.	1 3/4 to 2 hrs.	18-25 min/lb*
Whole capon+	4 to 8 lbs.	2 to 3 hrs	Not suitable	15-20 min/lb*
Whole Cornish hens+	18-24 oz.	50 to 60 min.	35 to 40 min.	45 to 55 min*
Breast halves, bone-in	6 to 8 oz.	30 to 40 min.	35 to 45 min.	10 - 15 min/side
Breast half, boneless	4 ounces	20 to 30 min.	25 to 30 min.	6 to 8 min/side
Legs or thighs	8 or 4 oz.	40 to 50 min.	40 to 50 min.	10 - 15 min/side
Drumsticks	4 ounces	35 to 45 min.	40 to 50 min.	8 to 12 min/side
Wings or wingettes	2 to 3 oz.	30 to 40 min.	35 to 45 min.	8 to 12 min/side

+ Unstuffed. If stuffed, add 15 to 30 minutes additional time.

* Indirect method using drip pan.

Microwave Directions:

1. Microwave on medium-high (70 percent power): whole chicken, 9 to 10 minutes per pound; bone-in parts and Cornish hens, 8 to 9 minutes per pound; boneless breasts halves, 6 to 8 minutes per pound.
2. When microwaving parts, arrange in dish or on rack so thick parts are toward the outside of dish and thin or bony parts are in the center.
3. Place whole chicken in an oven cooking bag or in a covered pot.
4. For boneless breast halves, place in a dish with 1/4 cup water; cover with plastic wrap.
5. Allow 10 minutes standing time for bone-in chicken; 5 minutes for boneless breast.
6. The USDA recommends cooking whole poultry to a safe minimum internal temperature of 165 °F as measured using a food thermometer. Check the internal temperature in the innermost part of the thigh and wing and the thickest part of the breast. When cooking pieces, the breast, drumsticks, thighs, and wings should be cooked until they reach a safe minimum internal temperature of 165 °F. For reasons of personal preference, consumers may choose to cook poultry to higher temperatures.

Partial Cooking

Never brown or partially cook chicken to refrigerate and finish cooking later because any bacteria present wouldn't have been destroyed. It is safe to partially pre-cook or microwave chicken immediately before transferring it to the hot grill to finish cooking.

Color of Skin

Chicken skin color varies from cream-colored to yellow. Skin color is a result of the type of feed eaten by the chicken, not a measure of nutritional value, flavor, tenderness or fat content. Color preferences vary in different sections of the country, so growers use the type of feed which produces the desired color.

Dark Bones

Darkening around bones occurs primarily in young broiler-fryers. Since their bones have not calcified completely, pigment from the bone marrow can seep through the porous bones. Freezing can also contribute to this seepage. When the chicken is cooked, the pigment turns dark. It's perfectly safe to eat chicken meat that turns dark during cooking.

Pink Meat

The color of cooked chicken is not a sign of its safety. Only by using a food thermometer can one accurately determine that chicken has reached a safe minimum internal temperature of 165 °F throughout. The pink color in safely cooked chicken may be due to the hemoglobin in tissues which can form a heat-stable color. Smoking or grilling may also cause this reaction, which occurs more in young birds.

Fatty Deposits

Chickens may seem to have more fatty deposits or contain a larger "fat pad" than in the past. This is because broiler fryer chickens have been bred to grow very rapidly to supply the demand for more chicken. Feed that is not converted into muscle tissue (meat) is metabolized into fat. However, the fat is not "marbled" into the meat as is beef or other red meat, and can be easily removed. Geneticists are researching ways to eliminate the excess fat.

Storage Times

Since product dates aren't a guide for safe use of a product, how long can the consumer store the food and still use it at top quality? Follow these tips:

- Purchase the product before the date expires.
- Follow handling recommendations on product.
- Keep chicken in its package until using.
- Freeze chicken in its original packaging, overwrap or re-wrap it according to directions in the above section, "How to Handle Chicken Safely".

Refrigerator Home Storage (at 40° F or below) of Chicken Products

Product	Refrigerat or Storage Times
Fresh Chicken, Giblets or Ground Chicken	1 to 2 days
Cooked Chicken, Leftover	3 to 4 days
Chicken Broth or Gravy	1 to 2 days
Cooked Chicken Casseroles, Dishes or Soup	3 to 4 days
Cooked Chicken Pieces, covered with broth or gravy	1 to 2 days
Cooked Chicken Nuggets, Patties	1 to 2 days
Fried Chicken	3 to 4 days
Take-Out Convenience Chicken (Rotisserie, Fried, etc.)	3 to 4 days
Restaurant Chicken Leftovers, brought immediately home in a "Doggy Bag"	3 to 4 days
Store-cooked Chicken Dinner including gravy	1 to 2 days

Chicken Salad	3 to 5 days
Deli-sliced Chicken Luncheon Meat	3 to 5 days
Chicken Luncheon Meat, sealed in package	2 weeks (but no longer than 1 week after a "sell-by" date)
Chicken Luncheon Meat, after opening	3 to 5 days
Vacuum-packed Dinners, Commercial brand with USDA seal	Unopened 2 weeks Opened 3 to 4 days
Chicken Hotdogs, unopened	2 weeks (but no longer than 1 week after a "sell-by" date)
Chicken Hotdogs, after opening	7 days
Canned Chicken Products	2 to 5 years in pantry

D. Recipe Ideas

Southwestern Lime-Chicken Hash: Serves 4-6

Ingredients

1/2 to 1 pound boned, cooked chicken or turkey, cut into 1/4-inch dice
Juice of 2 limes (about 1/2 cup)
1 large onion, cut into 1/4-inch dice
1 tsp each salt and black pepper
8 branches fresh cilantro
2 sweet red bell peppers, cut in 1/4-inch dice, or 1 1/2 cups of other vegetables
1 to 2 fresh jalapeño chiles, seeded, deveined and minced
2 large cloves of garlic, minced
1/3 cup vegetable or chicken broth or water mixed with 1 tablespoon tomato paste
2 1/2 pounds boiled and chilled red-skinned potatoes, peeled and cut into 1/4-inch dice
2 Tbsp. Canola or extra-virgin olive oil

Directions

1. Preheat oven broiler.
2. In a large bowl, combine the chicken and the lime juice. Let stand while you gather the rest of the ingredients.
3. Remove the leaves from the cilantro and dice the stems, then add to the chicken mixture the stems, half the leaves (save the rest for garnish). Add the onion, sweet and jalapeño peppers, garlic, broth (or water and tomato paste), and potatoes. Toss with salt and pepper to taste.
4. Place oil in heavy 12-inch skillet with an ovenproof handle. Heat over medium-high. Turn the contents of the bowl into the skillet and spread it out. Cook, adjusting heat as needed, to slowly brown and crisp the ingredients (8 to 10 minutes). Use a spatula to turn pieces if they threaten to stick.
5. Slip the hash under the broiler for about 2 minutes to brown.

Oven Fried Chicken #1

2/3 c. buttermilk
2 1/2 # boneless, skinless chicken breast tenders
1 c. corn flakes
1 c. Bisquick mix
2 envelopes (1 oz. each) Ranch or Italian salad dressing mix
Cooking spray

Directions

1. Heat oven to 400°F. Spray cookie sheet with cooking spray.
2. Pour buttermilk into a shallow glass or plastic bowl. Add chicken, turning to coat. Let stand 5 minutes.
3. While chicken marinates, place the cornflakes in a gallon-size re-sealable plastic bag and crush them with a rolling pin. Add Bisquick and salad dressing mix to bag, seal and shake to combine.
4. Remove chicken from buttermilk and discard buttermilk. Add chicken to cereal mixture. Seal bag and shake well to coat chicken thoroughly.
5. Place chicken on prepared cookie sheet. Spray chicken with cooking spray. Bake 35-45 minutes or until juice runs clear when center of piece is cut.

Oven Fried Chicken #2

INGREDIENTS

12 chicken legs, thighs or boneless, skinless chicken tenderloins
3 eggs
2 Tbsp. skim milk
1 cup all-purpose flour
1 cup Italian seasoned bread crumbs
salt and pepper to taste (~1 tsp each)
1 teaspoon paprika
Cooking Spray

DIRECTIONS

1. Preheat oven to 350 degrees F. Spray a 9x13 inch baking dish with cooking spray.
2. Place flour in a shallow plate or bowl and season with salt and pepper. Put the bread crumbs in another shallow plate or bowl and beat the eggs with the milk in a third bowl.
3. Dry your chicken thoroughly with paper towels.
4. Dredge the chicken piece by piece in the flour, shaking off excess. Then drag chicken through the egg mixture, followed by the bread crumbs, rolling it around until all pieces are thoroughly coated.
5. Add the chicken to the prepared baking dish and sprinkle with paprika.
6. Bake in the preheated oven for 30 minutes, then turn pieces over and bake for another 20-30 minutes.
7. Remove from oven and drain on paper towels. Enjoy!
 - For spicy chicken, add 4 Tbsp. Hot sauce to egg mixture.

Rotisserie Chicken Recipes

Sweet & Sour Chicken Stir Fry

Serves 8

Ingredients

- 4 Tbsp. rice vinegar
- 6 cloves garlic, minced
- 4 Tbsp. reduced-sodium soy sauce
- 1 tsp. ground ginger
- ½ tsp. Red pepper flakes (optional)
- ½ cooked chicken breast cut from rotisserie chicken (cut crosswise into ½-inch strips)
- 2 tsp. vegetable oil
- 6 green onions, cut into 1-inch pieces
- 1 large green bell pepper, cut into 1-inch squares
- 16 oz. bag frozen stir-fry vegetables
- 11 oz. can sliced water chestnuts, drained
- 2 Tbsp. cornstarch
- 1 cup fat-free reduced-sodium chicken broth

¼ c. apricot preserves

1 (11 oz.) can mandarin orange segments, drained

1 (15 oz.) can pineapple chunks, drained

Steamed Brown Rice

Directions

1. Combine vinegar, garlic, soy sauce, ginger and red pepper in medium bowl. Toss chicken with vinegar mixture. Marinate 20 minutes at room temperature.
2. Heat oil in wok or large nonstick skillet over medium heat. Drain chicken, reserving marinade for sauce. Add chicken, onions, peppers, water chestnuts and frozen vegetables to skillet and stir-fry 3 minutes. Remove chicken and vegetables to a warm plate.
3. Stir cornstarch into reserved marinade.
4. Stir broth, preserves and marinade into skillet drippings. Cook and stir 1 minute until sauce boils and thickens. Add orange segments and pineapple chunks. Heat through.
5. Place chicken and vegetables over brown rice and top with sauce.

Chicken and Broccoli Tetrazzini:

Serves 8

Ingredients

8 oz. spaghetti, whole wheat if available

½ stick (4 Tbsp.) butter or margarine

1/2 c. chopped onion (I use 1 cup frozen chopped onions and pepper blend)

3 Tbsp. Flour

½ tsp salt

Dash of white pepper

1 tsp. Italian seasoning

3 c. skim milk

½ c. + 1 Tbsp. Parmesan cheese

¼- rotisserie chicken, cubed small

1 (8 oz.) can mushrooms
16 oz. bag frozen broccoli cuts, thawed
1 ½ cups baby carrots cut in half crosswise and cooked
2 clove garlic, minced

Directions

1. Cook spaghetti and keep warm.
2. In large sauce pan, melt butter over medium heat. Add onion and garlic and cook 5-7 minutes. Stir in flour, salt, pepper, Italian seasoning and cook until smooth and bubbly. Gradually add milk. Cook until mixture boils and thickens, stirring constantly.
3. Add ½ cup Parmesan cheese, chicken, mushrooms, broccoli and carrots. Cook 2-3 minutes or until thoroughly mixed and broccoli is tender.
4. Pour over spaghetti. Sprinkle with 1 Tbsp. Parmesan cheese and serve immediately or top with seasoned bread crumbs and 1 Tbsp Parmesan and bake until crumbs are brown.

Stacked Sour Cream Chicken Enchiladas

Serves 6

Ingredients

1/4 rotisserie chicken, shredded
1 can black beans, drained and rinsed
1 ½ cups frozen whole kernel corn, cooked
¼ cup chopped onion (I use frozen)
½ cup chopped fresh cilantro
1 cup low-fat sour cream
1 tsp. garlic powder
1 tsp. chili powder
1 (4 oz.) can diced green chilies
2 (10 oz.) cans enchilada sauce
10 corn tortillas
½ cup shredded low-fat cheddar cheese
Chopped lettuce and tomato and sliced green onions

Directions

1. Grease 9" square pan
2. Combine 1 can enchilada sauce, green chilies, garlic powder, chili powder, sour cream, cilantro, and onion. Spread 1/4 of mixture on bottom of greased pan.
3. Cut tortillas in half and place one layer of tortillas in bottom of pan with flat sides toward the pan sides. Place one additional tortilla half in the middle.
4. Spread 1/4 of sour cream mixture on top of tortillas. Top with 1/3 of chicken, 1 cup black beans and 3/4 cup cooked corn.
5. Repeat step 4 for a total of two chicken layers.
6. Top second chicken layer with another layer of tortillas and spread remaining sour cream mixture over the top.
7. Pour second can of enchilada sauce over top of casserole and top with shredded cheese.
8. Bake in moderate oven or heat in microwave until bubbly and cheese is melted. Serve with chopped lettuce and tomato.