

BEEF COOKING METHODS

Volume 50 / High School



Developed with Megan (Aden) Ferguson
Family & Consumer Science Teacher
Courtesy of Iowa & Wisconsin Beef Councils

National FCS Standards:

8.5 Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs

8.5.2 Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies

Career Clusters & Pathways:

- Hospitality & Tourism (Restaurant & Food/Beverage Services Pathway) Agriculture, Food, and Natural Resources (Food Products and Processing Systems Pathway)

Objectives:

Students will...

- Differentiate between suspension and locomotion muscles on the beef carcass
- Categorize moist and dry heat methods — roast, broil, grill, pan-broil, pan-fry (stir-fry), braise, and cook in liquid
- Understand what muscle groups should use what cookery methods

Overview:

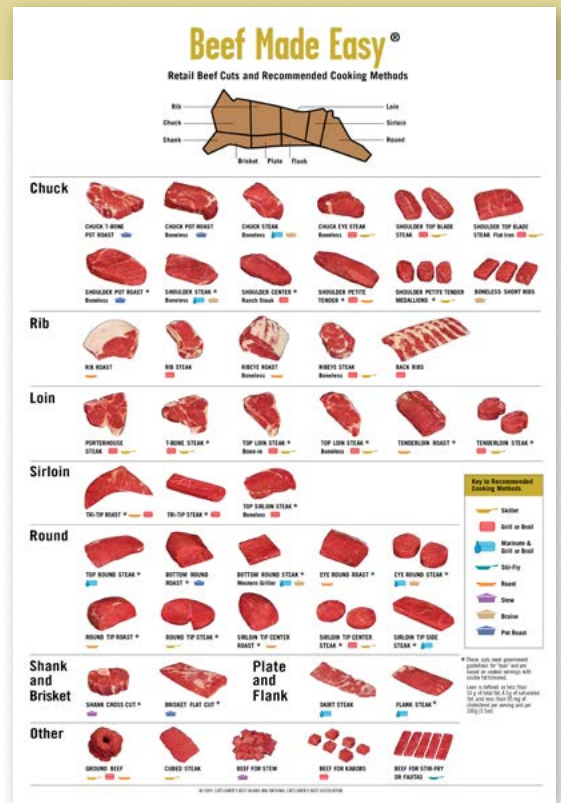
In this lesson, students will learn the difference between suspension and locomotion muscles on the beef carcass. They will be able to differentiate between moist and dry heat methods from participating in the jigsaw cooperative learning strategy. Students will come to understand which cooking methods should be used for different types of muscles.

Materials List:

- *Basics About Beef* Book (go to NascoEducation.com/lessonplans to download and print)
- Beef Cooking Methods Worksheet/Answer Key (included)
- Beef Cooking Methods Handout (included)
- Note Cards — one for each student
- Interactive Meat Case Website (go to beefitswhatsfordinner.com/butchercounter.aspx)

Anticipatory Set:

- Ask students to think of all the ways beef can be prepared. Write them on the board.
- Does it matter what preparation method is used for the cut of beef you are cooking? (Yes, it does.)
- Does anyone know what factors determine which cooking method to use? (Where the cut is located on the beef animal, how tender the cut is, or how much connective tissue the muscle contains are ideal answers.)
- Hand out *Basics About Beef* books. Have students open up to the centerfold Beef Cuts chart. Have students locate the beef carcass at the top of the page. Point out the loin, sirloin, and rib areas and explain they are suspension muscles. They are used to support the beef animal and, because the suspension muscles are rarely used for movement, they are tender.
- The chuck, brisket, shank, plate, flank, and round are all locomotion muscles and are used for movement of the animal. Since these muscles are used frequently, they contain a lot of connective tissue and are not very tender. The difference in tenderness between suspension and locomotion muscles require different cooking methods to be used for each muscle type.
- Keep in mind, the farther you get away from the center of the back of the animal, the less tender the cuts become. Key message to remember — muscles that get little movement are very tender; muscles that are used a lot have more connective tissue, so are less tender and require a form of tenderization when cooking them.
- In this lesson, students are going to learn different cooking methods and which muscle groups use each cooking method.



Body of Lesson:

Students will “master” their assigned cooking methods, focusing on either dry heat or moist heat methods and will “jigsaw” (visit www.jigsaw.org for details on this technique) with their classmates to learn the main beef cooking methods. Give students 3-5 minutes to learn about their assigned methods and 3-5 minutes to “jigsaw” with the other groups. Students focusing on dry heat methods will use pages 15-16 in their *Basics About Beef* book and moist heat methods will refer to page 17 in the book. (If there are not enough students to make the jigsaw method work properly, group students into four different groups — two groups will focus on moist heat cooking methods. One person from each dry heat group will trade places with one person from each moist heat group to complete a mini “jigsaw”.)

Practice:

- Give students the Beef Cooking Methods handout and the Beef Cooking Methods worksheet to study and complete.
- Using the Beef Made Easy® chart from the Basics About Beef book (also included as a handout), have students list one or two cuts of meat each cooking method would be appropriate for. The chart has a key to help students match cooking methods with beef cuts.
- Show students the Interactive Butcher Counter (go to beefitswhatsfordinner.com/butchercounter.aspx). This is a valuable resource showing the nutrition information, appropriate cooking methods, and recipes for a specific cut of meat.

Conclusion:

Hand out an index card to each student. Give them a few minutes to develop and write a question they still have from the lesson or a question that would make a good quiz question. If they develop their own quiz question, make sure they provide an answer (e.g., Question — What cooking methods are most appropriate for cuts coming from the sirloin? Answer — Grilling or other dry heat methods because it is a suspension muscle). Students can use the Beef Cuts chart or Beef Cooking Methods Worksheet for help. After students have written a question, randomly select a few to read to the class. If it is a “quiz question,” have the students answer it (make sure the student-provided answer is correct). If it is a question a student still has about the lesson, try to answer it. If you do not know the answer right away, put the question aside and find the answer before the next time you meet with the class. Go through as many questions as you can before class is dismissed.

Cooperative Learning:

- Positive Interdependence
 - * Resource: In the jigsaw, students must pay attention to their peers to receive the information about the cooking method their peers “mastered”.
 - * Sequence: Before students can complete their worksheet, they must receive knowledge of the other cooking method from their peers in a jigsaw.
- Individual Accountability — Each jigsaw member is responsible to know the cooking methods well enough to “teach” them to the other group.
- Face-to-Face Interaction — Students use face-to-face interaction during the lesson by working in two different groups together to learn about the cooking methods.
- Social Skills — Summarizing main points, following directions, staying on task, and actively listening are just some of the social skills students will be using in the lesson.
- Group Processing — This will occur when students complete the cooking methods worksheet to make sure they processed and understood the different cooking methods.



Addressing the Diverse Learner:

Students will have the opportunity to interact with the lesson, write information down they have retained, work in small groups, and discuss the lesson. This caters to a variety of learning styles: linguistic, spatial, bodily-kinesthetic, and interpersonal.



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Name: _____ Date: _____

Using the words from the Word Bank below, match each cookery method with its appropriate description by writing the cookery method name in the corresponding arrow. Indicate whether the method is a moist or dry-heat method by placing "M" or a "D" in the arrow as well. For each cooking method, list one cut of beef appropriate for that method.



Roast	Broil	Pan Broil	Stir-Fry
Braise	Grill	Cook in Liquid	



M = Moist Heat Method

D = Dry Heat Method

Name: _____ Date: _____

Using the Beef Made Easy® chart from the *Basics About Beef* book, list 1-2 cuts of meat for which each cooking method would be appropriate. The chart has a helpful key to help you match cooking methods with beef cuts.

Cooking Method:

Appropriate Meat Cuts:

Grill or Broil

1. _____
2. _____

Stir-Fry

1. _____
2. _____

Skillet

1. _____
2. _____

Slow Cooking

1. _____
2. _____

Roast

1. _____
2. _____

Skillet-to-Oven

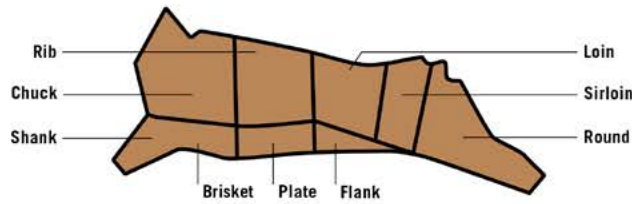
1. _____
2. _____

Important Points to Remember, Questions to Ponder, and Things to Discuss:

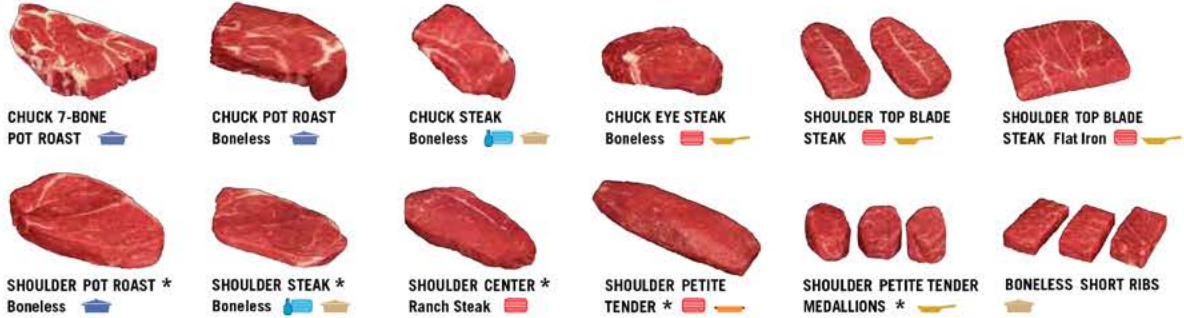
1. Definitions of the two types of muscles:
 Locomotion = muscles used for movement, not tender unless properly cooked
 Suspension = used for structure, very tender
2. How will you use the information you have learned as you cook beef in the future?
3. Can you make the distinction between dry and moist heat cooking methods? What type of muscles are dry heat methods typically used for? (Tender muscle cuts or suspension muscles; however, this is not always the case. As primal and retail cuts are separated into individual muscles, some locomotion muscles may use dry heat methods depending on the tenderness of the muscle. Some muscles are of a “medium” tenderness and may be cooked by dry heat methods if marinated first and not cooked past medium in doneness.)
4. What cooking method would you recommend for someone with little time to prepare beef? (Slow cooking, grilling, etc., all useless than 10 minutes for preparation time. Answers will depend on your personal experiences.)
5. What would happen if you cooked a less tender cut (locomotion muscle) on the grill or using another dry heat method? (The meat would be very dry, tough, and difficult to chew.)

Beef Made Easy®

Retail Beef Cuts and Recommended Cooking Methods



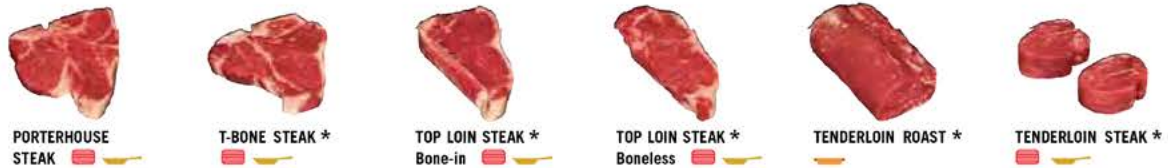
Chuck



Rib



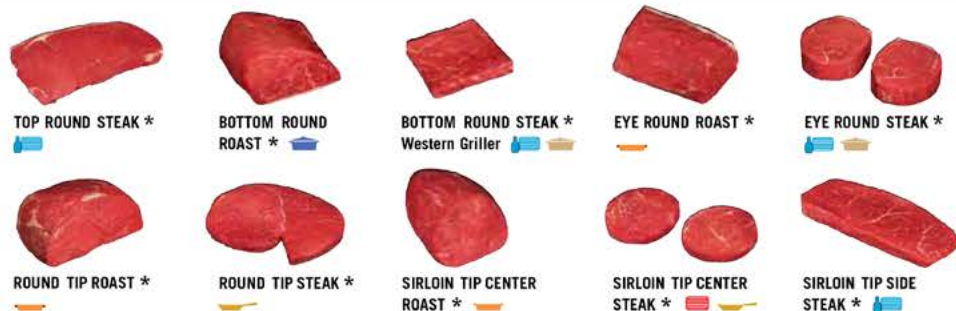
Loin



Sirloin



Round



Key to Recommended Cooking Methods



Shank and Brisket



Plate and Flank



Other



* These cuts meet government guidelines for "lean" and are based on cooked servings with visible fat trimmed.
Lean is defined as less than 10 g of total fat, 4.5 g of saturated fat, and less than 95 mg of cholesterol per serving and per 100 g (3.5oz).