

Volume 32
Foods & Cooking



Dedicated to Delivery

Nasco

FCS Lesson

Beef Basics

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

For additional FREE
lesson plans go to...
eNasco.com/fcs

MEAT DEPARTMENT

WEIGHT Lb. Net	PAY	PRICE Per Lb.
0.00	\$0.00	\$0.00
BEEF ROUND	TOP ROUND	STEAK



Grade Level: Middle School

Overview:

In this lesson, students will learn how to read a meat label to determine what type and where on the animal the meat is coming from. Students will learn about the primal cuts of beef and if they are locomotion or suspension muscles.

National FCS Standards:

- 3.5 Demonstrate skills needed for product development, testing, and presentation.
- 3.5.3 Analyze features, prices, product information, styles, and performance of consumer goods for potential trade-offs among the components.
- 3.5.6 Evaluate the labeling, packaging, and support materials of consumer goods.

Career Clusters & Pathways:

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

Objectives:

Students will...

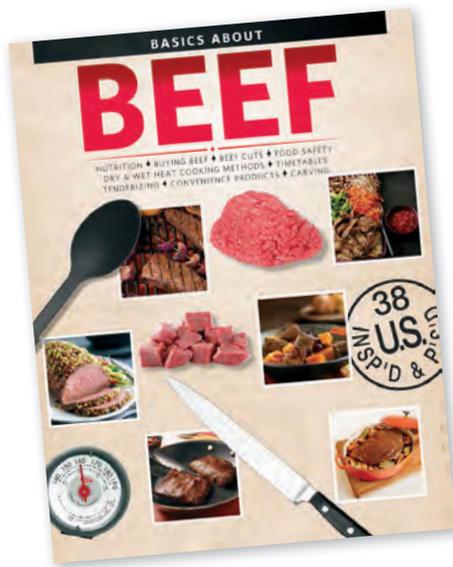
- Read a meat label to help choose appropriate beef cuts for a certain recipe or dish.
- Identify the primal beef cuts and the relative tenderness of each.
- Differentiate between locomotion and suspension muscles.

Materials List:

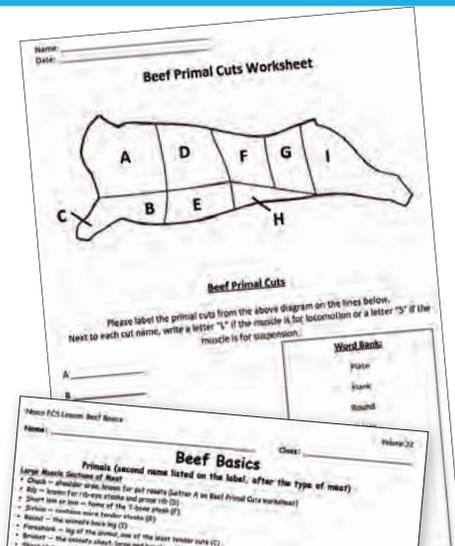
- Examples of Meat Labels Handout (go to eNasco.com/page/lesson32 to download and print enough copies for each student or pair of students)
- *Basics About Beef* Book — centerfold Beef Cuts chart (go to eNasco.com/page/lesson32 to download and print)
- Beef Basics Handout (go to eNasco.com/page/lesson32 to download and print)
- Beef Primal Cuts Worksheet (go to eNasco.com/page/lesson32 to download and print)

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Meat Department	Total Price	Local Butchery Store	Meat Department	Total Price	Local Butchery Store
Beef Chuck Pot Roast	Price per lb. \$2.00	\$10.00	Beef Brisket Flat Cut	Price per lb. \$2.00	\$10.00
Beef Round Top Round Steak	Price per lb. \$2.00	\$10.00	Beef Rib Roast	Price per lb. \$2.00	\$10.00
Beef Tenderloin Steak	Price per lb. \$2.00	\$10.00	Beef Chuck Shoulder Pot Roast	Price per lb. \$2.00	\$10.00
Beef Round Bottom Round Steak	Price per lb. \$2.00	\$10.00	Beef Loin Top Loin Steak	Price per lb. \$2.00	\$10.00
Beef Tri-Tip Steak	Price per lb. \$2.00	\$10.00	Beef Loin Porterhouse Steak	Price per lb. \$2.00	\$10.00
Beef Top Sirloin Steak	Price per lb. \$2.00	\$10.00	Beef Sirloin Steak	Price per lb. \$2.00	\$10.00
Beef Chuck Eye Steak	Price per lb. \$2.00	\$10.00	Beef Chuck (Shoulder) Steak	Price per lb. \$2.00	\$10.00



Anticipatory Set:

- Show students a picture/poster of a beef carcass (use Beef Cuts chart; go to eNasco.com/page/lesson32 to download and print)
- Ask: *Do you know what this is a picture of? (beef or beef carcass)*
- Tell students to write down their favorite cut of beef or beef recipe. Ask volunteers to tell what they have written down.
- Ask: *Do you know which part of the animal it comes from?*

Body of Lesson:

How many students have ever purchased uncooked beef at the grocery store before? Have they ever gone with their parents and watched them purchase beef? Beef is categorized in a systematic way. (Hand out examples of beef labels to students or small groups of students; go to eNasco.com/page/lesson32 to download and print.)

- The kind of meat is listed first on the label (also on page 10 of *Basics About Beef*; go to eNasco.com/page/lesson32 to download and print)
 - Have students underline the type of meat they are purchasing — beef
 - The second name tells where the meat comes from on the animal
 - Called “primal” or wholesale cut
 - Have students put an “X” under the primal cut name — chuck, rib, loin, etc.
 - The third name tells you what part of the primal cut the meat comes from
 - Called retail cut name (retail refers to the meat case at supermarkets)
 - Have students circle this name
- Notice beef tenderloin steak: tenderloin is a cut taken from the sirloin and loin area. Primals can have more specific names/locations than what is covered here.
 - Other information found on the package: price per pound, number of pounds in the package, and the total price of the cut

Beef Basics

Primals (second name listed on the label, after the type of meat)

- Chuck – shoulder area known for pot roasts (cut A in Beef Primal Cuts worksheet)
- Rib – known for rib-eye steaks and prime rib (D)
- Shoulder – sometimes more tender, makes (E)
- Round – the animal's back leg (F)
- Brisket – the animal's chest, large and tough (G)
- Sirloin – below the rib, section just above ground beef (H)
- Loin – round, located just below the short loin, each carcass contains just one (I)

Muscle Types – Suspension & Locomotion

- Suspension – muscles used to support the animal's weight and support its movement.
- Locomotion – muscles used to move the animal.

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

- Definitions of the two types of muscles.
- Connections – muscles used for movement, not function.
- How will you use the information you have learned to make future beef buying decisions?
- Unique features of the muscle cut – legs of the animal, ribs of certain cuts, large versus, smaller portions.
- How does the location of the muscle within the animal affect its use? (e.g., ground beef comes from the sirloin and loin area, which are suspension muscles; brisket comes from the chest area, which is a locomotion muscle.)
- Ground beef comes from a variety of meat in the carcass to not use meat only ground meat may be ground into ground beef.

Give each student, or each pair of students, the Beef Basics handout and Beef Primal Cuts worksheet for them to fill in as they learn each primal (go to eNasco.com/page/lesson32 to download and print). The teacher should guide the students through the beef basics handout and the students should complete the beef primal cuts worksheet as each area is explained.

Practice:

Have students flip over their meat labels. On the back of their meat labels, have students indicate whether the muscle they are purchasing is a suspension or locomotion muscle. With a partner, have students discuss their cut of beef and what type of muscle it is — partners should check their peers' muscle type to make sure they correctly categorized their cut of meat.

Closure:

The last few minutes of class, have students create a “3-2-1.” Students will get out a blank sheet of paper and write down three important ideas from the day's lesson or related material, two questions they have about the day's lesson or a related topic, and one main theme/idea they will keep from the day's lesson.

Interactive Strategies:

- The “3-2-1” activity is an interactive strategy to close the lesson and have students reflect on what they have learned that day.
- Students marking symbols on their meat labels when discussing the various parts is another interactive strategy used. This helps them to visually see which part is being described throughout the lesson.
- The Beef Primal Cuts worksheet (go to eNasco.com/page/lesson32 to download and print) is a visual way students can follow along with the lesson as each primal cut is discussed. It will be useful when they need to study for the test.

Addressing the Diverse Learner:

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



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FCS Lesson

Beef Cooking Methods

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

Grade Level: High School

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. Lastly, students will come to understand which cooking methods should be used for different types of muscles.

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...

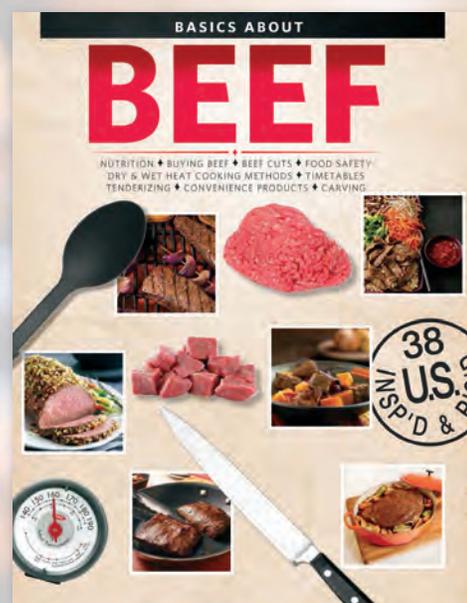
- Differentiate between suspension and locomotion muscles on the beef carcass.
- Categorize moist and dry heat methods — roast, broil, grill, pan-broil, pan-fry (stir-fry), braise, and cook in liquid.
- Understand what muscle groups should use what cookery methods.

Materials List:

- Basics About Beef* Book (go to eNasco.com/page/lesson32 to download and print)
- Beef Cooking Methods Worksheet/Answer Key (go to eNasco.com/page/lesson32 to download and print)
- Beef Cooking Methods Handout (go to eNasco.com/page/lesson32 to download and print)
- Note Cards — one for each student
- Interactive Meat Case Website (go to www.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 differences 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 muscles groups use each cooking method.



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1.800.558.9595

Go to www.eNasco.com/fcs

Meat Department

Net Weight

Total price

Beef Chuck Pot Roast

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Brisket Flat Cut

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Round Top Round Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Rib Roast

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Tenderloin Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Chuck Shoulder Pot Roast

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Round Bottom Round Roast

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Loin Top Loin Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Flank Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Loin Porterhouse Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Top Sirloin Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Ribeye Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

Beef Chuck Eye Steak

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Meat Department

Net Weight

Total price

**Beef Chuck Shoulder Petite
Tender**

0.00

0.00

Price per lb.
\$0.00/lb.

Local Grocery Store



Name: _____

Class: _____

Beef Basics

Primals (second name listed on the label, after the type of meat)

Large Muscle Sections of Meat

- Chuck — shoulder area, known for pot roasts (Letter A on Beef Primal Cuts worksheet)
- Rib — known for rib-eye steaks and prime rib (D)
- Short loin or loin — home of the T-bone steak (F)
- Sirloin — contains tender steaks (G)
- Round — the animal's back leg (I)
- Foreshank — leg of the animal, one of the least tender cuts (C)
- Brisket — the animal's chest, large and boneless (B)
- Short plate — below the rib, seldom seen at meat counter; boned for ground beef (E)
- Flank — small, located just below the short loin; each carcass contains just two flank steaks (H)

Muscle Types - Suspension & Locomotion

Suspension

- Muscles not used in movement of the animal; provide structure and support to animal.
- Contain very little connective tissue (which holds muscles to the bones and helps support the muscles — tough and chewy).
- Cuts from this area are very tender.
- Found along the animal's back.
- Cuts that are considered suspension include rib, loin, and sirloin. On your Beef Primal Cuts worksheet, next to these cuts, list an "S" beside the names to remind you they are muscles used for suspension.
- Since these muscles are so tender, dry heat methods are used to prepare them.
- Grilling, roasting, and stir-frying are examples of dry heat method.

Locomotion

- Muscles used to move the animal.
- Contain more connective tissue than suspension.
- Round is the animal's back leg and rump, while the chuck is the shoulder.
- Think of your own arms and legs — both get a lot of movement and are typically more muscular.
- Extra motion and the extra connective tissue make these muscles less tender. The primals not considered suspension muscles are locomotion.
- Primals that are considered locomotion muscles include round, flank, short plate, brisket, shank, and chuck. Indicate which muscles are used for locomotion on your Beef Primal Cuts worksheet using the letter "L".
- Cuts taken from these muscles are typically cooked at a low temperature with moisture to help tenderize the beef and soften the connective tissues making them tender and juicy. These methods are referred to as moist-heat methods.
- Braising, slow cooking, cooking in liquid are all examples.

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 take away — 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.

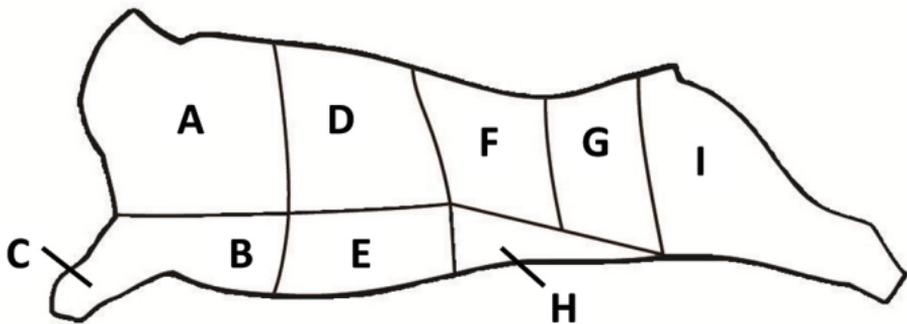
Important Points to Remember, Questions to Ponder, and Things to Discuss:

1. Definitions of the two types of muscles...
Locomotion = muscles used for movement, not tender, but made tender with appropriate cooking methods.
Suspension = used for structure, very tender.
2. How will you use the information you have learned to make future beef-buying decisions?
3. Unique features of the round cut — leg of the animal, 25% of entire carcass, large supply, cheaper purchase.
4. Next time you go to the grocery store or butcher shop, based on what you have learned, compare the prices of meat coming from the locomotion muscles versus the suspension muscles (cuts from the tender cuts, rib, short loin, and sirloin, are more expensive than less tender cuts).
5. What would happen if you cooked a less tender cut (locomotion muscle) on the grill?
6. Ground beef comes from pieces of trim as the carcass is cut into retail cuts; primal may be ground into ground chuck, ground round, ground sirloin.

Name: _____

Date: _____

Beef Primal Cuts Worksheet



Beef Primal Cuts

Please label the primal cuts from the above diagram on the lines below. Next to each cut name, write a letter "L" if the muscle is for locomotion or a letter "S" if the muscle is for suspension.

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

Word Bank:

Plate

Flank

Round

Sirloin

Fore Shank

Brisket

Rib

Chuck

Short Loin

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 an "M" or a "D" in the arrow as well. For each cooking method, list one cut of beef appropriate for that method.

Cooking meat in water for a long period of time

Cooking meat in a skillet without adding fat

Continuously stirring meat in a small amount of fat at a medium/high temperature

Beef Cooking Methods

Browning meat, then cooking in a tightly covered pan with little or no moisture

Cooking meat on direct heat, similar to broiling

Cooking large cuts of meat uncovered in an oven without moisture

Cooking meat above or below a direct heat source

Roast

Broil

Pan Broil

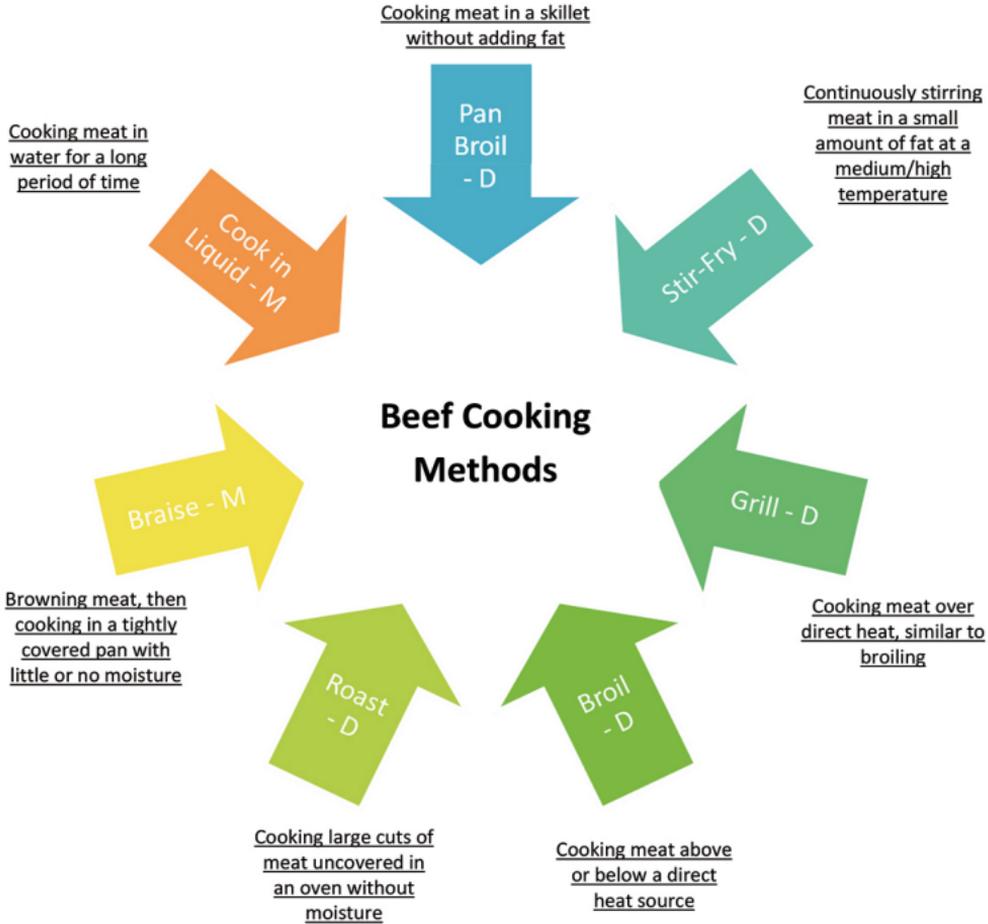
Stir-Fry

Braise

Grill

Cook in Liquid

Beef Cooking Methods – Answer Key



M = Moist Heat Method

D = Dry Heat Method

Name: _____

Class: _____

Beef Cooking Methods

Using the Beef Cuts 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.

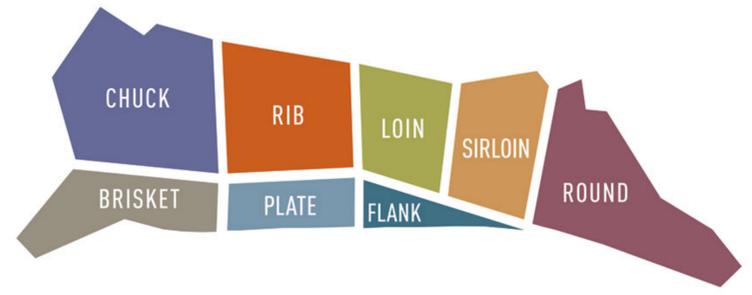
<u>Cooking Method:</u>	<u>Appropriate Meat Cuts:</u>
Grill or Broil	1. _____ 2. _____
Stir-Fry	1. _____ 2. _____
Skillet	1. _____ 2. _____
Slow Cooking	1. _____ 2. _____
Roast	1. _____ 2. _____
Skillet-to-Oven	1. _____ 2. _____

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 use less 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 Cuts

AND RECOMMENDED COOKING METHODS



CHUCK		RIB	LOIN	SIRLOIN	ROUND	OTHER
Blade Chuck Roast 	Cross Rib Chuck Roast 	Ribeye Roast, Bone-In 	Porterhouse Steak 	Top Sirloin Steak LEAN 	Top Round Steak* LEAN 	Kabobs*
Blade Chuck Steak* 	Shoulder Roast LEAN 	Ribeye Steak, Bone-In 	T-Bone Steak LEAN 	Sirloin Steak 	Bottom Round LEAN 	Strips
7-Bone Chuck Roast 	Shoulder Steak* LEAN 	Back Ribs 	Strip Steak, Bone-In LEAN 	Top Sirloin Petite Roast LEAN 	Bottom Round Steak* LEAN 	Cubed Steak
Chuck Center Roast 	Ranch Steak LEAN 	Ribeye Roast, Boneless 	Strip Steak, Boneless LEAN 	Top Sirloin Filet LEAN 	Bottom Round Rump Roast LEAN 	Stew Meat
Chuck Center Steak* 	Flat Iron Steak 	Ribeye Steak, Boneless 	Strip Petite Roast LEAN 	Coulotte Roast 	Eye of Round Roast LEAN 	Shank Cross Cut LEAN
Denver Steak 	Top Blade Steak 	Ribeye Cap Steak 	Strip Filet LEAN 	Tri-Tip Roast LEAN 	Eye of Round Steak* LEAN 	Ground Beef and Ground Beef Patties
Chuck Eye Roast LEAN 	Petite Tender Roast LEAN 	Ribeye Petite Roast LEAN 	Tenderloin Roast LEAN 	Tri-Tip Steak LEAN 		
Chuck Eye Steak 	Petite Tender Medallions LEAN 	Ribeye Filet LEAN 	Tenderloin Filet LEAN 	Petite Sirloin Steak 	Brisket Flat LEAN 	Skirt Steak*
Country-Style Ribs 	Short Ribs, Bone-In 			Sirloin Bavette* 	Brisket Point 	Flank Steak* LEAN
		KEY TO RECOMMENDED COOKING METHODS GRILL OR BROIL SLOW COOKING STIR-FRY ROAST SKILLET SKILLET-TO-OVEN * MARINATE BEFORE COOKING FOR BEST RESULTS LEAN These cuts meet the government guidelines for lean, based on cooked servings, visible fat trimmed.				Short Ribs, Bone-In*

