

OHIO

BEEF
COUNCIL

THE BEEF LIFE CYCLE

COW-CALF

Cows are bred and calves are born and raised every year on cow-calf farms and ranches, spending time grazing on grass pastures within sight of their mothers.



BEEF
COUNCIL

Beef in the Classroom

Teacher Resource Guide

Introduction



Welcome to the Beef in the Classroom Teacher Resource Guide, designed to help you teach students about the many facets of beef. This toolkit will cover everything from the basics of beef production to its nutritional benefits across the lifespan and cooking methods. We have compiled resources from the Ohio Beef Council to provide you with a comprehensive guide. Whether you are teaching new students the basics of cooking or introducing more advanced culinary techniques, this guide has you covered.

Beef in the Classroom Grant

Apply Now!

Thanks to Ohio's cattle farmers, the Beef in the Classroom grant program offers financial support for Family and Consumer Science teachers and ProStart instructors to purchase beef products for classroom use. This helps educators reinforce lessons about lean beef selection, storage, preparation, nutrition and food safety. The grant is available on a first-come, first-served basis and can only be used by one teacher per school per school year.

About the Ohio Beef Council

The Ohio Beef Council (OBC) is a non-profit 501(c)(5) organization charged with the promotion and marketing of beef and beef products in Ohio. Checkoff dollars are used to increase beef demand through programs of promotion, research and education. The organization is directed by a 15-member Operating Committee of cattlemen appointed by the Ohio Director of Agriculture, representing the state's beef and veal producers.

Table of Contents

4	Beef Basics <ul style="list-style-type: none">• Meet a Beef Farm Family• Cattle Facts• Beef Lifecycle• Beef in a Sustainable Food System
9	Making the Grade <ul style="list-style-type: none">• Understanding Beef Quality Grades
10	Decoding the Label <ul style="list-style-type: none">• What to Look for When Selecting Beef
11	Understanding Beef Safety <ul style="list-style-type: none">• Proper safe handling guidance, proper cooking instructions and storage of cuts and leftovers.
13	A Lesson on Toughness <ul style="list-style-type: none">• Primal Cuts• Retail Cuts• Lesson Plan: Understanding Beef Cuts and Cooking Methods
18	Nutrition Across the Lifespan <ul style="list-style-type: none">• Beef for Babies• Beef for Toddlers• Eating while Pregnant• Beef and Iron• Beef for Teens and Tweens• Beef for Strength
27	Beef Around the World <ul style="list-style-type: none">• Six Globally Inspired Recipes
34	Beef on a Budget <ul style="list-style-type: none">• Affordable Beef Cuts• Batch Cooking• Lesson Plan: Batch Cooking Shredded Beef
44	Knowledge Test- Jeopardy! Game

How to use this guide

The Ohio Beef Council has compiled resources from our partners at Beef. It's What's for Dinner. and other qualified state beef councils. We have included QR codes and link for easy access to information.

Beef Basics



In many classrooms, introducing the cattle life cycle is the first lesson taught to students prior to cooking beef. Raising beef is a complex process, but throughout the entire journey, one thing remains constant- the shared commitment to raising cattle in a safe, humane, and environmentally sustainable way by using the latest technology and resources. Currently, more than 700,000 cattle farms and ranches in the United States, with an average herd size of 40 cattle, produce 19 percent of the world's beef.

[Click to Meet a Beef Farm Family](#)

DID YOU KNOW?



There are 15,601 farms in Ohio with beef cows.



Ohio ranks 10th nationally in the number of farms with beef cows.



There are 1.2 million head of cattle in Ohio, including 285,000 beef cows.



95% of Ohio's farms are family owned.

Cattle Facts

The numbers listed above are from the USDA 2022 Census of Agriculture.

Beef Basics



**DID YOU
KNOW?**

The Beef Lifecycle

The beef lifecycle is one of the most complex of any food, taking anywhere from one and a half to three years to bring beef from pasture to plate.

It takes a community of people to bring beef from pasture to plate. This includes farmers and ranchers, feedlot operators, livestock auction market owners, and packing plant workers as the primary people who care for and raise cattle across the U.S. The beef community also includes veterinarians, animal nutritionists, pen riders and welfare specialists who ensure cattle are cared for and have a proper diet, room to roam and medical care.

Finally, restaurants, grocery stores, and families like yours are a very important part of the beef community and contribute to beef's sustainability and innovation.

Beef farmers care about their animals, and the top priorities for everyone in the beef community are healthy animals, and a safe, nutritious, high-quality and delicious protein for consumers.



Learn More

Agriculture Careers

Download the Beef Lifecycle handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

Beef Basics



1

Cow-calf

Hundreds of thousands of cow-calf farms and ranches, most family owned and located in all 50 states, breed cattle and raise calves. The cows nurse their calves and eventually the calves graze on grass pastures within sight of their mothers.

2

Stockers and Backgrounders

Calves transition from a diet of mostly milk, to eating a variety of grasses, hay and other plant-based feeds. Calves may move to stocker or backgrounder farms and ranches, where supplemental feed is provided, including vitamins and minerals, to meet their changing nutritional needs as they grow.

3

Livestock Auction Markets

Cattle farmers and ranchers may work with an auction market to sell their cattle to other beef producers, feedlots or processing facilities. Advances in technology now allow auctions to be hosted through video and the internet, as well as in person.

4

Feedyard

Between 6 and 12 months of age, cattle may leave a farm or ranch and be moved to a feedyard where they spend 4-6 months or longer. Staff, including nutritionists, veterinarians and pen riders care for the animals daily. Cattle have constant access to water and eat at feed bunks containing a balanced diet that may include grains (eg: corn, wheat, soybean meal), roughage (eg: hay and grass) and local renewable byproducts (eg: distillers grains and beet pulp).

5

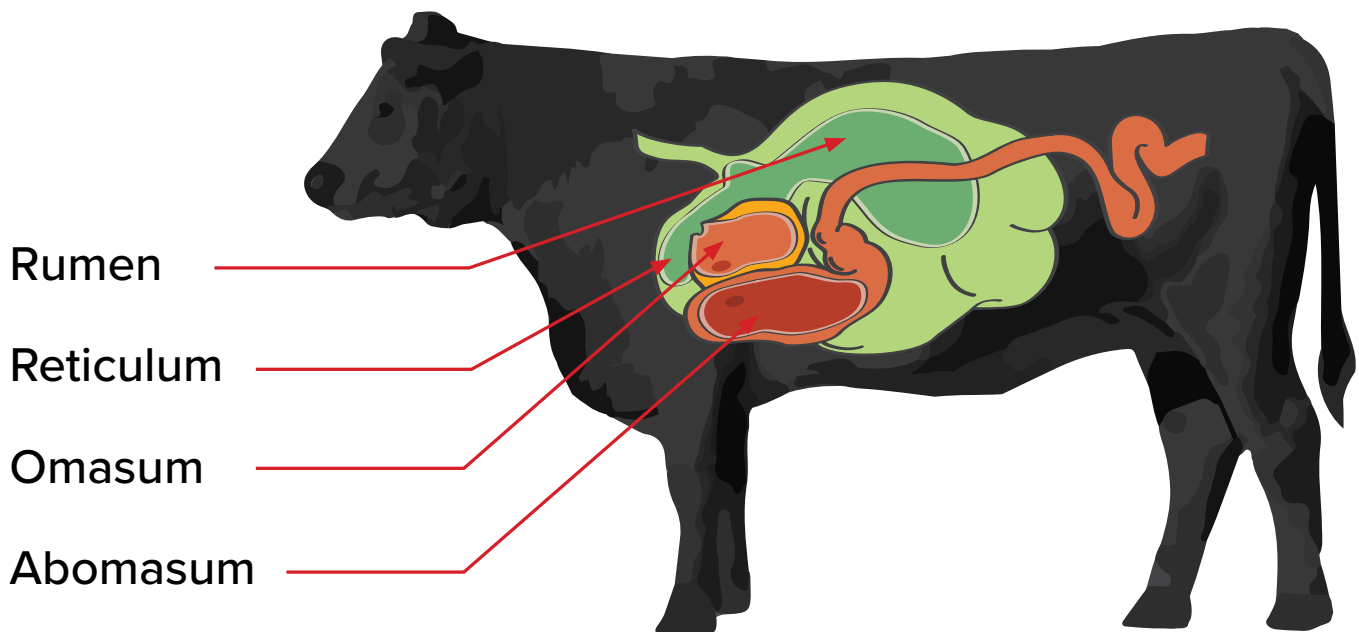
Packing Plant

Once cattle reach market weight at 18 to 24 months of age, they are sent to a packing plant, also called a processing facility. United States Department of Agriculture (USDA) inspectors oversee the implementation of safety, animal welfare and quality standards from the time animals enter the plant until the final beef products are shipped to grocery stores and restaurants in the U.S. and abroad.

Beef in a Sustainable Food System



Cattle are beneficial in a sustainable food system because of their unique stomach structure, allowing them to eat and digest what we humans cannot. Their digestive systems house trillions of microbes that share a symbiotic relationship with the animals, allowing them to benefit from low-quality feed and forages that other animals cannot digest.



Rumen

Reticulum

Omasum

Abomasum

Download The Remarkable Ruminant handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

Beef in a Sustainable Food System



Every day, cattle graze and unknowingly turn natural resources like solar energy and pastureland into high-quality proteins and other invaluable products, referred to as upcycling. In addition to the grasses they graze on for most of their lives, cattle can eat numerous other byproducts such as brewers grains, pea pulp, beet tops, potato peelings, and sunflower hulls. Instead of going to a landfill, cattle eat these “waste” products and upcycle them into high quality protein edible for human consumption. Cattle also graze in areas where it’s impossible to grow crops, like the sand hills of Nebraska or the arid land of Nevada, taking those grasses and turning them into high-quality protein, in places that could otherwise never be used to feed a growing population.

Additional Activities

Exploring the Path of Beef Sustainability Reader Series by Kansas Beef Council
<https://www.kansasbeef.org/more-information/beef-in-schools/6-12-stem-education>

Download Cattle: The Ultimate Upcyclers handout to share with your students.
<https://www.ohiobeef.org/resources/ohio-beef-council-store>

Making the Grade



Beef grading sets the standards for the various quality levels of beef. The beef grading program uses highly trained specialists and sometimes grading instruments to determine the official quality grade. Beef quality grading is voluntary and administered by the USDA and paid for by beef packers.

The grade is primarily determined by the degree of marbling — the small flecks of fat within the beef muscle. Marbling provides flavor, tenderness and juiciness to beef and improves overall palatability. Other grading factors include animal age, and color and texture of the muscle.

Prime

Produced from young, well-fed cattle. It has the most marbling, is produced in smaller quantities than other grades, and is often sold in hotels and restaurants. Prime roasts and steaks are excellent for roasting, grilling or broiling.

Choice

High quality and produced in highest quantity, but has less marbling than Prime. Choice roast and steaks, especially from the rib and loin, will be very tender, juicy and flavorful. They are suited for roasting, grilling or broiling. Less tender cuts are perfect for slow-cooking.

Select

Slightly leaner than Prime and Choice because it has less marbling. It can lack some tenderness, flavor and juiciness as compared to the higher grades. Select grade beef often benefits from slow-cooking or from marination prior to grilling or broiling.

Download Understanding Beef Quality Grades and Understanding Marbling handouts to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

Decoding the Label



At the supermarket meat case, each beef package label typically identifies the primal cut and the sub-primal cut name. It also includes the weight, price per pound, total price, sell-by date and safe handling instructions. It may also include a grade, nutrition and preparation information and the country of origin.

Ground Beef packages are labeled according to USDA standards. The information on the labels will be expressed as percent lean to percent fat (80% lean/20% fat, for example). Ground Beef labels may also indicate which primal cut the beef comes from (such as Chuck, Round, or Sirloin).

What to look for when selecting beef:

- Select beef with a bright cherry-red color. Beef in a sealed bag typically has a darker purplish-red color. When exposed to the air, it will turn a bright red.
- Choose beef that is firm to the touch.
- Make sure the package is cold with no holes or tears.
- Choose packages without excessive liquid.
- Purchase beef on or before the sell-by date.

Download Decoding the Label handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

Understanding Beef Safety



Beef has long been America's favorite protein and rightfully so as it delivers great flavor and powerful nutrition. The following tips will provide proper safe handling guidance, proper cooking instructions and storage of cuts and leftovers.

USDA recommends the following guidance for safe cooking:

Product	Minimum Internal Temperature & Rest Time
Beef Steaks, Roasts	145°F and allow to rest for at least 3 minutes
Ground Meats	160°F
Leftovers	165°F
Casseroles	165°F

Storing Beef:

- When shopping, pick up beef just before checking out. If it will take longer than 30 minutes to get it home, consider keeping it cold in a cooler.
- Refrigerate or freeze as soon as possible after purchasing.
- If you plan to freeze your beef, think ahead to your weekly meals and re-package into right-size portions for you and your family.
- You can freeze beef in its original packaging up to two weeks. For longer storage, wrap in heavy-duty aluminum foil or place in plastic freezer bags, removing as much air as possible.
- Place beef packages on the lowest shelf in your refrigerator on a plate or tray to catch any juices.
- Label each package with the date, name of beef cut and weight and/or number of servings. Practice the FIFO (first in, first out) inventory system.
- Refrigerate leftovers within 2 hours after cooking.
- Ground Beef is more perishable than roasts or steaks. Plan to use refrigerated Ground Beef within 1 to 2 days of purchase.

Keep It Clean:

To avoid cross-contamination and prevent foodborne illnesses, follow these easy steps:

- Wash hands well in hot, soapy water before and after handling raw meat and other fresh foods. Inadequate handwashing is a contributing factor to all sorts of illness, including foodborne illness. It is important to follow proper handwashing steps before, during and after preparing raw and frozen food to prevent germs from transferring from your hands to your meal.

- Keep raw meat and meat juices away from other foods, both in the refrigerator and during preparation.
- Wash all utensils, cutting surfaces and counters with hot, soapy water after contact with raw meat.
- Keep carving boards separate from other food preparation areas and serving platters.

Handle It Right:

- Use a gentle touch with Ground Beef. Over-mixing will result in burgers, meatballs or meatloaves with a firm, compact texture.
- Before cooking, pat steaks and roasts dry with paper towels for better browning.
- When stir-frying, partially freeze steaks for about 30 minutes for easier slicing.
- When roasting or broiling, place steaks or roasts on a rack in a roasting or broiler pan to allow fat to drip away during cooking.
- For kabobs, cut steak into uniform pieces to ensure even cooking. Pieces do not need to be absolutely square – some may have rounded or uneven edges.
- Thread steak pieces onto skewers leaving small spaces between them. Loose or tight spacing can cause beef to cook unevenly.
- Even with frozen beef products, it is important to handle it similar to raw products. Wash your hands after handling and use a food thermometer to make sure it reaches a safe internal temperature.

Cookware basics:

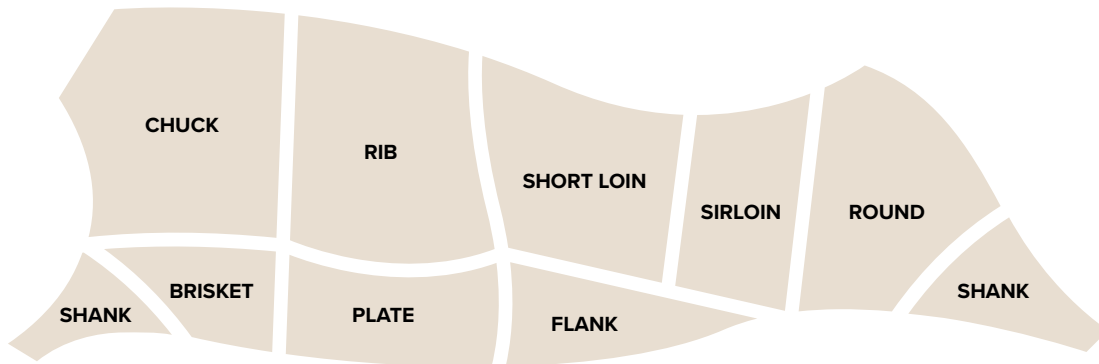
- Use the pan size specified in the recipe. If the pan is too small, the beef will be crowded and browning will be inhibited. If the pan is too large, overcooking may result.
- Choose heavy, good-quality pans that are thick enough to heat evenly without scorching.
- Nonstick pans are easier to clean and allow for cooking with little or no added fat. Best results are achieved over medium heat with nonstick pans.
- When cooking with acidic ingredients, such as tomatoes, citrus juices or wine, use pans with a nonreactive interior surface such as nonstick, anodized aluminum or stainless steel. Reactive metals such as aluminum and cast iron can affect the taste and color of dishes with acidic ingredients.

Helpful Tips:

- High heat can overcook or char the outside of beef cuts while the interior remains underdone.
- There is no need to bring beef to room temperature before cooking—straight from the refrigerator works effectively.
- Turn steaks and roasts with tongs. Avoid using a fork, which will pierce the beef and result in the loss of flavorful juices.
- Turn Ground Beef patties with a spatula. Do not press down on the patty, or flavorful juices will be lost, resulting in a dry burger.
- Salt beef after cooking or browning. Salting beef before cooking draws out moisture and restricts the flavor that browning imparts.

A Lesson on Toughness

Over 100 different muscles make up the beef carcass. Each muscle has unique properties which affect tenderness, marbling, and flavor. The beef carcass is divided into large primal cuts.



Chuck: This large primal comes from the shoulder area and yields cuts known for their rich, beefy flavor. Features roasts ideal for slow-cooking as well as more tender, grill-ready cuts such as the Flat Iron Steak.

Rib: Situated under the front section of the backbone and used primarily for support. Popular cuts from the Rib include the rich, flavorful Ribeye Steak ideal for grilling and the Prime Rib Roast for roasting.

Loin: The area below the backbone is home to some of the most tender and popular cuts of beef, such as the Tenderloin, Strip Steak, T-Bone and Porterhouse Steaks. Loin cuts are great prepared on the grill or under a broiler.

Sirloin: The Sirloin is home to popular fabricated cuts but is first separated into the Top Sirloin Butt and Bottom Sirloin Butt. In the Top Sirloin you'll find steaks great for grilling, while the Bottom Sirloin provides cuts like Tri-Tip and Sirloin Bavette, which are good for roasting or grilling.

Round: Home to lean, inexpensive cuts that come from the rump and hind legs. The muscles in this area are used for movement, so the beef is leaner and less tender. Often sold as roasts, steaks for marinating or Ground Beef.

Shank: A portion of the leg, which is used extensively for movement. As a result, it is typically cut into cross sections called Shank Cross-Cuts which are braised to make flavorful, fork-tender dishes such as Osso Buco.

Brisket: This is the animal's breast, so it can be tougher because it is used for movement. An ideal cut for cooking low and slow on the barbecue or in a slow-cooker.

Plate: The section right under the rib primal with a higher fat content. The Short Plate is a source of Short Ribs and Ground Beef. It's also the home of the Skirt Steak—a thin, flavorful cut that's best when marinated and seared over high heat.





































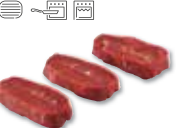








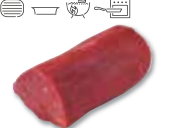








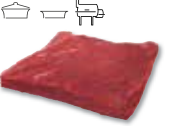



















Flank: Located below the Loin and home to the Flank Steak. Cuts from this area are lean, very flavorful, and best when braised, or marinated and grilled.

From the primal cuts, subprimal cuts are made. These subprimal cuts are more commonly known as retail cuts such as steaks and roasts. Each cut of beef requires specific cooking techniques to bring out its best qualities. By knowing the source of each cut, students can better master techniques like grilling, roasting, braising, and stewing, ensuring delicious and well-prepared dishes.

Download Beef Cuts handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

CHUCK	RIB	LOIN	SIRLOIN	ROUND	INGREDIENT CUTS
-------	-----	------	---------	-------	-----------------

Arm Chuck Roast 	Cross Rib Chuck Roast 	Prime Rib Roast 	Porterhouse Steak 	Top Sirloin Steak  LEAN	Top Round*  LEAN	Kabobs* 	
Arm Chuck Steak 	Shoulder Roast  LEAN	Ribeye Steak, Bone-In 	T-Bone Steak 	Top Sirloin Petite Roast  LEAN	Top Round Steak*  LEAN	Stew Meat 	
Blade Chuck Roast 	Shoulder Steak*  LEAN	Back Ribs 	Strip Steak, Bone-In  LEAN	Top Sirloin Filet  LEAN	Bottom Round Roast  LEAN	Strips 	
Blade Chuck Steak* 	Ranch Steak  LEAN	Ribeye Roast, Boneless 	Strip Steak, Boneless  LEAN	Coulotte Roast 	Bottom Round Steak*  LEAN	Cubed Steak 	
7-Bone Chuck Roast 	Flat Iron Steak 	Ribeye Steak, Boneless 	Strip Petite Roast  LEAN	Coulotte Steak  LEAN	Bottom Round Rump Roast  LEAN	Ground Beef and Ground Beef Patties 	
Chuck Center Roast 	Top Blade Steak 	Ribeye Cap Steak 	Strip Filet  LEAN	Tri-Tip Roast  LEAN	Eye of Round Roast  LEAN	Shank Cross-Cut  LEAN	
Denver Steak 	Shoulder Petite Tender  LEAN	Ribeye Petite Roast  LEAN	Tenderloin Roast  LEAN	Tri-Tip Steak  LEAN	Eye of Round Steak*  LEAN	Tenderloin Tips 	
Chuck Eye Roast  LEAN	Shoulder Petite Tender Medallions  LEAN	Ribeye Filet  LEAN	Tenderloin Steak (Filet Mignon)  LEAN	Petite Sirloin Steak 	Brisket Flat  LEAN	Inside Skirt* 	
Chuck Eye Steak 	Short Ribs, Bone-In 	<div>KEY TO RECOMMENDED COOKING METHODS</div> <div><div> Grilling</div><div> Oven Roasting</div><div> Stewing</div><div> Braising</div><div> Skillet-to-Oven</div><div> Stir-Fry</div><div> Broiling</div><div> Skillet Cooking</div><div> Pressure Cooking</div><div> Indirect Grilling</div><div> Smoking</div></div> <div>*Marinate before cooking for best results</div>				Brisket Point 	Flank Steak*  LEAN
Country-Style Ribs 	<div> Funded by Beef Farmers and Ranchers © 2021 Cattlemen's Beef Board and National Cattlemen's Beef Association ARMS#</div>				<div> LEAN These cuts meet the government guidelines for lean, based on cooked servings, visible fat trimmed. A cut of cooked fresh meat is considered "lean" when it contains less than 10 grams of total fat, 4.5 grams or less of saturated fat and less than 95 mg of cholesterol per 100 grams (3½ oz) and per RACC (Reference Amount Customarily Consumed), which is 85 grams (3 oz).</div>	Short Ribs, Bone-In* 	

Lesson Plan:

Understanding Beef Cuts and Cooking Methods

Grade Level: High School

Duration: 90-120 minutes

Lesson Title: Exploring Beef Cuts and Cooking Methods: Easy Beef Stroganoff

Objectives:

1. Students will identify different cuts of beef and their characteristics.
2. Students will understand the appropriate cooking methods for various beef cuts.
3. Students will prepare Easy Beef Stroganoff using a suitable cut of beef.
4. Students will analyze the outcome of using different cuts of beef in the stroganoff recipe.

Materials:

- Recipe for [Easy Beef Stroganoff](#)
- Samples of different beef cuts (e.g., Chuck, Ribeye, Brisket, Top Round)
- Cooking equipment: Skillets, pots, knives, cutting boards, measuring cups, and spoons
- Ingredients for the recipe (adjusted for class size)
- Handouts with information on beef cuts and cooking methods

Lesson Outline:

Introduction (15 minutes):

1. Warm-Up Discussion:

- Begin with a discussion on students' favorite beef dishes.
- Introduce the lesson topic: different beef cuts and their appropriate cooking methods.

2. Presentation:

- Show students the primal and subprimal cuts of beef.
Use <https://www.beefitswhatsfordinner.com/cuts> for interactive primal chart.
- Explain the characteristics of each cut (e.g., tenderness, marbling, common uses).

Activity 1: Beef Cut Identification (45 minutes):

1. Group Activity:

- Divide students into small groups.
- Provide each group with beef cut chart.
- Assign each group a specific cut of beef to research and present its characteristics and best cooking methods.

2. Group Presentations:

- Have each group share their findings with the class.

Continued

Activity 2: Cooking Methods and Recipe Preparation (45 minutes):

1. Recipe Review:

- Introduce the Easy Beef Stroganoff recipe.

2. Demonstration:

- Demonstrate how to prepare the recipe and cut beef into 1 inch wide strips
- Emphasize the importance of cooking methods in achieving the desired texture and flavor.

3. Student Cooking:

- Have students prepare the recipe in small groups
- As time or space permits, have students prepare the stroganoff using other cuts of beef (e.g., Chuck Steak, Stew Meat, Ribeye) that may not traditionally be used in a skillet.

Conclusion and Evaluation (15 minutes):

1. Tasting and Discussion:

- Have students taste their stroganoff and compare it with those made from different cuts.
- Discuss the outcomes and what they learned about the importance of selecting the right cut for the recipe.

2. Reflection:

- Ask students to reflect on what they learned about beef cuts and cooking methods.
- Collect feedback on the lesson and any questions they might have.

Notes:



Easy Beef Stroganoff



25 MIN



4 SERVINGS



380 CAL



31 G PROTEIN

Ingredients:

- 1 pound beef Sirloin Tip Steaks, cut 1/8 to 1/4 inch thick
- 1 teaspoon minced garlic
- 4 teaspoons vegetable oil
- 1/4 teaspoon salt
- 1/4 teaspoon pepper
- 1/2 pound mushrooms, sliced (1/2-inch)
- 1 package (3/4 ounce) brown gravy mix
- 4 cups cooked wide egg noodles
- 1/4 cup dairy sour cream

Cooking:

1. Stack beef Sirloin Tip Steaks; cut lengthwise in half, then crosswise into 1-inch wide strips. Toss with garlic.
2. Heat 2 teaspoons oil in large nonstick skillet over medium-high heat until hot. Add 1/2 of beef; stir-fry 1 minute or until outside surface of beef is no longer pink. (Do not overcook.) Remove. Repeat with remaining beef. Season with salt and pepper.
3. Heat remaining 2 teaspoons oil in same skillet over medium-high heat until hot. Add mushrooms; cook and stir 2 minutes or until tender. Remove from heat. Add gravy mix and 1 cup cold water; blend well. Bring to a boil. Reduce heat; simmer 1 minute or until sauce is thickened, stirring frequently. Stir in beef; heat through. Serve over noodles. Pass sour cream.

For more information on determining doneness and cooking tips, visit:

<https://www.beefitswhatsfordinner.com/cooking/determining-doneness>

Nutrition Across the Lifespan



Beef is an excellent source of protein and supplies 10 essential nutrients including B-vitamins, zinc, and iron that support an active and healthy lifestyle. The nutrients in beef provide our bodies with the strength to thrive throughout all stages of life.

Beef for Babies

The American Academy of Pediatrics, the Women Infants and Children's Program (WIC) and now for the first time ever, the Dietary Guidelines for Americans recommend introducing solid foods, like beef, to infants and toddlers, in order to pack in every bite with protein, iron, zinc and choline.¹⁻⁵



6-8 months Pureed Beef



8-10 months Shredded Beef



10-12 months Chopped Beef

Download Make Every Bite Count with Beef handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

1. American Academy of Pediatrics. Pediatric Nutrition Handbook. 7th ed. Elk Grove, IL: American Academy of Pediatrics, 2014.
2. Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.
3. Schwarzenberg SJ, et al. Advocacy for improving nutrition in the first 1000 days to support childhood development and adult health. Pediatrics 2018;141:e20173716.
4. USDA WIC Works Resource System. Infant Nutrition and Feeding Guide. <https://wicworks.fns.usda.gov/resources/infant-nutrition-and-feeding-guide>
5. U.S. Department of Agriculture, Agricultural Research Service. FoodData Central, 2019. <https://www.fdc.nal.usda.gov/fdc-app.html#/food-details/170208/nutrients>

Feeding Tips for Healthy Infant Growth

WHAT'S GOING ON WITH MY BABY?

A baby's body grows tremendously in the first year: body weight triples, length more than doubles and the brain/head increases by 40 percent. A focus on food, nutrients and feeding skills are a high priority.

WHEN SHOULD I START SOLIDS?

It is recommended that mothers nurse their babies for as long as they are able and willing, ideally up to 6 months, and preferably for the first year. If circumstances don't allow, remember any amount of breast milk is good for babies. Along with breastfeeding, it is important to begin solid foods, known as complementary foods, around 6 months of age, as they offer an additional source of protein, iron, zinc, calcium, vitamin D, Docosahexaenoic acid (DHA) and fat. Complementary foods also teach babies how to eat a range of textures and flavors.

BABIES ARE READY FOR SOLIDS IF THEY:

- are about 6 months old
- sit up, with or without support
- have good head control
- seem interested in food
- no longer spit out solids

INTRODUCE NEW TEXTURES AND FLAVORS OVERTIME

All foods should be modified in texture to match a baby's developmental stage for eating. For example, beef may be pureed as a first food, and chopped or offered as a finger food when a baby is ready and able to eat it.

Provide a variety of flavors while babies are receptive to new tastes, including herbs and spices. If less allergenic foods have been tolerated, gradually introduce dairy products, nuts, cooked eggs and fish before the end of the first year. This may help prevent food allergies. Consult with your doctor if your baby is at high risk for food allergies.

WHAT FOODS PROVIDE THE NUTRIENTS IMPORTANT FOR MY BABY?

All nutrients are key to a healthy baby, but the nutrients listed in the chart below are particularly important. Early deficiencies in these nutrients can slow growth and development, impair future intellect and diminish health.

Nutrient	Examples of Food Sources
Protein: Protein is essential for a baby's growth, development and immune function.	Beef, poultry, fish, eggs, dairy products, beans and lentils, nuts
Iron: Iron is essential for a baby's brain development and is a critical component of blood cells that deliver oxygen to tissues and cells throughout the body. Iron deficiency in the first two years may cause future delays in intellectual, behavioral and motor development.	Beef, iron-fortified baby cereal, poultry (dark meat), beans and lentils, dark greens <ul style="list-style-type: none">• Plant-based sources of iron, like beans or vegetables, need help from vitamin C foods (citrus fruits, tomatoes, peppers) to increase iron absorption.
Zinc: Zinc is an essential nutrient for growth, appetite regulation, and immune system function.	Red meat, beans, zinc-fortified baby cereal <ul style="list-style-type: none">• Iron and zinc can be found together in beef (pureed, chopped, whole) and iron and zinc-fortified baby cereal.
Vitamin D: Vitamin D is required for a baby's proper bone growth and strengthening.	Vitamin D-fortified milk and fatty fish
Docosahexaenoic acid (DHA): DHA is an essential nutrient for a baby's brain and retina (eye) development.	Salmon, DHA-fortified eggs
Fat: Fat is an essential nutrient to support a baby's rapid growth and brain development.	Plant oils such as olive oil, avocado, nut butters

Nutrient**Examples of Food Sources****Protein:**

Protein is essential for a baby's growth, development and immune function.

Beef, poultry, fish, eggs, dairy products, beans and lentils, nuts

Iron:

Iron is essential for a baby's brain development and is a critical component of blood cells that deliver oxygen to tissues and cells throughout the body. Iron deficiency in the first two years may cause future delays in intellectual, behavioral and motor development.

Beef, iron-fortified baby cereal, poultry (dark meat), beans and lentils, dark greens

- Plant-based sources of iron, like beans or vegetables, need help from vitamin C foods (citrus fruits, tomatoes, peppers) to increase iron absorption.

Zinc:

Zinc is an essential nutrient for growth, appetite regulation, and immune system function.

Red meat, beans, zinc-fortified baby cereal

- Iron and zinc can be found together in beef (pureed, chopped, whole) and iron and zinc-fortified baby cereal.

Vitamin D:

Vitamin D is required for a baby's proper bone growth and strengthening.

Vitamin D-fortified milk and fatty fish

Docosahexaenoic acid (DHA):

DHA is an essential nutrient for a baby's brain and retina (eye) development.

Salmon, DHA-fortified eggs

Fat:

Fat is an essential nutrient to support a baby's rapid growth and brain development.

Plant oils such as olive oil, avocado, nut butters

Feeding Tips for Healthy Infant Growth

HOW SHOULD I FEED MY BABY?

Babies learn to self-feed around 6-8 months of age, making food textures, flavors and feeding methods - like spoon feeding, baby-led weaning or a combined method – important considerations. For optimal health, make sure babies are meeting their nutrient needs, learning new feeding skills, and enjoying food. Sit with your baby when eating and monitor for choking.

1 IF YOUR BABY IS USING THE SPOON

Babies will start with thin pureed foods at around 6 months and advance to complex textures including chopped foods, finger foods and family food by the end of the first year.



Around 6 Months of Age

Watery purees ➡ Smooth, pureed, single-ingredient foods (pureed beef; pureed squash; pureed pears)

Around 6-8 Months of Age

Pureed, single-ingredient foods ➡ Mashed, lumpy textures and combinations of single-ingredients (mashed banana or avocado; pureed beef + pureed green beans) ➡ Soft, dissolvable finger foods (puffs, buttery toast or crackers cut into “fingers,” beef “paté” on toast fingers)

Around 8-10 Months of Age

Mashed, lumpy foods & soft, dissolvable foods ➡ Chopped table foods (shredded or chopped, tender beef and other meats; well-cooked pasta; chopped cooked veggies; soft-cooked beans; tofu)

Around 10-12 Months of Age

Chopped table foods ➡ Chopped family food + practice with self-feeding using the spoon

2 IF YOUR BABY IS USING THE BABY-LED WEANING METHOD:

Babies will start solids by eating whole foods at around 6 months of age. Food is modified so they can hold it, such as sticks of tender beef, slices of avocado or ripe banana, and toast sticks moistened with butter or nut butter, and feed themselves.

Babies eat food and drink breastmilk or formula several times each day in order to get the nutrition they need. Careful meal planning is important to make sure babies get the nutrients critical to healthy growth and development.

3 IF YOUR BABY IS USING A COMBINED APPROACH

Use both spoon-feeding and baby-led weaning approaches to optimize nutrient intake while getting the benefits of self-feeding and appetite regulation.

Example: choose iron and zinc-rich foods for the spoon, such as a mix of pureed beef and fortified baby cereal, and let your baby self-feed sticks of avocado, banana, and sweet potato.

WHAT SHOULD YOU EXPECT AT THE END OF THE FIRST YEAR?

- ✓ Babies should be using a cup on a regular basis
- ✓ Babies should be exploring food and mostly feeding themselves
- ✓ Babies should be using a spoon to feed themselves (or at least practicing)
- ✓ Babies should be joining the family table for meals
- ✓ Babies should be transitioning to a schedule for meals and snacks



If you have questions about starting solid foods, consult a physician or health care provider.

Jill Castle is a pediatric dietitian, author and founder of The Nourished Child®. Known as a paradigm shifter who blends current research, practical application and common sense, Jill inspires individuals to think differently about child nutrition and feeding kids.

A sought-after speaker, advisor, and media contributor, Jill has inspired TEDx and a range of nutrition, medical, government and parent audiences. She serves on the Board of Advisors of Parents Magazine and is the nutrition advisor to a handful of privately held child nutrition companies.

She is the author of the books, *Eat Like a Champion*, *Try New Food*, *The Smart Mom's Guide to Starting Solids*, *The Smart Mom's Guide to Healthy Snacking*, and co-author of *Fearless Feeding*. She pens The Nourished Child blog and interviews experts on her podcast of the same name.



Funded by Beef Farmers and Ranchers

Visit www.BeefitsWhatsForDinner.com for more research on beef's role as a complementary food.

©2019 Cattleman's Beef Board and National Cattleman's Beef Association, 062819-07

Nutrition Across the Lifespan



Beef for Toddlers

All nutrients remain important for growth and development during the toddler years. Critical brain growth occurs through the first two years of life, making iron, fat, and docosahexaenoic acid (DHA) important considerations, while body growth keeps protein and zinc top priority nutrients. By four years of age, calcium needs increase to that of an adult, while vitamin D requirements are stable.

Recipe Ideas for Babies and Toddlers

Slow-Cooked Mediterranean Braised Beef

Moroccan Beef and Sweet Potato Stew

Ground Beef & Pasta Skillet Primavera

Beef Chili

Lazy Day Beef & Vegetable Soup

Easy Homemade Beef Pasta Sauce



Full Collection of Beef in the Early Years Recipes

<https://www.beefitswhatsfordinner.com/recipes/collection/33396/beef-in-the-early-years-recipes>

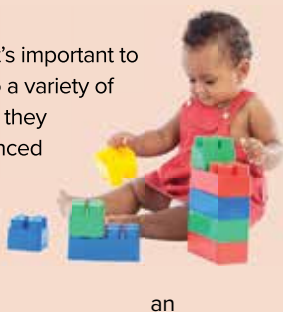
Eating Tips for Healthy Toddler Growth

WHAT'S GOING ON WITH MY TODDLER?

Toddlers (1-3 years old) can be a challenge and a joy to feed. Their growth slows after the first year, making their appetite voracious one day and non-existent the next. Toddlers also begin to understand the power of “no” and may test it with food. Fear of new food, food jags (eating the same foods) and picky eating are commonly seen during this stage of childhood.

GOALS

During this stage it's important to expose toddlers to a variety of nutritious foods so they learn to eat a balanced diet. It's also important to meet nutrient requirements and transition to eating routine.






















WHAT NUTRIENTS ARE IMPORTANT FOR TODDLERS?

All nutrients remain important for growth and development during the toddler years. Critical brain growth occurs through the first two years of life, making iron, fat, and docosahexaenoic acid (DHA) important considerations, while body growth keeps protein and zinc top priority nutrients. By four years of age, calcium needs increase to that of an adult, while vitamin D requirements are stable.

WHAT SHOULD MY TODDLER EAT?

Toddlers should be eating a variety of foods including protein sources, dairy products, fruits, vegetables, grains and healthy sources of fat.

During toddlerhood, children may become picky, particularly with fruits, vegetables and protein foods. Many children will eventually accept these foods if you are patient, positive, and offer them several times. Follow a daily feeding pattern similar to the foods listed in the chart below to provide the calories, protein, vitamins and minerals your toddler needs for healthy growth.

FOOD GROUP	ONE SERVING =	SERVINGS/CALORIES (PER DAY)
Grains		6 servings Per Day = 250 Calories
Bread	¼ to ½ slice	
Cereal, rice, pasta (cooked)	4 Tbsp	
Cereal (dry)	¼ cup	
Crackers	1 to 2	
Vegetables	1 Tbsp/year of age	2-3 Servings Per Day = 75 Calories
		
		
		
Fruit		2-3 Servings Per Day = 75 Calories
Fruit (cooked or canned)	¼ cup	
Fruit (fresh)	½ piece	
Juice	¼ to ½ cup (2-4 oz)	
Dairy		2-3 Servings Per Day = 300-450 Calories
Milk	½ cup	
Cheese	½ oz (1-inch cube)	
Yogurt	⅓ cup	
Protein		2 Servings Per Day = 200 Calories
Beef, Fish, Poultry, Tofu	2 Tbsp	
Egg	½ (yolk and white)	
		
Legumes		2 Servings Per Day = 200 Calories
(Dried) Beans, Peas, Lentils	2 Tbsp (⅓ cup) Soaked and cooked	
		
		
Peanut Butter		1 Serving Per Day = 95 Calories
(Spread thin on bread, toast 1 Tbsp or cracker)		

Eating Tips for Healthy Toddler Growth

HOW SHOULD I FEED MY TODDLER?

Your job is to provide nutritious and balanced meals, create a positive eating environment, and respond appropriately to your child. Here are some suggestions to help you feed your toddler:

- Include your toddler at the family table as often as possible. Research consistently supports the value and importance of family meals.
- Offer your toddler the family food, modified as needed (e.g., chopped) for safe eating.
- Avoid making a separate meal for your toddler. Rather, plan meals and snacks with food variety in mind, including one or two foods you know your toddler enjoys eating.
- Transition to a predictable schedule of meals and snacks (e.g., breakfast at 7 am; snack at 9:30 am; lunch at noon, etc.).
- Offer a variety of foods from all food groups. Vary cooking methods, presentation, and flavor components. Repeated exposure without pressure to eat is the best way to encourage your toddler to taste and like new foods.
- Let your toddler decide between two food items (e.g., apple or banana, roast beef or turkey, cheese or yogurt), so he can contribute to decision making.
- Offer toddler-sized portions and avoid large servings of food.
- Serve a variety of colors, shapes and sizes of food to spark curiosity and interest.
- Let your toddler put food on his plate, use utensils and a cup so that he is encouraged to be independent with eating.
- Don't sweat it if your toddler refuses food. Stay positive and consistent with the meal you have planned and try again another time.
- Don't pressure your toddler to eat more or try a new food. Pressuring a child to eat often backfires, leading to food refusal.
- Avoid rewarding your toddler with treats for good behavior, or for eating nutritious food, as it may encourage unhealthy food preferences.



Visit www.BeeffitsWhatsForDinner.com for more research on beef's role as a complementary food.



Jill Castle is a pediatric dietitian, author and founder of The Nourished Child®. Known as a paradigm shifter who blends current research, practical application and common sense, Jill inspires individuals to think differently about child nutrition and feeding kids.

A sought-after speaker, advisor, and media contributor, Jill has inspired TEDx and a range of nutrition, medical, government and parent audiences. She serves on the Board of Advisors of Parents Magazine and is the nutrition advisor to a handful of privately held child nutrition companies.

She is the author of the books, *Eat Like a Champion*, *Try New Food*, *The Smart Mom's Guide to Starting Solids*, *The Smart Mom's Guide to Healthy Snacking*, and co-author of *Fearless Feeding*. She pens The Nourished Child blog and interviews experts on her podcast of the same name.



Funded by Beef Farmers and Ranchers

Nutrition Across the Lifespan



Eating While Pregnant

Throughout pregnancy, a woman's body needs about 10 extra grams of protein each day to support the growing baby. It is also important to get enough iron for red blood cell production, zinc for the baby's brain development, choline to help build the brain and spinal cord, and B vitamins to utilize energy efficiently. Including just one additional high-protein snack will help meet these important nutrient goals.^{1,2}

Beef and Iron

From childhood and into adolescence and adulthood, nutrient needs increase at a similar pace. Adolescent, pre-menopausal, pregnant,³ and lactating women are the exception as they require more daily iron than men of the same age.⁴ Beef is the number three food source of iron in the American diet following iron-enriched breads and cereals.⁵ However, the iron in red meat is more completely absorbed by the body than the iron found in bread, cereal and other plant products. Two factors can increase the absorption of iron from plant foods — meat and vitamin C. Meat consumption during a meal has been shown to increase the absorption of plant iron two- to four-fold. This enhancing effect is known as the “meat factor.”⁶ In general, it is recommended to eat a variety of foods to meet nutrient needs and pair iron-enhancing foods with iron-rich foods to increase iron absorption.

1. Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.
2. Kominiarek MA, Rajan P. Nutrition Recommendations in Pregnancy and Lactation. *Med Clin North Am*. 2016;100(6):1199-1215.
3. Procter SB, Campbell CG. Position of the Academy of Nutrition and Dietetics: nutrition and lifestyle for a healthy pregnancy outcome. *J Acad Nutr Diet* 2014;114:1099-103.
4. U.S. Department of Agriculture, Food and Nutrition Service, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Infant nutrition and feeding: A guide for use in the WIC and CSF Programs. Washington, DC: US Government Printing Office, 2009. [FNS-288]
5. O'Neil CE, et al. Food sources of energy and nutrients among adults in the US: NHANES 2003–2006. *Nutrients* 2012;4:2097–120.
6. Hurrell RF, et al. Meat protein fractions enhance nonheme iron absorption in humans. *J Nutr* 2006;136:2808-12.

Nutrition Across the Lifespan



Beef for Teens and Tweens

As infants and toddlers move beyond the early years and into childhood and adolescence, nutrition remains an important, impactful factor in growth and development. The tween and teen years are a time of transformational change and increasing independence, and adolescents' nutrient needs set the stage for optimal health and reduced chronic disease risk during adulthood.¹ According to the Dietary Guidelines for Americans, school-age children and adolescents are falling short on consuming essential nutrients needed to build strong minds and strong bodies.¹ Although tweens and teens are missing the mark on eating enough protein, iron, choline, vitamin B6 and B12, parents and caregivers have simple solutions at their fingertips. This stage of life is the perfect time to teach about healthy habits and the importance of nutrition for energy, focus, strength, and more. This includes foods like fruits, vegetables, whole grains, and of course, sources of lean protein, like beef.

Healthy eating tips for teens and tweens:

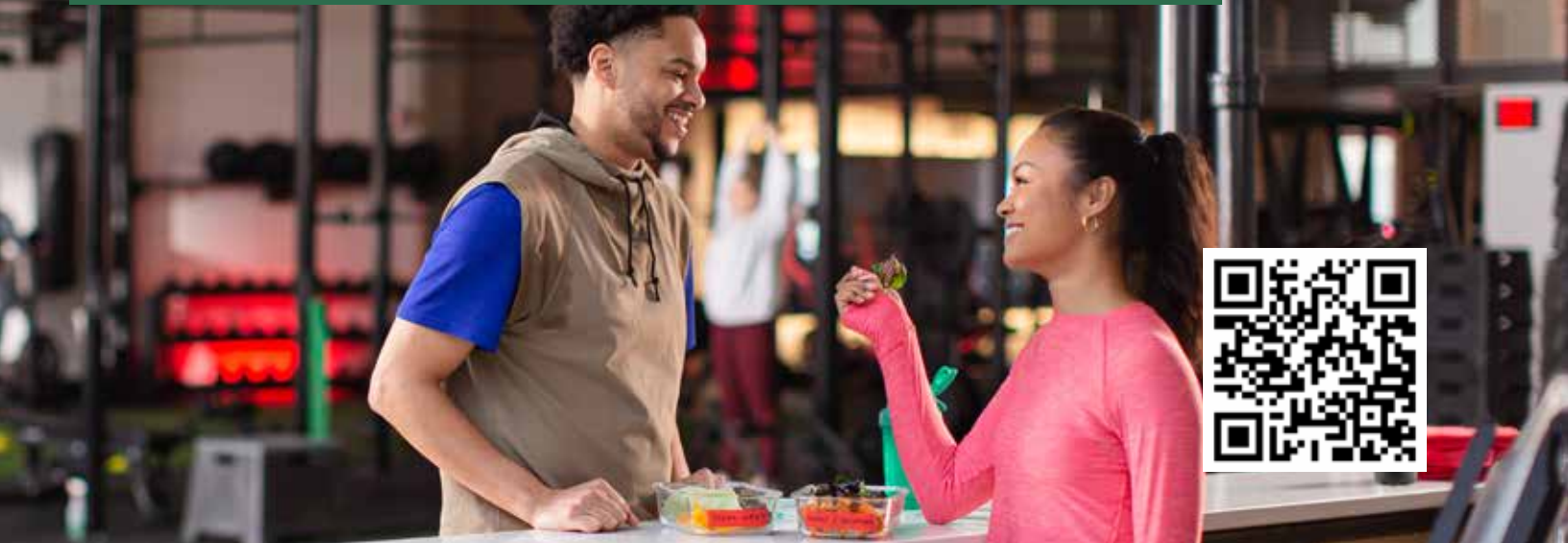
- Families who eat dinners together tend to lead healthier lives.² Sitting together at the table and encouraging healthy meal patterns that include nutrient-dense foods like lean beef, fruits, vegetables, whole grains, and low-fat dairy can improve eating habits.
- Cook meals together. Schedule time with children to plan, purchase, prepare and cook meals together throughout the week.³
- Celebrate family food traditions by teaching children about favorite healthy foods and meals from their family's culture and traditions.³
- Beef pairs perfectly with other nutrient-dense foods like vegetables, whole grains and fruits, which many children and teens should eat more often to meet daily recommendations. Burgers and sandwiches are a great opportunity to pair beef with delicious fruits and vegetables! Challenge children to see how many colors of the rainbow can fit onto their beef burger!

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. Available at <https://www.dietaryguidelines.gov/>.

2. Berge JM, Wall M, Hsueh TF, Fulkerson JA, Larson N, Neumark-Sztainer D. The protective role of family meals for youth obesity: 10-year longitudinal associations. *J Pediatr* 2015;166(2):296-301.

3. Office of Disease Prevention and Health Promotion, Department of Health and Human Services. Help Your Child Build a Healthy Eating Routine. Available at https://www.dietaryguidelines.gov/sites/default/files/2021-12/DGA_KidsTeens_FactSheet-508c.pdf.

Nutrition Across the Lifespan



Beef for Strength

Proteins, along with carbohydrates and fats, comprise the three macronutrients that, when broken down (digested), supply energy to our bodies in the form of calories. Proteins have several important functions including providing structure to all cells of the human body, functioning as enzymes, transport carriers and hormones. Amino acids are the building blocks of protein. If amino acids are the letters of the alphabet, proteins are the words they form. There are 20 amino acids, nine of which are essential – meaning the body cannot generate them on its own.¹

RIBOFLAVIN

Helps convert food into fuel.



IRON

Helps your body use oxygen.



NIACIN

Supports energy production and metabolism.



SELENIUM

Helps protect cells.



VITAMIN B₆ & B₁₂

Helps maintain brain function and gives you energy.



ZINC

Helps maintain brain function and gives you energy.



CHOLINE

Supports nervous system development.



PHOSPHORUS

Helps build bones and teeth.



Download Beef's Top 10 handout to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

1. Institute of Medicine. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington, DC: The National Academies Press, 2005..

Beef Around the World



No matter where life takes you across this great world of ours, beef is always there. A comfort food that's always comforting. A savory, satisfying dish that always delivers the sizzle. A celebratory food that brings us all together. These beef recipes are globally inspired and can be prepared by students in 30 minutes or less.

Easy Recipes

Mongolian Beef

Beef Vegetable Fried Rice

Korean Beef Vegetable Bowls

Cuban Crispy Shredded Beef

Mediterranean Beef Meatball Kabob

Mediterranean Beef and Salad Pita

Full collection of Beef Around the World Recipes

<https://www.beefitswhatsfordinner.com/recipes/beef-around-the-world>



Mongolian Beef



20 MIN



4 SERVINGS



340 CAL



31 G PROTEIN

Ingredients:

- 1 beef Top Sirloin Steak, cut 1 inch thick (about 1 pound)
- 2 tablespoons minced garlic, divided
- 1/4 to 1/2 teaspoons crushed red pepper
- 1/2 cup chopped green onions
- 1/4 cup oyster sauce
- 2 tablespoons sugar
- 1 tablespoon chopped fresh ginger
- 2 cups bamboo shoots, edamame, baby corn or water chestnuts
- 2 cups hot cooked rice

Cooking:

1. Cut beef Top Sirloin Steak in half lengthwise, then crosswise into 1/8-inch strips. Toss beef with 1 tablespoon garlic and red pepper.
2. Heat non-stick skillet over medium-high heat until hot. Add half of beef; stir-fry 1 to 2 minutes or until outside surface of beef is no longer pink. Remove from skillet. Repeat with remaining beef. Remove from skillet.
3. Add remaining 1 tablespoon garlic, green onions, oyster sauce, sugar and ginger to same skillet; cook for 1 to 2 minutes or until sauce is hot. Return beef to skillet. Add bamboo shoots; cook and stir until bamboo shoots are hot. Serve over rice.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Beef & Vegetable Fried Rice



35 MIN



4 SERVINGS



420 CAL



32 G PROTEIN

Ingredients:

- 1 pound Ground Beef (93% lean or leaner)
- 2 teaspoons minced garlic
- 1 teaspoon grated fresh ginger or 1/4 teaspoon ground ginger
- 1 red bell pepper, cut into 1/2-inch pieces
- 1 package (6 ounces) frozen pea pods
- 3 cups cold cooked rice
- 3 tablespoons reduced-sodium soy sauce
- 2 teaspoons sesame oil
- 1/4 cup thinly sliced green onions

Cooking:

1. Heat large nonstick skillet over medium heat until hot. Add Ground Beef, garlic and ginger; cook 8 to 10 minutes, breaking into 3/4-inch crumbles and stirring occasionally. Remove from skillet with slotted spoon; pour off drippings, as necessary.
2. Heat 2 tablespoons water in same skillet over medium-high heat until hot. Add bell pepper and pea pods; cook 3 minutes or until pepper is crisp-tender, stirring occasionally. Stir in rice, soy sauce and sesame oil.
3. Return beef to skillet; heat through. Stir in onions.

Cook's Tip: Cooking times are for fresh or thoroughly thawed ground beef. Ground beef should be cooked to an internal temperature of 160°F. Color is not a reliable indicator of ground beef doneness.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Korean Beef & Vegetable Bowls



25 MIN



4 SERVINGS



500 CAL



30 G PROTEIN

Ingredients:

- 1 beef Flank Steak (about 1 pound)
- 1 cup uncooked rice
- 1/2 teaspoon garlic salt
- 4 teaspoons toasted sesame oil, divided
- 1 package (16 ounces) frozen broccoli stir-fry vegetable mix
- 1 cup Korean barbecue sauce marinade

Cooking:

1. Prepare rice according to package directions. Set aside; keep warm.
2. Meanwhile, cut beef Flank Steak lengthwise in half, then crosswise diagonally into 1/4-inch thick strips. Season steak with garlic salt.
3. Heat 1 teaspoon sesame oil in large nonstick skillet over medium-high heat until hot. Add half of beef; stir-fry 1 to 2 minutes or until outside surface of beef is no longer pink. Remove from skillet. Repeat with 1 teaspoon sesame oil and remaining beef. Remove from skillet; keep warm.
4. Heat remaining sesame oil in same skillet over medium-high heat until hot. Add broccoli stir-fry mix; cook 4 minutes, stirring frequently.
5. Return beef to skillet. Add rice and marinade. Cook 1 to 2 minutes or until heated through and vegetables are crisp-tender. Serve in bowls.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Cuban Crispy Shredded Beef



30 MIN



4 SERVINGS



260 CAL



28 G PROTEIN

Ingredients:

- 12 ounces shredded cooked beef Chuck Pot Roast
- 1 cup sliced green bell pepper
- 1 cup sliced onion
- 1/4 cup fresh lime juice
- 2 tablespoons olive oil
- 2 teaspoons minced garlic
- 1/2 teaspoon salt, divided
- 1/4 teaspoon ground black pepper
- Hot cooked rice, black beans and lime wedges (optional)

Cooking:

1. Combine the beef Chuck Pot Roast, bell pepper, onion, lime juice, oil, garlic, 1/4 teaspoon salt and black pepper in large bowl. Marinate in refrigerator for 15 minutes or up to 1-1/2 hours.
2. Heat a large, nonstick skillet over medium-high heat until hot. Spread 1/3 of beef mixture in thin layer in skillet. Cook until crispy in spots, turning several times, 2 to 3 minutes. Remove from skillet. Repeat twice with remaining beef mixture.
3. Season beef with remaining 1/4 teaspoon of salt.
4. Serve with rice, black beans and lime wedges as desired.

Alternative Cooking Method

Recipe can be made in a 8-quart Air Fryer. Heat Air Fryer to 375°F. Spread 1/3 of beef mixture in thin layer in basket. Cook until crispy in spots, turning several times, 6 to 8 minutes. Remove from basket. Repeat twice with remaining beef mixture. Season beef with remaining 1/4 teaspoon of salt.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Mediterranean Beef Meatball Kabob



30 MIN



4 SERVINGS



360 CAL



33 G PROTEIN

Ingredients:

- 1 pound Ground Beef (93% lean or leaner)
- 1/4 cup dry breadcrumbs
- 2 egg whites or 1 whole egg
- 2 tablespoons chopped fresh parsley
- 2 tablespoons water
- 2 teaspoons minced garlic
- 1 teaspoon ground cumin
- 1/2 teaspoon salt
- 1/4 teaspoon pepper
- 4 flatbreads (such as naan, lavash or pita bread)

Toppings (optional):

- Chopped tomatoes, chopped cucumber, chopped red onion, chopped fresh parsley, Tzatziki sauce

Cook's Tip: Cooking times are for fresh or thoroughly thawed ground beef. Ground beef should be cooked to an internal temperature of 160°F. Color is not a reliable indicator of ground beef doneness.

Cooking:

1. Heat oven to 400°F. Combine Ground Beef, breadcrumbs, egg whites, parsley, water, garlic, cumin, salt and pepper in large bowl, mixing lightly but thoroughly. Shape into 12, 2-inch meatballs.
2. Thread meatballs onto 4, 10-inch skewers. Place on rack in broiler pan that has been sprayed with cooking spray. Bake in 400°F oven 24 to 27 minutes.
3. Remove meatballs from skewers. Serve in flatbreads. Garnish with Toppings, as desired.

Alternative Cooking Method

Recipe can be made in a 8-quart Air Fryer. Heat Air Fryer to 350°F. Place un-threaded meatballs into Air Fryer basket sprayed with cooking spray. Bake at 350°F for 24 to 27 minutes or until instant-read thermometer inserted into center registers 160°F.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Mediterranean Beef and Salad Pita



30 MIN



4 SERVINGS



510 CAL



31 G PROTEIN

Ingredients:

- 1 pound Ground Beef
- 1 medium red bell pepper, chopped
- 4 cups chopped romaine lettuce
- 1/3 cup crumbled herb-flavored feta cheese
- 1/3 cup prepared regular or reduced fat non-creamy Italian dressing or other vinaigrette
- 1/4 cup Kalamata or ripe olives, chopped
- 4 pita breads, toasted

Cooking:

1. Heat large nonstick skillet over medium heat until hot. Add Ground Beef and bell pepper; cook 8 to 10 minutes, breaking into 3/4-inch crumbles and stirring occasionally. Remove from heat. Pour off drippings.
2. Add lettuce, cheese, dressing and olives to beef mixture; toss to combine. Top pitas with equal amounts of beef mixture.

Cook's Tip: Cooking times are for fresh or thoroughly thawed ground beef. Ground beef should be cooked to an internal temperature of 160°F. Color is not a reliable indicator of ground beef doneness.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>

Beef on a Budget



Planning ahead in the kitchen saves time and money, and can also help families reach daily nutrition goals, even when they're busy juggling a variety of responsibilities. Teaching students about affordable beef cuts, batch cooking, and repurposing leftovers will provide students with the skills and confidence to navigate their own kitchens and create nutritious meals in the future.

Affordable Beef Cuts

Get the same great flavor at different price points.

WANT THIS?



TOP ROUND

A lean roast that is ideal for slow cooking. Slice thinly across the grain for optimal eating experience.

TRY THESE:



BOTTOM ROUND ROAST

Known for its great value, this cut is best for roasting or slow-cooking & slicing thin.



EYE OF ROUND

A lean, flavorful cut often used for roast beef at the deli.



SIRLOIN TIP

This boneless, lean cut is great value. Best when roasted & carved into thin slices.

Recipe Collection

Explore our entire beef on a budget recipe collection

<https://www.beefitswhatsfordinner.com/recipes/collection/33362/beef-on-a-budget>

Download Simple Steak Swaps and Roast Swaps handouts to share with your students.

<https://www.ohiobeef.org/resources/ohio-beef-council-store>

6 WAYS TO SAVE ON BEEF



The Beef Checkoff, the leading authority on all things beef, shares expert tips on how to get the best deals on beef and keep your grill sizzling all year long.



ONE BEEF SERVING

4 oz raw or
3 oz cooked → ~\$1

1 lb of
beef (16 oz) → \$4.56

That works out to just about
\$1.15 per serving. That's a lot of
satisfying nutrients for your dollar.



Look in the meat case for family packs

Cuts for all the family!



Lower price per pound

Flat Iron Ribeye Kabobs

If you can't use it all for one meal, freeze it or use leftovers for sandwiches, salads or even stir-fry the next day.



ONE SERVING

If you don't need a pound of beef, don't buy one. Instead, visit the meat case to find perfectly portioned steaks and roasts.



Buying larger cuts of beef and slicing them into steaks at home can save you at least a dollar or two per pound. Freeze individually or serve when entertaining a group.



Every week, your local grocers will offer specials on beef. Watch the weekly paper for coupons and deals. Don't get the newspaper? Check out the store's website, Facebook page or Twitter. When you find a good deal on your favorite cuts, buy enough to stock your freezer.



Talk to your friendly neighborhood butcher or meat counter clerk. Their job is to recommend the most appropriate cuts and tell you how to get the most out of them. You can also pull out your phone and visit www.BeefitsWhatsForDinner.com to research cuts, nutrition information and recipes.



Funded by the Beef Checkoff.

FOR MORE INFORMATION, COOKING TIPS AND RECIPES, PLEASE VISIT
BeefitsWhatsForDinner.com

© 2019 Cattlemen's Beef Board and National Cattlemen's Beef Association

Beef on a Budget



Batch Cooking

Meal prepping and planning for leftovers is a cinch when you start out strong with perfectly prepared beef. Students can learn how to batch cook steak or shredded beef to use in a variety of dishes.

Leftover steak is perfect for all meals:

- Breakfast – Get your day off to a good start with a [Beef & Spinach Breakfast Sandwich](#). Simply pair your leftover steak or roast with eggs, spinach and cheese for a delicious morning meal.
- Lunch – Elevate your lunchtime routine with a protein-packed [Steak Salad with Dried Cherries](#). A little bit sweet and a little bit savory, this salad will keep you going through the day.
- Dinner – The perfect way to give leftover steak new life, [Beefy Sweet Potato Hash](#) is made with sweet potatoes and taco seasoning

This next activity explores batch cooking shredded beef and a variety of recipes it can be used in.

Lesson Plan:

Batch Cooking Shredded Beef

Grade Level: High School

Duration: 90-120 minutes

Lesson Title: Batch Cooking Shredded Beef

Objectives:

1. Students will learn the benefits of batch cooking, how to prepare shredded beef in bulk, and create various dishes from the prepared beef..

Materials:

- Ingredients for shredded beef (refer to batch cooking tips)
- Ingredients for each recipe
- Cooking utensils and equipment
- Handouts with recipes and instructions

Lesson Outline:

Introduction (10 minutes):

1. What is Batch Cooking?

- Discuss the concept and benefits of batch cooking, including time-saving, cost-effectiveness, and reduced food waste.

2. Why Shredded Beef?

- Explain the versatility and nutritional benefits of beef as a protein source.

Demonstration (20 minutes):

- Preparing Shredded Beef in Bulk:
- Show the process of cooking and shredding beef (may be done over two class periods). Use the tips from Batch Cooking Tips handout.

Group Activity (60 minutes):

1. Divid Students into Groups:

- Assign each group one of the following recipes to prepare using the pre-cooked shredded beef.

2. Recipe Preparation:

- Group 1: Roast Beef & Cheddar Pockets
- Group 2: Cuban Crispy Shredded Beef
- Group 3: Shredded Beef Egg Quesadillas

Continued

Conclusion (10 minutes):

1. Tasting and Feedback:

- Allow students to taste each dish and discuss their experiences.

2. Discussion:

- Reflect on the process and benefits of batch cooking.
- Discuss how batch cooking can be applied to other meals.

Notes:

Batch Cooking Shredded Beef

How to Batch Cook Shredded Beef

Save time and money, while getting a nutritious, balanced meal on the table for your family, keeping them strong and focused for everyday success. Just throw a roast in the slow cooker at the beginning of the week and enjoy pre-planned meals for the next few days!

** You can prepare any of these beef cuts in your pressure cooker, following manufacturer's instructions for shredded beef.*

Flavor Inspiration



Cuban Crispy Shredded Beef



Indian-Style Slow Cooker Shredded Beef

1

CHOOSE YOUR CUT

Start with a cut that's ideal for slow cooking, such as:



Chuck Roast



Shoulder Pot Roast



Bottom Round Roast

Tip: A 2 to 3 lb. roast makes approximately 8 to 12 three-ounce portions.

2

COOK YOUR ROAST

Place 1 large onion, chopped, 1/2 cup beef broth or water, and 2 tablespoons minced garlic into your slow cooker; place roast on top. Cover and cook on LOW for 9 to 10 hours, or on HIGH for 5 to 6 hours, or until roast is fork-tender. To get the most flavor from your roast, brown all sides in a non-stick skillet prior to cooking.

3

SHRED YOUR ROAST

Remove roast from slow cooker. Skim fat from cooking liquid, if necessary, and reserve 1 cup onion mixture. Shred beef with two forks. Combine shredded beef and reserved onion mixture. Season with salt and pepper, as desired.

4

ASSEMBLE YOUR MEALS

Portion into 3-oz. servings, about the size of a smart phone. A 3-oz portion provides about 25 grams of protein). Transfer each portion to reusable storage containers and add your choice of 1/2 cup of starchy vegetable or whole grain, like sweet potato, quinoa or brown rice, and 1 cup of your favorite vegetable, like broccoli, asparagus or green beans. Seal your containers and place in the fridge for convenient, balanced and nutritious meals on the go. Make sure to consume your batch-cooked beef within 3 to 4 days.



Funded by Beef Farmers and Ranchers



Roast Beef & Cheddar Pockets



30 MIN



8 SERVINGS



480 CAL



38 G PROTEIN

Ingredients:

- 3 cups shredded beef Pot Roast (about 24 ounces)
- 16 ounces whole wheat or regular refrigerated pizza dough
- 2 cups shredded Cheddar cheese, divided
- 2/3 cup diced sweet onion
- 1 egg white, lightly beaten
- 1/2 cup light dairy sour cream

Garnish:

- Chopped chives (optional)

Cooking:

1. Preheat oven to 375°F. On a lightly floured surface, roll dough into 12 by 19-inch rectangle. Cut into 8 rectangles, 4 by 5-1/2 inches each.
2. Combine beef, 1-1/2 cups cheese and onion, if desired, in large bowl; mix well. Divide beef mixture into eighths; press mixture to compact and place lengthwise in center of rectangles. Fold long sides of each rectangle over filling, pressing to seal. Place on ungreased shallow-rimmed baking sheet. Brush with egg white. Sprinkle with remaining 1/2 cup cheese. Cut small slit in top of each pocket to vent.
3. Bake in 375°F oven 13 to 16 minutes or until golden brown. Serve with sour cream. Garnish with chives, if desired.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Cuban Crispy Shredded Beef



30 MIN



4 SERVINGS



260 CAL



28 G PROTEIN

Ingredients:

- 12 ounces shredded cooked beef Chuck Pot Roast
- 1 cup sliced green bell pepper
- 1 cup sliced onion
- 1/4 cup fresh lime juice
- 2 tablespoons olive oil
- 2 teaspoons minced garlic
- 1/2 teaspoon salt, divided
- 1/4 teaspoon ground black pepper
- Hot cooked rice, black beans and lime wedges (optional)

Cooking:

1. Combine the beef Chuck Pot Roast, bell pepper, onion, lime juice, oil, garlic, 1/4 teaspoon salt and black pepper in large bowl. Marinate in refrigerator for 15 minutes or up to 1-1/2 hours.
2. Heat a large, nonstick skillet over medium-high heat until hot. Spread 1/3 of beef mixture in thin layer in skillet. Cook until crispy in spots, turning several times, 2 to 3 minutes. Remove from skillet. Repeat twice with remaining beef mixture.
3. Season beef with remaining 1/4 teaspoon of salt.
4. Serve with rice, black beans and lime wedges as desired.

Alternative Cooking Method

Recipe can be made in a 8-quart Air Fryer. Heat Air Fryer to 375°F. Spread 1/3 of beef mixture in thin layer in basket. Cook until crispy in spots, turning several times, 6 to 8 minutes. Remove from basket. Repeat twice with remaining beef mixture. Season beef with remaining 1/4 teaspoon of salt.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>



Shredded Beef & Egg Quesadillas



20 MIN



4 SERVINGS



390 CAL



30 G PROTEIN

Ingredients:

- 6 ounces cooked beef, shredded or chopped into bite size pieces
- 4 large eggs, slightly beaten
- 4 medium flour tortillas (8 to 10-inch diameter)
- 1 cup shredded reduced-fat Mexican blend cheese
- 1 can (4 ounces) chopped or diced green chilies, drained

Toppings (optional):

- Sour cream, salsa, chopped cilantro, guacamole

Cooking:

1. Heat large nonstick skillet over medium high heat until hot. Add beef and eggs; cook and stir until eggs are scrambled. Season with salt and pepper as desired.
2. Top each of two flour tortillas with 1/4 cup cheese. Evenly divide beef mixture between two tortillas. Top each with half of the chilies and half of remaining cheese. Place remaining two tortillas on top.
3. Wipe out skillet. Heat skillet over medium heat until hot. Cook quesadillas, one at a time, 2 minutes or until tortilla is lightly browned. Turn and continue cooking 1 to 2 minutes. Cut each quesadilla in half. Cut each half into wedges. Serve with toppings, if desired.

For food safety information visit:

<https://www.beefitswhatsfordinner.com/cooking/food-safety>

BEEF.
IT'S WHAT'S FOR DINNER.®

How to Batch Cook Steak

Why Batch Cook Steak?

Save time and money, while getting a nutritious, balanced meal on the table for you family, keeping them strong and focused for everyday success. Just grill up your desired amount of steak and enjoy pre-planned meals for the next few days.

Flavor Inspiration



Four-Seasons Beef & Brussel Sprout Salad

Funded by The Beef Checkoff

Visit www.BeefItsWhatsForDinner.com for more tips and full recipes.

1

CHOOSE YOUR CUT

Cuts matter! Many cuts of beef are perfect for delicious and nutritious grilling. And all steak cuts contain essential nutrients like zinc, iron and protein to power healthy, active lifestyles. Some of the best cuts for grilling include:



Top Sirloin
Steak

Strip
Steak

Flank
Steak

2

PREPARE YOUR BEEF*

Fire up the grill (gas or charcoal) to medium heat. Remove beef from refrigerator and season with herbs or seasonings of your choice. Remember to marinate less tender cuts of beef, like Flank Steak, prior to grilling, for 6 to 24 hours.

3

COOK YOUR BEEF

Place steaks on the grill and cook, covered, turning occasionally with tongs until cooked to medium rare (145°F) to medium (160°F) doneness. To determine the internal temperature, insert an instant-read thermometer horizontally into the thickest part of the steak. Once finished, let the steaks rest for five minutes before slicing to allow those tasty juices to redistribute. Season beef with salt, if desired.

4

ASSEMBLE YOUR MEALS

Once your steaks have rested, slice against the grain and portion into 3-oz. servings (a sensible 3-oz. portion, about the size of a computer mouse, has about 25 grams of protein). Transfer to reusable storage containers and add your choice of ½ cup of starchy vegetable or whole grain side dish, like sweet potato, quinoa or brown rice, and 1 cup of your favorite vegetable, such as broccoli, asparagus or green beans. Seal your containers and place in the fridge for convenient, balanced and nutritious meals on the go. Make sure to consume your batch cooked steak within 3 to 4 days.



Funded by Beef Farmers and Ranchers

Knowledge Test



Bonus Activity

Test your student's knowledge about beef from pasture to plate. This Jeopardy! style game includes the categories Cuts of Beef, Cooking, Beef Benefits, Beef for Babies, and a "Grab Bag" of random beef related questions.

[Play Beef Jeopardy!](#)

JEOPARDY BOARD					FINAL JEOPARDY
Cuts of Beef	Cooking	Beef Benefits	Beef for Babies	Grab Bag	
\$100	\$100	\$100	\$100	\$100	
\$200	\$200	\$200	\$200	\$200	
\$300	\$300	\$300	\$300	\$300	
\$400	\$400	\$400	\$400	\$400	
\$500	\$500	\$500	\$500	\$500	