

MIDDLE SCHOOL
CURRICULUM

MEET THE **MEAT**



OVERVIEW



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I. Enduring Knowledge:

Students will learn that beef is a healthy food that can be served in a variety of ways. They will understand that behind the beef is a unique living animal that must be carefully raised and treated well. They will learn about the diversity of cattle and many jobs associated with them.

Learning Targets:

1. Students should learn the health benefits of beef and the variety of ways it can be prepared.
2. Students should learn the life of a cow from birth to the store shelf, including variety of feeding, processing, and packaging.
3. Students should learn about the importance of humane treatment and food safety in the beef industry.
4. Students should learn about different breeds, biology of a ruminant, and genetic factors.
5. Students should learn other products derived from cattle including those used in cars, roads, and medicine.
6. Student should learn about life on a farm and the people who raise the beef cattle, as well as the many other jobs and careers associated with them.

Teacher Background Notes:

Food Chain information

- Meat eaters = **carnivores**
 - Plant eaters = **herbivores**
 - Both meat and plant eaters= **omnivores** (humans)
1. The process of butchering cattle has gone through extreme changes. It still is controversial. This website gives background. <http://www.cattlenetwork.com/e-newsletters/drovers-daily/Dr-Temple-Grandin-explains-beef-slaughter-process-in-video-tour-167549335.html>
 2. A resource for all aspects of beef including packaging and home preparation: http://www.fsis.usda.gov/Fact_Sheets/Beef_from_Farm_to_Table/index.asp
 1. Lean beef is a source of naturally occurring essential nutrients that are important to the development of both our brains and our bodies
 2. Beef contains zinc, iron and protein. Zinc helps power your brain and helps your body heal. Iron helps carry the oxygen in your blood and protein supplies energy for your body, and keeps you strong by building and maintaining muscle throughout your body.

3. Beef is also a source of other essential nutrients such as selenium, vitamins B12 and B6, niacin, phosphorus and riboflavin.
4. Eating smart means choosing a diet that includes a variety of food groups such as whole grains, fruits, vegetables, dairy and lean proteins. www.myplate.gov and www.nutrientrichfoods.org.
5. There are many different breeds of beef cattle such as Hereford, Angus, Charolais, Limousin, Simmental and others. The various breeds of beef differ in taste, texture and tenderness.
6. The ways animals are raised and fed contribute to the difference in tenderness, taste and texture.
7. There are many different stages of beef production, each serving a unique role in the process. In some cases the animal is raised from birth to sale on the farm. In other cases, animals are raised on the farm part of their lives and then are shipped to feedyards where they are fed to full growth.
8. Beef is processed into many different cuts: steaks, hamburger, roasts, and others.
9. **Important facts about cattle include:**
 - Christopher Columbus introduced cattle to the Western Hemisphere on his second voyage to the New World.
 - Cattle recycle by eating by products, such as fruit pits, potato peels, etc. and this helps cut back on the amount of waste that goes into our nation's landfill.
 - Cows are firefighters because they keep the grass short, and this reduces the spread of fires.
 - Fats or protein from cows can be used to create hundreds of by-products.
 - Cowhide provides us with leather for clothing, shoes, boots, etc.
10. **There are many jobs in the beef and cattle industry:**
 - cattle farmers and ranchers
 - feedyard caretakers
 - veterinarians
 - packing plant and processing employees
 - scientists such as geneticists, animal nutritionists, meat scientists
 - USDA inspectors
 - bankers
 - chefs
 - butchers

Vocabulary:

1. **food chain:** feeding relationships among living things, a hierarchy of different living things
2. **omnivores:** a classification of animals that eat both plants and animals
3. **grass-finished beef:** cattle that are raised on pastures their entire lives
4. **grain-fed beef:** cattle that are fed a mixture of grass and grains
5. **certified organic beef:** cattle that are fed 100 percent organic feed, and may not be given hormones or antibiotics
6. **natural beef:** a classification of beef that can't have any artificial flavoring, coloring or chemical preservatives; natural beef can be grain fed, grass-finished or organic as long as it's minimally processed and doesn't contain additives
7. **cow-calf operation:** Beef production begins with farmers who maintain a breeding herd of cows that nurture calves every year. When a calf is born, it weighs 60 to 100 pounds. Over the next few months, each calf will live off its mother's milk and graze grass in pasture.
8. **weaning:** Beef calves are weaned (meaning they start to eat solid foods in addition to their mother's milk) at six to ten months of age when they weigh between 450 and 700 pounds. These calves are now grass-fed in pasture.
9. **stockers and backgrounders:** After weaning, cattle continue to grow and thrive by grazing during the stocker and backgrounder phase. Cattle spend about 3-9 months grazing on many different kinds of pasture and, in effect, convert forage and grass into protein products for people.
10. **feedyard:** The next step in beef production is when mature calves are moved to feedyards (also called feedlots). Here, they typically spend 4-6 months, during which time they have constant access to water, room to move around, and are free to graze at feed bunks containing a carefully balanced diet. Veterinarians, nutritionists and cattlemen work together to look after each animal.
11. **ruminant animals:** a classification of hooved animals that share a unique digestive system that allows them to break down grass and hay as sources of food

II. Prior Knowledge:

Hand out paper and have students draw a picture of a cow from memory. Have them write three things they know about cows. Share answers and allow them to collect all their information about cattle.

Have a discussion to see all the different ways beef is used in dishes they eat.

IV. Viewing Guide:

Provide the following questions for the students to answer while watching:

1. Why is beef good for you?
2. Name one way to prepare beef.
3. Where is the “Home of the Hamburger”?
4. What is one thing you learned from the farm kids?
5. What is one use of cattle besides meat?
6. What is one job besides farmer associated with cattle?

V. Discussion Points:

1. Review video questions as a class or in small groups.
2. Why do you think some people object to feedyards?
3. How is a beef animal turned into meat? What is a slaughterhouse?
4. Draw a circle diagram with a cow in the middle and all the jobs that work with cattle surrounding it. Essay: which job would you most want to do? Give 3 reasons why.
5. Using a Wisconsin map, plot beef cattle farms in the state. How do these farms impact their communities?
resources include <http://www.explorebeef.org/families.aspx> and <http://fyi.uwex.edu/wbic>
6. How have cattle farms changed in the last 100 years?

VI. Evaluation:

Video questions, class discussion, group work, #5 above – diagram & essay about job choice.

VII. Suggestions for Extended Learning:

1. Take a field trip to a beef cow calf operation, feedyard, large animal vet office, meat market, genetics outfit such as ABS or Alta Genetics, farm community town chairman.
2. Study the structure and feeding of a beef animal. Diagram a cow stomach. Diagram the meat cuts that come from a beef animal.
3. Study the environmental impact of cattle, both good and bad. (Example – methane discharge.) What is the average herd size of a beef farm in Wisconsin? How do beef farmers help the environment?
4. Make up a classroom recipe book of favorite beef recipes using lean cuts of beef. How could you “makeover” a recipe that is high in fat and calories?

Wisconsin Teacher Standards which can be met with this curriculum, including rationale.

Standard 1: Subject matter.

This curriculum provides information not readily available in other forms. A teacher using this material will be well-informed about the subject matter.

Standard 2: Broad range of ability.

This curriculum provides instruction that supports their intellectual, social, and personal development.

Standard 3: Adapt instruction.

Adapt instruction. This curriculum provides suggestions for learners with a variety of intelligences and levels of ability.

Standard 4: Instructional strategies.

This curriculum includes the use of technology to gain information and suggestion for using research in extending learning.

Standard 5: Individual and group motivation.

Both prior knowledge and carefully designed group projects promote motivation for students to learn.

Standard 6: Verbal and nonverbal communications.

Instruction media and technology that promotes active learning are key parts of this curriculum.

Standard 7: Organizes and plans systematic instruction.

This curriculum is organized to support teacher knowledge, to draw on and motivate students to engage in active learning, and promotes active inquiry, collaboration, and supportive interaction in the classroom.

Standard 8: Formal and informal assessments.

Suggestions for a variety of assessments, both formal and informal, are offered in the curriculum.

Standard 10: Fosters relationships.

This curriculum provides information regarding ways in which to actively interact with native communities, both face-to-face events and in using distance learning or technology (e.g. email) methods.

WISCONSIN STUDENT PROFICIENCY STANDARDS which can be met teaching
Meet the Meat – Topic Video, Discover Mediaworks, 2012

Geography:

Students in Wisconsin will learn about geography through the study of the relationships among people, places, and environments.

History:

Students in Wisconsin will learn about the history of Wisconsin, the United States, and the world, examining change and continuity over time in order to develop historical perspective, to explain historical relationships, and analyze issues that affect the present and the future.

Political Science and Citizenship:

Students in Wisconsin will learn about political science and acquire the knowledge of political systems necessary for developing individual civic responsibility by studying the history and contemporary uses of power, authority and government.

Economics:

Students in Wisconsin will learn about production, distribution, exchange, and consumption so that they can make informed economic decisions.