

FUN FACES OF WISCONSIN AGRICULTURE BEEF PRODUCTION LESSON PLAN



Activity Length:

World of Beef – 30 minutes

Do beef eat what we eat? – 45 minutes

Where does it go? – 45 minutes

Beef Math Worksheet – 30 minutes

Student Objectives:

1. Students will use a world map to decide the origination of certain beef breeds
2. Students will compare balanced human meals to balanced beef animal meals
3. Students will explore the digestion process of a ruminant

Wisconsin Model Academic Standards:

English	A.4.1	A.4.2	A.4.4	C.4.3	E.4.3	F.4.1	
Math	A.4.1	A.4.3	B.4.4	B.4.5	D.4.1	D.4.2	D.4.4
Science	A.4.3	C.4.2	C.4.3	F.4.1	F.4.4		
Social Studies	A.4.7						

Introduction: Curley's Beef Fast Facts

Important Terms:

- Ruminant – an animal that has a four-chambered stomach
- Ration – amount of feed fed in one day
- Forage – crop plants grown for their vegetative growth and fed to animals
- Climate- the weather conditions of a specific region
- Breed – a group of animals having similar physical characteristics that are passed along to their offspring
- Cow – female of the cattle family that has given birth
- Calf – young member of the cattle family
- Steer – castrated male member of the cattle family
- Bull – male of the cattle family

Materials for this activity:

- World of Beef worksheet
- Ingredients for ration
 - Chow mien noodles to represent forage in a cow's diet
 - Marshmallows to represent protein in a cow's diet (or use soy nuts)
 - Candy corn to represent corn in a cow's diet (or use corn nuts)
 - Sprinkles to represent the vitamins and minerals a cow needs
- Beef Digestion worksheet

Lesson Outline:

World of Beef

Students will use deductive reasoning skills to combine what they are given about climate and countries to determine the origin of major beef breeds. Another source for this lesson could be Everyday Math-Reference Book under the World Tour section.

1. Individually, or in groups, distribute the World of Beef worksheet
2. Using a map, help students to find the five countries or locations listed on the worksheet.
3. Have students complete the rest of the worksheet by reading the descriptions of the locations and matching them to the qualities of the beef animals listed in the other column.
4. Complete the questions at the end of the worksheet and then go through as a class.
5. Access (<http://www.ansi.okstate.edu/breeds/cattle/>) and have color pictures of each of the breeds listed on the worksheet so students can visualize the descriptions as well.

Do beef eat what we eat?

Students will explore their own nutrient needs and the balanced human diet as well as comparing to what beef consume daily.

1. As follow-up, or as part of a discussion on proper human nutrition, review the important needs of a balanced diet.
2. Compare the elements of a human diet to the needs of a beef cow:
 - Fiber:** forage for cows – certain vegetables for humans
 - Protein:** soybeans for cows – meat and nuts for humans
 - Carbohydrates:** corn for cows – pasta and rice for humans
 - Water:** water for cows – water for humans
3. Discuss the importance of each of the elements in the cow's diet listed on Beef Animal's Diet.
4. Using chow mien noodles to represent forages, candy corn to represent corn grain as an energy source, marshmallows to represent protein, and colored sprinkles, mix up the following trail mix. Everything is given in proportions, depending on class size, mix accordingly. If your school's Wellness Policy prohibits the use of candy, substitute soy nuts for the marshmallows and corn nuts for the candy corn.

Chow mien noodles= $\frac{1}{4}$ of the mix

Candy Corn = $\frac{1}{2}$ of the mix

Marshmallows = $\frac{1}{4}$ of the mix

Sprinkles = a 'pinch' sprinkled on top

5. This mixture represents the proportions of these feed items that are fed to beef animals. Sometimes feed is all mixed together and sometimes feed items are fed separately (grains mixed together and hay given separately). As you distribute the mix to students, notice the ones that are picking one food over another and draw attention to the fact that some items are better liked than others. Cows do this same thing, and it is referred to as “sorting”. If they are given too much feed, they have the option to only eat what they like and not get the needed nutrients from what is left.
6. What would happen if we were given the choice to eat only what we liked? Who would choose to eat only the certain foods that they wanted too? Even if they knew healthy choices? Properly mixing and feeding feeds like this is important for the farmers to make sure their animals stay healthy. Farmers need to carefully monitor what their cows eat to make sure that they are given what they need to stay healthy.

Where does it go?

This activity will explore the journey of food from the mouth of the cow through the digestive system.

1. Using the Beef Digestion worksheet, have students complete the digestive process of the beef cow from start to finish.
2. Discuss the differences in the human digestive system. (one stomach vs. four compartments)
3. What do humans need food for? What do cows use their food to produce?
4. Why do cows chew cud? What is in each of their stomach compartments?

Beef Math Worksheet

1. Distribute math worksheet for classroom exercise or for homework

Suggested Reading Materials:

- *Amazing Grazing*. By Cris Peterson, Boyds Mill Press, 2002.
- *Learn More about Veal*. Available from the Wisconsin Beef Council (www.beeftips.com)
- *Beef in Brief – How America’s Cattle Serve the World*- available from the National Cattleman’s Association (www.beef.org)
- *Life on a Cattle Farm*. By Judy Wolfman, Carolrhoda Books, Inc

Additional Worksheets:

- Careers Guide related to beef
- Ag Statistics Lesson Plan related to beef

Related activities:

- *Beef Ag Mag*
- Develop a mixture for human diets that you can compare to the animal ration mix.