

— FARM *to* YOU —



— Beef Cattle —



Agriculture surrounds us in California and it all starts with the sun. The sun provides the energy plants need to grow, and in turn, plants provide the nutrients cattle need to grow. Cattle need quality feed, clean water, space and healthcare. Cattle ranchers ensure their cattle herds get the care they need. There is much more to the story, but the sun is where it all begins on the journey from **Farm to You!**

From Farm to You: Beef

Lesson Plan: Feeding Frenzy

FARM Cow-calf operations are the beginning of the journey for cattle. Cows are bred and give birth to a calf after a 9-month gestation period. Calves nurse their mothers for milk containing important nutrients. They slowly begin to graze from the pastures as they mature.

1.



2.

WEANING Weaning is removing the suckling calf from the cow. Calves are weaned from their mother's milk after 6 to 8 months or when they are 400 to 600 pounds. After being weaned, the calves continue to graze on the pastures or are put on a growing ration, a measured amount of feed, like a serving size.

GROWING Calves spend the majority of their lives eating a forage- or roughage-based diet. The amount of alternate feed options introduced into the diet during this stage, if any, varies. The growing phase usually lasts for 12 to 18 months.

3.



4.

FINISHING Cattle are then typically transported to a feedlot for finishing where they receive a nutritionist-approved Total Mixed Ration (TMR) of both forage and grain. An increasing number of cattle are finished on pasture only. Depending on their diet and weight, cattle usually spend 3 to 6 months in a finishing feedlot.



5.

HARVESTING & PROCESSING Once cattle reach their market weight of 1,200 to 1,400 pounds and are 18 to 22 months of age, they are sent to a federally-inspected processing facility to be harvested. The beef products are then packaged and prepared for shipment.



6.

FOOD SERVICE & RETAIL Beef products are sold and shipped across the U.S. and abroad for restaurants and grocery stores to sell to consumers.



YOU Either at home or at a restaurant, consumers purchase a beef product that has been safely and conscientiously prepared for them by the many people connected to the beef industry.

7.



BEEF

Introduction: Proper nutrition is an essential component to maintaining cattle health and meat quality. Achieving a year-round supply of adequate forage can be difficult. Cattle producers will use alternative feed types as a nutritional option to supplement grazing or stored forage.

Objective: Students will know the three main categories of feeds and examples of each.

California Standards: CC ELA: SL.6-12.1; NGSS: 5-PS3-1

Materials: Examples of each feed type category from a feed store AND/OR 9 pictures of different feed types (e.g. concentrate: cracked corn, soybean meal, barley; roughage: hay, alfalfa, silage; by-products: almond hulls, apple waste, dried distillers' grains). Visit LearnAboutAg.org/cabeef for photo examples of these feeds.

Procedure:

1 Brainstorm the importance of proper cattle nutrition (maintain cattle health; meat quality). Brainstorm why cattle producers give their cattle anything other than grass (meet nutritional requirements; minimize waste; consumer preference; cost).

2 Define animal feed (plant-based material; not typically meant for human consumption). Share and discuss the three categories of feed types: concentrates (meant for animals; nutrient dense; high in sugars), roughages: (grown for animals; high fiber; digestive system health) and by-products (minimize waste of products meant for human or animal consumption).

3 Place the feeds in bags around the room. In pairs, have students smell, touch, and guess which category the feed belongs to. If you are using pictures only, simply direct students to guess which category the feed belongs to. Have students write their observations down. Discuss observations as a class and reveal the correct answers.

Activity: The Chambers of Secrets

Introduction: The reason cattle are able to eat grass, and humans can't, is because they have a four-chambered stomach, whereas humans only have a single-chambered stomach. Explore the differences between each and design a creative representation.

Objective: Students will develop a creative model to represent the difference between a cow and a human stomach.

California Standards: CC ELA: WHST.6-12.4, WHST.6-12.6, SL 6-12.5; NGSS: 5-LS2-1, MS-LS2-3

Supplies: Markers, paper, scissors, tape, string, balloons, etc.

Directions:

1 Have students research the difference between a cow's stomach (ruminant system) and a human's stomach (monogastric system) on their phones or on computers. Write a one-page summary.

2 In groups, have students creatively design a way to display that information using the materials provided.

For more information about beef, visit LearnAboutAg.org/cabeef

