BEEF NUTRITION VALUE

Start with Protein



Beef gives our bodies protein which is like building blocks that help grow strong muscles, repairs our bodies, and gives us energy to play and learn.

Beef also has important vitamins and minerals, like:

- **Iron:** helps carry oxygen in your blood so you don't feel tired.
- **Zinc:** helps your brain think & your body fight germs.
- **B Vitamins:** give you energy.



Q: Beef belongs to which food group?

A:_____

Math Quiz

Complete the math problems below to determine how many cattle each rancher can put on their acreage.

1. A rancher has **60 acres of land** and grazes **120 cattle**.
   How many cattle are there per acre? _____
2. A rancher has **75 cattle** and wants to spread them evenly across **25 acres**.
   How many cattle go on each acre? _____
3. A Nevada rancher owns **1,000 acres**. She wants to graze **2,500 cattle**.
   - How many cattle per acre would that be? _____
   - If the land only supports **3 cattle per acre**, is her herd too big or small?_____
4. A rancher has **900 cattle** and divides them equally among **300 acres**.
   - How many cattle per acre? _____
   - If he buys **100 more cattle**, how many cattle per acre will he have? _____
5. One rancher has **640 acres** and grazes **2 cattle per acre.**
   How many cattle does he have? _____

STEM ACTIVITIES

- Using real or paper foods, students create a healthy meal with proper portions of protein, fruits, vegetables, and whole grains. Then calculate the nutrient value provided by beef.
- Measure protein content in different foods using simple experiments like the Biuret test (protein turns purple with chemical solution) in a safe classroom setting.
- Create a timeline of beef ranching in Nevada.
- Students plot key events on a map: early ranch locations, cattle trails, railroads, etc.
- Calculate and graph changes over time: e.g., "In 1900, Nevada had 200,000 cattle; today it has 400,000. By what percent did the herd grow?"
- Create a Byproduct Poster and present it to the class.

These materials were developed by the Nevada Farm Bureau and align with Nevada Core Standards. Production of the materials was funded by the Nevada Department of Agriculture, Food and Nutrition Division. For more information, please contact Robin Futch at robin@nvfb.org

WHAT'S THE BEEF?

Beef Production in Nevada



As settlers traveled west along emigrant trails in the 1840s–50s, cattle were driven across Nevada as a source of food, hides, and tallow. The discovery of the Comstock Lode in Virginia City created huge demand for beef to feed growing mining towns. Cattle were driven in from California, Oregon, Utah, and even as far as Texas. Ranchers settled in valleys along rivers and meadows to raise cattle locally.

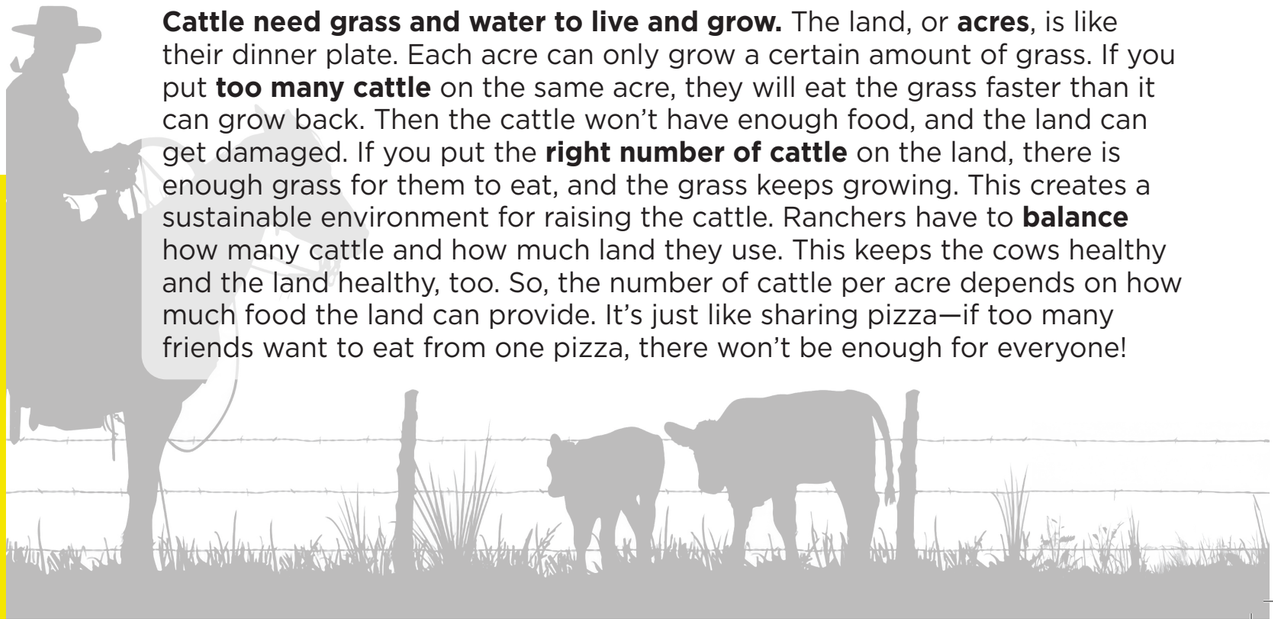
Nevada's vast rangelands, with natural forage, became prime cattle country. Large herds grazed freely on public lands. The arrival of railroads in the 1860s–80s connected Nevada beef to markets in California and beyond. Towns like Elko, Winnemucca, and Reno became ranching hubs.

Harsh weather cycles periodically devastated cattle herds, shaping the resilience and breeding strategies of Nevada ranchers. Ranchers began focusing on improving breed diversity (like Hereford, Angus, and Charolais) for better beef quality and sustainability.

Today, Nevada is a **cow-calf state**. Ranchers maintain a herd of cows to produce calves which are then sold when weaned. Ranchers now work on water conservation, habitat preservation, and rangeland health to maintain operations in Nevada's arid climate. Ranches also combine cattle with hay production (alfalfa and grass hay) to support feed needs. Beef consistently ranks #1 as Nevada's top agricultural industry.

Cattle Grazing

Cattle need grass and water to live and grow. The land, or **acres**, is like their dinner plate. Each acre can only grow a certain amount of grass. If you put **too many cattle** on the same acre, they will eat the grass faster than it can grow back. Then the cattle won't have enough food, and the land can get damaged. If you put the **right number of cattle** on the land, there is enough grass for them to eat, and the grass keeps growing. This creates a sustainable environment for raising the cattle. Ranchers have to **balance** how many cattle and how much land they use. This keeps the cows healthy and the land healthy, too. So, the number of cattle per acre depends on how much food the land can provide. It's just like sharing pizza—if too many friends want to eat from one pizza, there won't be enough for everyone!



WHERE'S THE BEEF?

Cattle By-Products

The word "beef" makes you think of meat like hamburgers and steak. But there are many other things made from beef animals that you use every day. By-products are items made from parts not used for meat. Very little is wasted. Some by-products are edible, like gelatin from hooves used in marshmallows. Others are inedible, like leather from hides used in baseballs. Some are used in medicine, like insulin from organs. You probably use at least one beef by-product every day!

Write down four things you use each day that come from cattle by-products:

1. _____ **2.** _____ **3.** _____ **4.** _____

Common Cattle By-Products

FROM BRAIN
-Anti aging cream medicines

FROM INTERNAL ORGANS
-Instrument strings
-Tennis racket strings
-Hormones enzymes and other medical material

FROM BLOOD
-Pasta
-Cake mixes
-Dyes and inks
-Adhesives
-Minerals
-Medicines
-Laboratory research

FROM BONES
-Refined sugar
-Charcoal
-Fertilizer
-Glass

FROM MANURE
-Fertilizer
-Nitrogen
-Phosphorous

FROM HAIR
-Air filters
-Brushes
-Felt
-Insulation
-Plaster
-Textiles

FROM FAT
-Chewing gum
-Candles
-Detergents
-Fabric softener
-Deodorant
-Shaving cream
-Perfume
-Pet food
-Cosmetics
-Creams and lotions
-Crayons
-Paint



Everything but the MOO!

The beef industry strives to maximize sustainability. As you can see here, beef goes farther than the plate.

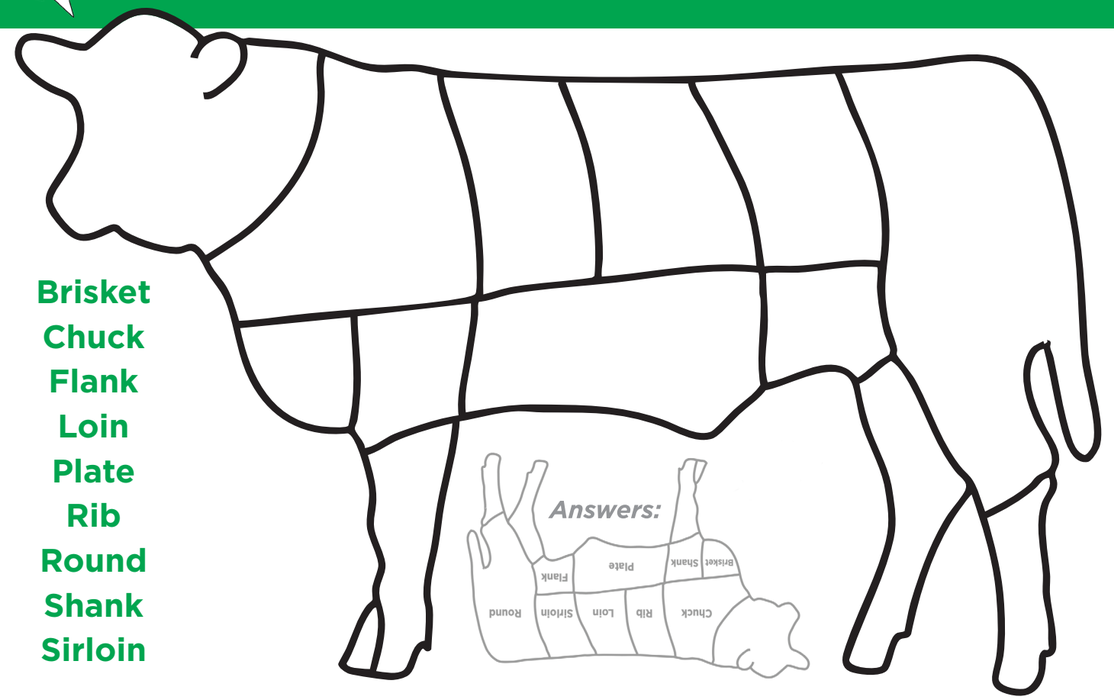
Cattle by-products contribute to many of the items you use in your home. We like to say we use "everything but the moo."



WHOLESALE CUTS OF BEEF

Write in the cuts at left on corresponding areas of the steer

Brisket
Chuck
Flank
Loin
Plate
Rib
Round
Shank
Sirloin



Word Search | Cattle Terminology

C	F	R	D	A	S	T	E	E	R	R	D	E	H
A	E	I	Y	B	Y	P	R	O	D	U	C	T	E
T	H	P	P	A	S	T	U	R	E	E	R	N	I
T	E	B	E	E	F	P	E	R	E	B	P	A	F
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A	D	O	E	F	E	N	L	N	R	O	R	I	D
N	D	V	D	C	A	R	A	G	O	W	E	N	E
C	L	I	E	A	C	C	I	U	H	T	H	G	C
H	I	N	R	L	Y	U	S	S	B	R	A	N	D
E	S	E	C	F	O	R	A	G	E	E	E	A	O

DAM
FEEDER
BULL
FORAGE
POLLED
HEREFORD
HORNED
CATTLE
BEEF
YEARLING
STEER
HIDE
BRAND
ANGUS
PASTURE
BYPRODUCT
CALF
HEIFER
SIRE
RANCH
COW
CHARLAIS
BOVINE
HERD

Answers:

