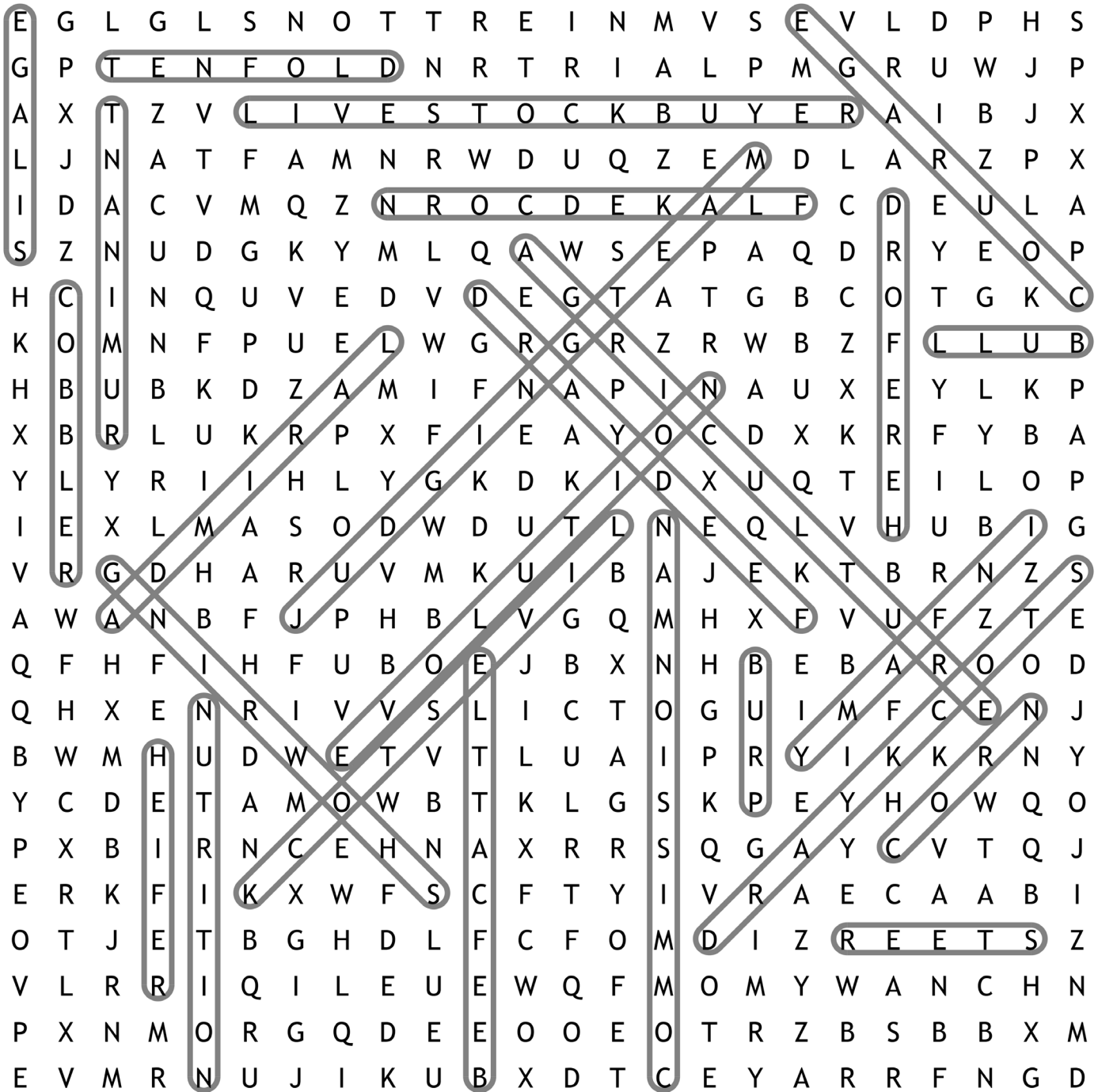


Name: _____ Date: _____

Cattle, Corn, and Courage Vocabulary Word Search



ADMIRAL

COBBLER

FEEDYARD

JUDGING TEAM

SHOWRING

AGRICULTURE

COMMISSION MAN

FLAKED CORN

LIVESTOCK

SILAGE

BEEF CATTLE

CORN

HEIFER

LIVESTOCK BUYER

STEER

BULL

COURAGE

HEREFORD

NUTRITION

STOCKYARD

BURP

EVOLUTION

INFAMY

RUMINANT

TENFOLD

Name: _____ Date: _____

Cattle, Corn, and Courage Vocabulary Word Match

Read each definition carefully and choose the correct word from the list at the bottom. Write the matching word on the blank next to each number. Review your answers when you're done!

<u> agriculture </u>	1. The science or practice of farming.
<u> beef cattle </u>	2. Cattle raised primarily for their meat.
<u> burp </u>	3. A loud noise cattle make when gas is released while they are fermenting and digesting their feed.
<u> commission man </u>	4. A person who helps buy and sell cattle at livestock markets.
<u> corn </u>	5. A grain that is often used for food for both people and animals.
<u> courage </u>	6. The ability to do something that is scary or difficult.
<u> evolution </u>	7. The gradual change and development of something over time.
<u> feedyard </u>	8. A place where cattle are fed to grow before being sold for meat.
<u> flaked corn </u>	9. Corn that is heated and flattened for animals to eat.
<u> infamy </u>	10. Being famous for something bad or shameful.
<u> judging team </u>	11. A group of people who evaluate (or judge) the quality of animals at competitions.
<u> livestock buyer </u>	12. A person who purchases farm animals to sell them later or sent them to a different farm or market.
<u> nutrition </u>	13. The process of eating food and using it for growth and health.
<u> ruminant </u>	14. An animal that uses a series of stomach compartments and chews its cud to digest plant cellulose.
<u> silage </u>	15. A grass or other green plant that was chopped up and stored in airtight conditions to be fed to animals.

ruminant

beef cattle

flaked corn

commission man

infamy

livestock buyer

feedyard

agriculture

burp

nutrition

corn

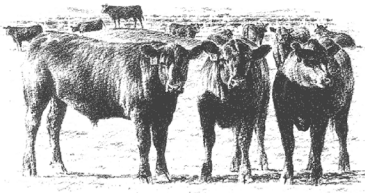
courage

silage

judging team

evolution

The Journey of a Beef Animal



Beef Lifecycle Stage:

3. Feedlot

Animal Eats:

grains (corn), hay, silage,
other nutrients



Beef Lifecycle Stage:

5. Consumers

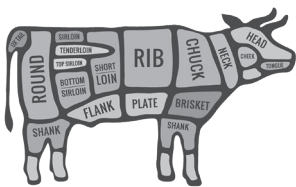


Beef Lifecycle Stage:

2. Backgrounding

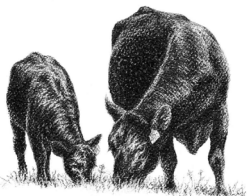
Animal Eats:

grass, hay, other forages



Beef Lifecycle Stage:

4. Packing Plant



Beef Lifecycle Stage:

1. Cow-Calf

Animal Eats:

mother's milk and grass

Overview:

This activity helps students understand the journey of a beef animal from birth to the consumer. The Reflect and Think questions encourage deeper thinking about responsible animal care and the connection between agriculture and their daily lives.

Reflect and Think Questions with Guidance

1. Why is it important to care for cattle during each stage of their lifecycle?

Objective: Students will recognize that proper care at each stage ensures cattle remain healthy, well-nourished, and stress-free, ultimately leading to safe and high-quality beef for consumers.

Discussion Points:

- Stage 1: Cow-Calf – Healthy calves grow strong when ranchers ensure cows have food, water, and shelter.
- Stage 2: Backgrounding – Proper nutrition and veterinary care help calves adjust after weaning.
- Stage 3: Feedlot – Balanced diets and regular check-ups ensure cattle grow efficiently.
- Stage 4: Packing Plant – Humane handling and safety regulations protect animals and ensure high-quality beef.
- Stage 5: Consumers – Proper storage and cooking methods keep beef safe to eat.

Possible Student Responses:

- “Cattle need food and water to stay healthy, just like people.”
- “Farmers and ranchers take care of cattle so the beef we eat is safe and nutritious.”
- “Veterinarians help cattle stay healthy at each stage.”

2. How does each stage connect to the food you eat?

Objective: Students will understand how the beef lifecycle impacts the availability, quality, and safety of the food they eat.

Discussion Points:

- The cow-calf stage begins with raising healthy calves.
- Backgrounding and feedlots ensure cattle receive proper nutrition for healthy growth.
- The packing plant processes beef under strict safety regulations.
- Consumers buy beef from grocery stores, restaurants, or farmers’ markets and prepare it at home.

Possible Student Responses:

- “The steak or hamburger I eat comes from cattle that were raised on farms and ranches.”
- “Farmers and ranchers take care of cattle so we can have beef to eat.”
- “If cattle weren’t raised carefully, we wouldn’t have good beef to eat.”

Additional Activities to Extend Learning:

Classroom Discussion: Ask students what foods they enjoy that include beef (burgers, tacos, spaghetti with meat sauce, etc.) and trace those meals back to the beef lifecycle stages.

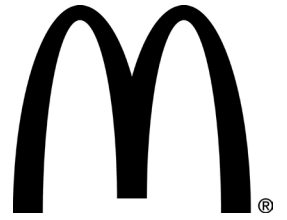
Writing Prompt: Have students write a short paragraph or draw a comic strip showing how cattle are cared for at different stages before beef reaches their plate.

Group Activity: Assign small groups to represent each stage and have them present what happens and why it is important.

Name: _____ Date: _____

From Ranch to Restaurant: The Journey of a McDonald's Burger

Objective: Learn how beef goes from the farm to your favorite McDonald's meal through reading, problem-solving, and writing!



Part 1: Read & Learn

Did you know that McDonald's buys more beef than any other restaurant in the world? In the U.S. alone, McDonald's sells around **63 million burgers every week!** That's a lot of beef! McDonald's works with ranchers and farmers across the country to make sure their beef comes from responsible sources. In Colorado, McDonald's purchased 26 million pounds of beef last year, helping support local ranchers and the beef industry.

Once cattle are raised, the beef is processed, formed into patties, and sent to McDonald's restaurants. The company ensures high-quality standards for food safety, sustainability, and animal welfare. In fact, **98.8% of McDonald's beef in 2023** came from deforestation-free supply chains, meaning that the beef is sourced in a way that helps protect the environment.

Part 2: Activity - Order the Steps!

Below are the steps that beef takes to become a McDonald's burger. Number them in the correct order (1-6)!

- 6 The beef patties are grilled and served at McDonald's restaurants.
- 1 Ranchers raise cattle, providing them with food, water, and care.
- 4 McDonald's buys the beef and ensures it meets high-quality standards.
- 3 The beef is processed, shaped into patties, and packaged.
- 5 The patties are transported to McDonald's locations across the country.
- 2 The cattle are taken to processing plants where the beef is prepared.

Part 3: Math in the Beef Industry

Solve these real-world beef math problems!

1. McDonald's sells about 63 million burgers per week. How many burgers is that per day? (Assume 7 days in a week.)

$$63,000,000 \text{ divided by } 7 = 9,000,000 \text{ burgers per day}$$

2. One beef animal provides about 450 pounds of beef. If McDonald's purchased **26 million pounds of beef in Colorado** last year, about how many cattle did that beef come from? (Round to the nearest whole number.)

$$26,000,000 \text{ divided by } 450 = \text{about } 57,778 \text{ beef animals}$$

3. If a Quarter Pounder uses $\frac{1}{4}$ pound of beef, how many Quarter Pounders can be made from **1,000 pounds of beef?**

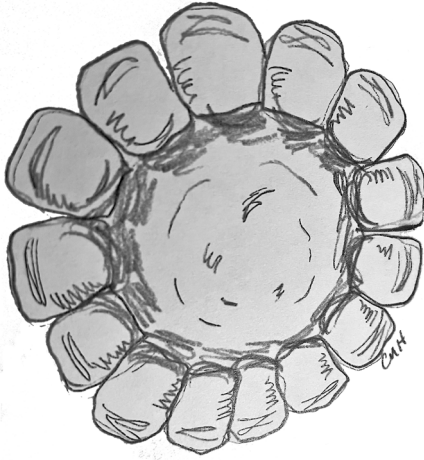
$$1,000 \text{ divided by } 0.25 = 4,000 \text{ Quarter Pounders}$$

Part 4: Writing Challenge - A Burger's Journey

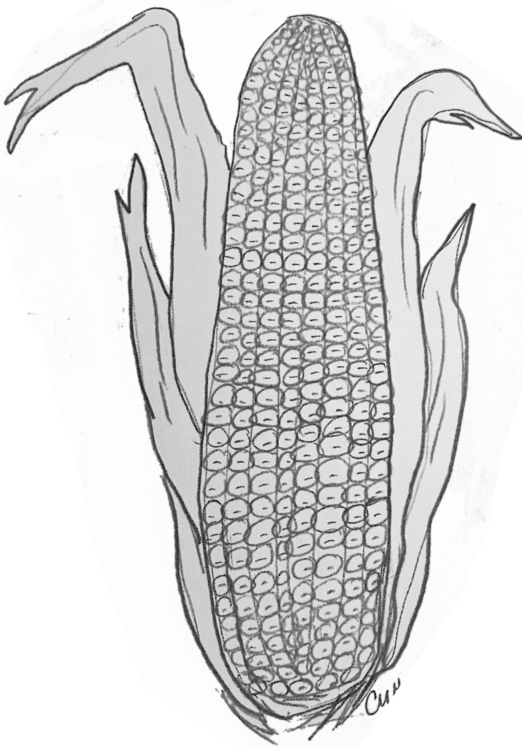
Imagine you are a hamburger patty traveling from a ranch to a McDonald's restaurant. On a separate sheet of paper write short story about your journey!

Corn: Inside and Out!

Cross-Section of a Corn Ear



Whole Corn Ear



Corn is one of the most important crops in Colorado and across the United States. It is used for food, animal feed, fuel, and many other products. Let's explore what corn looks like inside and out!

Look at the two pictures carefully. The first image shows a cross-section of a corn ear. The second image shows a whole corn ear with some husks pulled back.

1. Why do you think the kernels are arranged in neat rows on the whole ear of corn? How does this help the plant

Kernels grow in rows to maximize space and ensure efficient pollination. This arrangement helps the plant produce more seeds and increases the changes of reproduction

2. Farmers grow different kinds of corn. Field corn or dent corn makes up 99% of all the corn grown in the U.S. It has many uses including animal feed, fuel, plastics, cornstarch, and much more. Other types of corn are sweet corn, popcorn, and white and specialty corn. What are some of the ways you have eaten corn?

Answers will vary

3. Imagine you are a scientist studying corn. What would you like to learn about corn? Write one question.

Answers will vary

4. Count the number of kernels growing around the center of the ear of corn, called the cob, in the cross-section illustration.

There are 14 kernels

5. Each whole corn ear has about 50 rows of corn growing up and down. Multiple 50 rows by the number of kernels per row you counted in question 4 to get the total number of kernels per ear of corn.

50 rows x 14 kernels = 700 kernels of corn per ear

6. Most corn plants produce 2 ears of corn. Use your answer in question 5 to figure out how many kernels of corn one corn plant could produce?

2 ears x 700 kernels = 1,400 kernels

7. It takes about 90 to 120 days for corn to grow from a seed to a fully mature plant. If a farmer plants corn on May 1st, what is the earliest and latest possible harvest date?

a. Earliest Harvest Date: July 30th (90 days from May 1st)

b. Latest Harvest Date: August 29th (120 days from May 1st)

Beef Sticks and Nutrition!



Beef sticks are a great snack that provides protein and energy. Let's take a closer look at the label to learn about what's inside!

1. Look at the Beef Stick Label. Find the answers to these questions by reading the label:

- A. How many calories are in one beef stick? 100 calories
- B. How many grams of protein does one beef stick have? 8 grams
- C. What is the total fat content in one beef stick? 7 grams
- D. How much sodium is in one beef stick? 310 mg
- E. Which minerals can you find on the label?
Circle all that apply: Calcium Iron Potassium Magnesium

2. Math Time! Solve these beef stick math problems:

- A. If you eat 3 beef sticks, how many grams of protein will you get?
8 x 3 = 24 grams of protein
- B. If a student eats 2 beef sticks, how many total calories is that?
100 x 2 = 200 calories
- C. If a classroom of 20 students each gets 1 beef stick, how many total grams of protein will they eat?
8 x 20 = 160 grams of protein

3. Science and Health

- A. Why is protein important for our bodies?
Protein helps build and repair muscles, supports growth, and provides energy.
- B. What other foods can you eat to get protein? List 3 examples.
Lots of possible answers including: chicken, cheese, beans, eggs
- C. The label says this beef stick is "Made with Premium Beef." Where does beef come from?
Beef comes from cattle raised by ranchers and farmers.

4. Writing Challenge. Imagine you are a rancher in Colorado. Write 2-3 sentences explaining why beef is important to farmers and ranchers in our state.

If students need help with the writing challenge, encourage them to think about different ways beef is important in Colorado. How does raising cattle help farmers and ranchers make a living? What jobs depend on beef production? Beef is also a nutritious food—why do people eat it, and what nutrients does it provide? Ranching is an important tradition in Colorado—how do ranchers use the land to raise cattle, and why is it part of our state's history? Finally, beef connects to other parts of agriculture—what do cattle eat that comes from Colorado farms, and how does raising cattle support other farmers? These ideas can help students explain why beef is important in our state.

Name: _____ Date: _____

Cattle Feeding Math: Land, Space, and Feeding Calculations

Introduction: Cattle ranchers must understand land measurements and feeding requirements to manage their herds efficiently. Use math to solve real-world ranching problems!

Part 1: Land Measurement and Carrying Capacity

1. How many square feet are in one acre?

- 1 acre = 4,840 square yards
- 1 square yard = 9 square feet
- Calculate the total square feet in one acre: $4,840 \times 9 = 43,560$ square feet

2. How many acres are in a quarter section of land?

- A full section = 640 acres
- Calculate the number of acres in one quarter section of land? = $640 \div 4 = 160$ acres

3. Carrying Capacity Discussion: Carrying capacity is the maximum number of animals that a given area of land can support without degrading natural resources. It depends on factors like soil quality, forage availability, climate, and management practices.

- Using the example of a carrying capacity of 1 cow-calf pair per 40 acres of non-irrigated land in Colorado, Calculate the number of cow-calf pairs that can be supported on 160 acres? $160 \text{ acres} \div 40 \text{ acres per pair} = 4 \text{ cow-calf pairs}$

Part 2: Cattle Feeding and Space Requirements

5. Feeding Space for a Cow Herd (Average weight of 1200-1500 lbs.)

- Mature beef cows require 15 inches of bunk space per head.
- Convert inches to feet: $15 \text{ inches} \div 12 = 1.25$ feet per cow
- Calculate the total bunk space required for 200 mature beef cows: $200 \times 1.25 = 250$ feet

6. Feeding Space for Backgrounding Calves (Average weight of 400-900 lbs.)

- 100 backgrounding calves at an average weight of 650 lbs. require 18 inches of bunk space per head.
- Convert inches to feet: $18 \text{ inches} \div 12 = 1.5$ feet per calf
- Calculate the total bunk space required for these 100 backgrounding calves: $100 \times 1.5 = 150$ feet

7. Feeding Space for Finishing Cattle (Average weight of 900-1500 lbs.)

- 200 finishing cattle at an average weight of 1,350 lbs. require 12 inches per head when fed a grain-based diet once a day.
- Convert inches to feet: $12 \text{ inches} \div 12 = 1$ foot feet per animal
- Calculate the total bunk space required for these 200 finishing cattle: $200 \times 1 = 200$ feet

Reflection and Application

Why is it important to calculate land and feeding space correctly?

Ensures animals have enough space, prevents overcrowding,
maintains herd health, and optimizes feed efficiency.

How might these calculations change based on weather, feed type, or animal size?

Wet conditions may reduce available grazing land, high-energy feed
requires less bunk space, and larger cattle need more space.

If you were designing a cattle operation, what factors would you consider when planning land and feed space?

Land availability, herd size, climate, feed type, water sources,
infrastructure, and management practices.