

Curriculum for
CROSSOVER DRIBBLE

By P.J. Farris

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READING COMPREHENSION: EXTENDED RESPONSE

(Reading Standards: Make and support inferences and form interpretations about main themes and topics, summarize and make generalizations from content and relate to purpose of material.)

The relationships that Joe has change through the course of events in *Crossover Dribble*. Consider the interactions between Joe and Sassy the cow, Scottie his dog, Cuda, Captain, and his dad. These relationships are all at different levels of complexity, but each one provides an opportunity for students to analyze and synthesize information and to practice writing an extended response. For all of the relationships listed, questions such as the following could be used:

How did the relationship change from the beginning of the book to the end of the book? What lessons did Joe learn from each of these relationships? Cite examples from the text to support your answers.

The relationship between Joe and Sassy could be used for guided practice. Begin by discussing and charting or diagramming the information about Joe and Sassy with the whole class. Encourage students to look back in the text for information. The teacher could then model writing the response to the questions using the examples gathered.

Another session could then center on the relationship between Joe and Scottie. Again the whole class could work to chart or diagram information gathered from the book. This time students could try doing the written response on their own. Partner sharing of this work with some peer evaluation and teacher feedback would be important.

Students could then be asked to complete the charting or diagramming as well as the written response on their own with one of the remaining relationships. The interactions between Joe and his dad are certainly the most complex, but are also the heart of the story. Any of these extended response activities would provide assessment of students' comprehension.

Students' Names: _____ and _____

READING Plot Clues: Character Analysis

(Reading Standard: Read and explain relationships among literary elements: Characters.)

The first chapter of a novel sets up the plot. In *Crossover Dribble*, the author provides us with some hints about the characters and their relationships. This is called character analysis. Read the first chapter and then with a partner, talk about what you think the characters are like. Describe each character in terms of the following:

Character: _____

Appearance (how the person looks):

Behavior (things the person does):

Personality (things the person says in dialogue and thinks as well as their actions):

Character: _____

Appearance (how the person looks):

Behavior (things the person does):

Personality (things the person says in dialogue and thinks as well as their actions):

Name: _____

Reading - Plot Clues: Predict/Confirm

(Reading Standard: Read and explain relationships among literary elements: Plot.)

Readers need to read the clues to predict what will happen later in the book. These clues include the action that takes place along with the dialogue and thoughts of the characters. From reading the first chapter, how do you think Joe feels about his father? What clues led you to think this way?

What do you think will happen next in their relationship?

The end of the first chapter is very interesting. It sets up a mystery of sorts. Make a prediction as to what you think will happen in the book. Later, confirm or deny your prediction and give the reasons why.

Reading - Vocabulary Development

(Reading Standard: Apply word analysis and vocabulary skills to comprehend selections.)

Throughout the book there are several terms that relate to basketball and several others that relate to agriculture. Make a list of five basketball terms and write down the page number and the sentence in which they were used. Do the same thing with five words that pertain to agriculture.

With your classmates, create a bulletin board by dividing it into two parts. One side should contain agriculture terms and the other basketball terms. See how many of each you can locate in the book.

READING: READING DIALOGUE

(Reading Standard: Explain how authors and illustrators use text and art to express their ideas.)

Crossover Dribble contains many examples of well-written dialogue among all of the characters. There are also several times when Joe is thinking and talking to himself. Depending on students' ability and experience, discussion could begin by talking about how the text changes to show the reader that Joe is talking or thinking to himself. Some examples of this can be found on pages 78, 79, and 80.

Next discuss how we know when someone is talking when we watch television or a movie or listen to a conversation at lunch, and then elicit how we know who is talking when we read conversations in a book. Let students know that keeping track of which character is speaking is essential for comprehension.

Conclude the lesson by reviewing how punctuation helps us read with expression along with some practice reading the dialogue with students working in small groups or use one of the reader's theater scripts for Crossover Dribble.

READING: PLOT INTENSITY GRAPH

(Reading Standard: Summarize and make generalizations from content and relate to purpose of material.)

In a literature discussion group or during a whole class read-aloud, rich discussion and critical thinking take place when students make a graph to show the intensity of the plot from the beginning to the end of the book. Create a graph with the horizontal axis being the chapter numbers and the vertical axis in increments of ten that will reflect the intensity of the action for each chapter. You can choose the number of points on this axis, but zero to one hundred works well. The graph can be made on paper or invite students to create one on the computer. In small groups or as a whole class, students discuss the events and the action then decide where to record the intensity for that chapter. You might use post-it notes to plot the points at first. This allows for students to change their minds as more of the book is read. Students will need to support their suggestions for where to plot the point with information from the text. Compromise, debate, and lively discussions are likely to be a result of this activity.

The completed graph can be used to reflect on the writer's craft. What would happen if the whole book only rated a ten or twenty on the graph? What would happen if the whole book rated in the eighty to one - hundred ranges?

Writing Trait: Ideas

Elements of a Good Character

(Writing Standard: Communicate ideas in writing to accomplish a variety of purposes.)

Ever read a book that had a main character you absolutely hated? Did you finish the book? When creating a story, the characters have to be believable and likeable. Characters can be broken down three ways: 1) appearance or how they look; 2) how they behave or what they say and do in the story; and 3) personality.

Appearance may include hair and eye color along with height and weight. But to be interesting, the way the character moves, choice of clothing, and even smells gives the reader more information and helps to bring the character alive.

Behavior is the action described in the narration as to what the character does during the story. It also is revealed in what the character says in the dialogue. Is he a bully? Does she fret over little things?

Personality of a character is important. The main character, called the protagonist, needs to be likeable if the reader is going to finish the story or book.

For Crossover Drizzle, analyze two of the characters with these three traits. Then go back and compare the two individuals with a partner. How are they alike? How do they differ?

Develop a character that you might use in a story. Include appearance, behavior, and personality of the character.

Character Analysis

Character:

Character:

Appearance:

Behavior:

Said or thought:

Did things such as:

Personality:

Writing Trait - Ideas

Leads that Capture the Reader's Eye

(Writing Standard: Compose well-organized and coherent writing for specific purposes and audiences.)

Turning on the reader to your story is something every writer strives to accomplish. After all, if the reader doesn't like the first few sentences that might be enough to put the piece aside.

The author of *CROSSOVER DRIBBLE* starts each chapter with a lead in of a few sentences or a paragraph that sets up the chapter. Here's the opening to Chapter One:

Swish! The ball bounced twice before the boy grabbed it. Squaring his shoulders to the hoop, he released it at the very pinnacle of his jump! Swish!

What was the boy doing? How did you know that? The author uses something called "showing not telling." Here is the same paragraph broken down into facts.

The basketball went through the basket and the net made a swishing noise. The basketball bounced twice before the boy picked it up. The boy squared his shoulders to the basketball hoop. He jumped and released the shot at the top of his jump. The basketball went through the basket and the net made a swishing noise.

Describe below which version you liked the best. Why?

Write an opening lead for a story.

Flip through the book to three other chapters and read just the first two paragraphs that open each chapter. How does the author get your interest?

Chapter _____ Interest captured by _____

Chapter _____ Interest captured by _____

Chapter _____ Interest captured by _____

Share and discuss with a partner. What did the two of you discover?

The author opened the book with an action and used an exclamation point to capture the reader's attention. "Swish!" The word creates an image and a sound in our mind. Starting with an action word gets the reader's juices flowing—something is happening!!! Here are some ways to open a story or chapter with a catching lead.

Action taking place The shot left his hand just as the buzzer sounded.

Noise "Swish!"

Idiom (figure of speech) Now he was in a pickle.

Antecedent (brief Anecdote by author) When I was growing up in Iowa, we played basketball until it became so dark we couldn't see the basket.

Setting The big farm kitchen smelled of coffee percolating and bacon frying.

Definition Metamorphosis is a transformation. And Sarah definitely went through a metamorphosis with her new hairdo.

Exclamation Wow! And you thought climbing a tree was hard!

Writing Trait - Organization: How a Story Flows

(Writing Standard: Establish central idea, organization, elaboration, and unity in relation to purpose and audience..)

Writing needs organization. PJ Farris's CROSSOVER DRIBBLE opens at the beginning of summer vacation from school and ends during the fall semester. Thus, a short time span of a few months are covered in Joe's life.

Time of day is also shared in the chapters, often within the first few paragraphs of the chapter. Consider this chapter opening:

Voices in the kitchen startled Joe. His head felt like a sledgehammer pummeling a rock as he slowly rose out of bed.

"Stayed up late watching TV, did ya, Slats?"

What hints does the author give the reader to indicate the time of day?

Find two chapters in the book that reveal the time of day on the first page of the chapter. What time of day is it for each chapter? What hints helped you to figure it out?

After reading the entire book, create a timeline of Joe's summer.

School
Gets Out

^

Team
is Picked

^

Writing Trait - Sentence Fluency

The Rhythm of Sentences

(Writing Standard: Write paragraphs that include a variety of sentence types.)

Crossover Dribble has several examples of ways to combine sentences so the reader finds it interesting to read. Here Joe is thinking to himself in Chapter One:

Concentrate. Do the ritual. Toe the line with my right foot.
Keep my feet shoulder width apart, left foot slightly behind the
Line. Lock my eyes on the basket. Dribble twice. Put the ball
on my right fingertips and use my left hand to guide it. Shoot.

The author uses few words as the writing is very sparse. Why did the author do that? What is the author trying to get across to the reader? The paragraph almost reads as a list poem. Try reading it aloud as such.

"SHOOTING DRILL"

Concentrate.
Do the ritual.
Toe the line with my right foot.
Keep my feet shoulder width apart,
left foot slightly behind the line.
Lock my eyes on the basket.
Dribble twice.
Put the ball on my right fingertips
and use my left hand to guide it.
Shoot.

A single sentence can be fluid if a clause is added instead of using a conjunction (and, but, etc.). For instance, on p. 6:

"The slight breeze felt good as tiny streams of sweat trickled down his arms."

Find a paragraph where the author varies the sentence length. Share with your neighbor. Read aloud together and listen to the rhythm of the language the author uses.

Writing Trait - Word Choice The Use of Vivid Verbs

(Writing Standard: Edit and revise for word choice.)

Vivid verbs clue the reader to creating a more accurate image of the actions of a scene. Consider this paragraph:

Voices in the kitchen startled Joe. His head felt like a sledgehammer pummeling a rock as he slowly rose out of bed."

The reader knows that Joe had a headache without being told by the author. The key is to "show don't tell" the reader.

Vivid verbs can create images for the reader:

Leaping along,
Joe ambled . . .
The dog flushed a family of quail.
He shifted into a trot.
relished this daily task.

Write three phrases using vivid verbs and share with your neighbor.

Writing Trait: Word Choice Alliteration

(Writing Standard: Expand ideas by using modifiers.)

Whenever two or more next to each other in a sentence begin with the same sound, we refer to it as "alliteration." Find the alliteration in the following sentence:

"A pair of barn swallows swooped low, gracefully gobbling up unsuspecting mosquitoes."

Write an alliterative phrase _____.
Share with your neighbor.

Writing Trait -Voice Knowing Your Topic

(Writing Standard: Compose well-organized and coherent writing for specific purposes and audiences.)

A strong writer's voice tells the reader that the writer knows the subject. The author of Crossover Dribble knows a lot about basketball and rural life. Throughout the book PJ Farris drops in informative and helpful basketball tips that are used by actual coaches with players. Also included are facts about farming and livestock. These facts help build the reader's trust of the author. By being familiar with the subject you are writing about, you are the "expert" for the reader. Thus, authors have to research information to include in their writing. Even though Crossover Dribble is a novel, the author sought out information to write accurately about the subjects of basketball and agriculture.

1. Make a double entry journal and note the page numbers and basketball information shared by the author as you read the first two chapters of the book. Put this information on the left side of the page and write your reaction on the right side of the page. Why is this important to a basketball player? What does it mean?

2. Give three pieces of information about farming that you learned from Crossover Dribble. What is the importance of each? Why do you think the author included each in the book?

3. Make a list of five things you know a lot about (a sport, computers, baking cookies, movie, etc.). Select one and write 2 paragraphs about what you know about it.

Math, Science, and Ag in the Classroom: Corn and Cornfields

(MATH Standard: Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.

SCIENCE Standard: Know and apply concepts that explain how living things function, adapt, and change.)

Ever eat an ear of corn-on-the-cob smothered with butter and sprinkled with a dash of salt? Have you driven in the Midwest and passed acres and acres of lush green cornfields? Or seen a car or truck powered by ethanol made from corn? Corn is annual plant from the grass family with the scientific name of "Zea Mays L." Corn grows from six to ten feet tall. Corn can be grown under a variety of weather and soil conditions. It needs an ample water supply and proper fertilization.

The Pilgrims were introduced to corn, called "maize," by the Native Americans. Squanto taught the Pilgrims to plant a few seeds along with a small fish which decayed and fertilized the corn in a small hole. Since maize or corn was native to North American, it was taken to Europe where it became used as a livestock feed and for human consumption.

Corn has six different types: sweet, dent, flint, pod, flour, and popcorn. Sweet corn is eaten by humans as corn-on-the-cob. It is also canned or frozen to sell at grocery stores. Popcorn is the only kind of corn that "pops." The type of corn grown by most farmers in the United States and Canada is dent or field corn.

Hybrid seeds are made by crossing two or more corn plants. Each spring hybrid seeds are planted with a corn planter pulled behind a tractor. Modern planters are computerized using computers and satellites to determine how many seeds to plant in terms of soil quality and water availability. The amount of fertilizer deposited on the corn is also determined by computers.

The corn plant has a strong root system including brace roots which help it to withstand windstorms. A single tassel develops on the top of the plant. Each tassel has hundreds of small flowers that produce pollen. If seed corn is being produced, rows of corn are detasseled with other tasseled in order to pollinate and create a particular hybrid. A corn plant has long, stiff leaves that are narrow and pointed at the end. Ears of corn grow where the leaf attaches to the stalk. A corn plant will have between one and three ears. Each ear of corn is protected by a husk, leaves that cover the

ear. The kernels of corn grow in uniform rows on a corncob. From each kernel is a thin, thread-like silk that runs to the top of the husk and hangs outside. During the pollination process, each silk needs to be pollinated in order to produce a kernel of corn.

An ear of corn averages 800 kernels in 18 rows around the corncob. A pound of corn is about 1,300 kernels. A bushel of corn weighs 56 lbs. and has roughly 72,800 kernels. An acre of corn from an area of the Corn Belt with good soil, fertilization, and ample rainfall can yield 200 bushels or approximately 14,560,000 kernels.

Sweet corn is harvested in the summer while dent corn is harvested in the fall. Sweet corn is taken by semi-trucks to produce markets or taken food processing plants where it is cooked and either canned or frozen. If at harvest time, the dent corn has high moisture content it may be chopped and used as silage for cattle. Silos, bunkers, or bags are used to store silage. Dent corn harvested at maturity is dried and stored in bins.

Corn can be grown in many parts of the world. Most of the corn in the U.S. for livestock feed and ethanol use comes from Iowa, Illinois, Minnesota, and Nebraska. These states produce over 50 percent of the total corn crop. Indiana, Michigan, Missouri, Kansas, Kentucky, Ohio, South Dakota, and Wisconsin combined with the four other states make up the area called the "Corn Belt." Southern states such as Florida, Georgia, Louisiana, along with California produce sweet corn for early harvest. During the mid summer, the Corn Belt states provide most of the sweet corn found in stores for corn-on-the-cob. The countries of Brazil, China, and France also produce large amounts of corn.

Unlike sweet corn which has a soft cover on each kernel, dent corn has a hard outer portion similar to the thickness of a fingernail. If a kernel is cut open, the inner portion reveals a soft and floury material. Dent corn can be used for many purposes. It is used to make starches, corn syrup sweeteners for soda beverages and baked goods, oils such as cooking oils, livestock feed, and ethanol fuel for cars and trucks. Other products made from corn include crayons, paint, paper, and plastics. There are over 3,500 uses for corn products.

Corn serves as a primary livestock feed source. Corn is used for silage when it is chopped as a green stalk and fermented to feed to dairy or beef

cattle. Left to mature as a feed grain, the kernels are harvested to feed to livestock. A bushel of corn (56 lbs.) fed to livestock can produce 5.6 lbs. of beef, meat found in the grocery meat section. A bushel of corn will also produce 13 lbs. retail pork, 19.6 lbs. of chicken, or 28 lbs. of catfish. When the U.S. began using corn to produce ethanol, the result was increased prices for meat and other food products. The livestock farmers and food production companies have to compete with ethanol plants to purchase corn.

[Adapted from Wisconsin's Ag in the Classroom]

Math Problems: Corn
Don't forget to show your work

1.If a field has 500 corn plants (cornstalks) and the average plant has 2 ears, how many ears would there be for the field?

2.If each ear has 800 kernels, how many kernels will the field in Question #1 produce?

3. If a beef cow eats 15 pounds of corn a day and a dairy cow eats 25 pounds of corn each day, how many pounds of corn would a farmer need to feed 100 beef cows and 100 dairy cows?

4.Joe's dad had beef cattle and hogs. If he fed each feeder calf 12 pounds of corn each day and each pig 4 pounds of corn each day, how many pounds of corn would Joe's dad need to feed 45 feeder calves and 300 pigs for a day?

5. Joe's dad planted 400 acres of corn. He plans to sell 20 percent of his crop to the local ethanol crop and 5 percent to a grain dealer. How many acres will he have left for feeding his cattle and pigs?

6. It was a good yield for the Perkins' farm. The corn averaged 190 bushels an acre. They planted 450 acres. How many bushels of corn did they produce?

7. Corn is 62 percent starch, 19 percent protein and fiber, 15 percent water, and 4 percent corn oil. Ethanol is made from the starch in corn. If a bushel of corn weighs 56 lbs., how many pounds will be ethanol?

8. The Perkins also planted 200 acres of soybeans along with 300 acres of corn. What percentage of the crop was soybeans? What percentage was corn?

[Adapted from Wisconsin's Ag in the Classroom]

Math Problems: Corn
Solutions

1.If a field has 500 corn plants (cornstalks) and the average plant has 2 ears, how many ears would there be for the field?

$$2 \text{ ears} \times 500 \text{ corn plants} = 1,000 \text{ ears in the field}$$

2.If each ear has 800 kernels, how many kernels will the field in Question #1 produce?

$$800 \text{ kernels} \times 1,000 \text{ ears} = 800,000 \text{ kernels}$$

3. If a beef cow eats 15 pounds of corn a day and a dairy cow eats 25 pounds of corn each day, how many pounds of corn would a farmer need to feed 100 beef cows and 100 dairy cows?

$$15 \text{ lbs. per beef cow} \times 100 \text{ beef cows} = 1,500 \text{ lbs. of corn}$$
$$25 \text{ lbs. per dairy cow} \times 100 \text{ dairy cows} = 2,500 \text{ lbs. of corn}$$

$$1,500 + 2,500 = 4,000 \text{ lbs.}$$

Or $(15 \times 100) + (25 \times 100) = 4,000$

4.Joe's dad had beef cattle and hogs. If he fed each feeder calf 12 pounds of corn each day and each pig 4 pounds of corn each day, how many pounds of corn would Joe's dad need to feed 45 feeder calves and 300 pigs for a day?

$$12 \text{ lbs. per each calf} \times 45 \text{ calves} = 540 \text{ lbs.}$$
$$4 \text{ lbs. per each pig} \times 300 \text{ pigs} = 1,200 \text{ lbs.}$$

$$540 \text{ lbs.} + 1,200 \text{ lbs.} = 1,740 \text{ lbs.}$$

Or $(12 \times 45) + (4 \times 300) = 1,740 \text{ lbs.}$

5. Joe's dad planted 400 acres of corn. He plans to sell 20 percent of his crop to the local ethanol crop and 5 percent to a grain dealer. How many acres will he have left for feeding his cattle and pigs?

$$\begin{aligned}20 \text{ percent} + 5 \text{ percent} &= 25\% \\100\% - 25\% &= 75\% \\75\% \times 450 &= .75 \times 450 = 300 \text{ acres}\end{aligned}$$

6. It was a good yield for the Perkins' farm. The corn averaged 190 bushels an acre. They planted 450 acres. How many bushels of corn did they produce?

$$190 \text{ bu.} \times 400 \text{ acres} = 76,000 \text{ bu.}$$

7. Corn is 62 percent starch, 19 percent protein and fiber, 15 percent water, and 4 percent corn oil. Ethanol is made from the starch in corn. If a bushel of corn weighs 56 lbs., how many pounds will be ethanol?

$$62\% \times 56 \text{ lbs.} = .62 \times 56 = 34.72 \text{ lbs.}$$

8. The Perkins also planted 200 acres of soybeans along with 300 acres of corn. What percentage of the crop was soybeans? What percentage was corn?

$$200 \text{ acres soybeans} + 300 \text{ acres corn} = 500 \text{ acres}$$

$$\frac{200}{500} = 40\% \qquad \frac{300}{500} = 60\%$$

[Adapted from Wisconsin's Ag in the Classroom]

Science: Physics and Basketball

(SCIENCE Standard: Know and apply concepts that describe force and motion and the principles that explain them.)

Does a basketball bounce differently on different surfaces? Try dribbling a basketball on a wooden gym floor and then take it outside and dribble on the sidewalk or the asphalt playground. Does it feel different to you?

To test whether a ball bounces differently on different surfaces, you'll need the following materials:

- tennis ball
- meter stick to measure with
- a partner
- pencil and paper to chart your findings
- different kinds of surfaces (carpet, wooden floor, sidewalk, asphalt, etc.)

Make a chart listing the kinds of surfaces on the left side of your paper. Make a heading with the distance of the bounce.

Tennis Ball Bounce

Distance of bounce

Carpet
Wood
Concrete
Asphalt

One person holds the tennis ball at a 90 degree angle from his body by holding his arm straight out and parallel to the floor. Holding the ball with fingers only, it is then dropped to the surface. The partner measures the height of the bounce with the meter stick. Drop the ball 3 times for each surface.

Which surface created the greatest height for the bounce? The least? Why?

Ag in the Classroom:

Butter

(**SCIENCE Standard:** Know and apply the concepts, principles and processes of scientific inquiry.)

Materials: One pint pasteurized heavy whipping cream at room temperature for every 18 students
Clean quart container with a secure lid - 1 for every 18 students
Container for pouring off buttermilk
Salt shaker

1. Set out the heavy whipping cream until it reaches room temperature.
2. Pour into quart container.
3. Have students each shake the quart container for a minute as you are presenting another lesson. The container passes from student to student around the room. The container needs to keep shaking at all times.
4. Have the students note the three stages of butter: 1) It starts as a liquid making sloshing sounds. 2) The butter is formed into a solid. 3) The butter separates from the milk. The sloshing sound returns as the butter makes a thumping sound as it hits against the side of the container.
5. Sprinkle a dash of salt into the mixture.
6. Have a student pour off the liquid into another container. Explain that the liquid is buttermilk.
7. Provide crackers or pretzel sticks for students to enjoy with their butter.

SCIENCE:

The Digestive Process in Cattle

(SCIENCE Standard: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.)

Have you ever watched a baby take a bottle and then fuss until it is burped? Or remember how you felt when you stuffed yourself with pepperoni pizza, four tacos, refried beans, a candy bar, and then topped it off with a milk shake? Until the gas in the digestive system is emitted, both you and the baby felt very uncomfortable. The baby burps and you belch and that bloated feeling is eased.

How do you ease that bloated feeling?

- a) eat another slice of pizza
- b) drink a cola soda pop
- c) take an antacid
- d) drink a warm cup of water with a tablespoon of baking soda in it
- e) walk around

Which of the above would help get rid of the gas? Which of the above helps to get rid of the acids formed in your digestive system?

What would you do with a cow that suffers from indigestion? In the spring time especially, cattle eating in pastures are prone to get a form of indigestion called bloat. This comes from eating lush green grass or red clover. Sassy bloated on clover from the neighbor's hay field. Joe and his grandfather attempted to come up with a temporary solution until the veterinarian arrived. They made Sassy swallow two different liquids. Which one do you think worked? Describe which liquid you believe helped Sassy to belch out some of the gases. Explain why you think it worked.

Read the next page to find out if your solution was correct.

The Digestive Process in Cattle

Cattle digest grasses and hay so they are ruminant animals. The rumen is the largest of four stomachs in a cow. (See Figure 1) Millions of tiny microbes (bacteria, fungi, and protists) live in the rumen where they cause fermentation of grasses and hay so that the cow will receive nourishment. By using special proteins called enzymes, the cellulose of the grass or hay is broken into very small particles that the cow can absorb. The main substrates are carbohydrates (hemicellulose and cellulose) and nitrogen-containing compounds (protein, peptides, and ammonia).

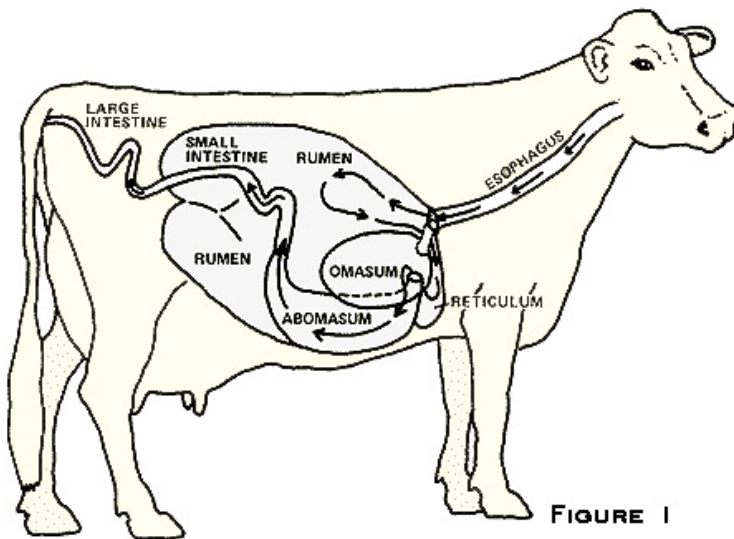


FIGURE 1

When a cow digests too much fresh grass or clover, it may bloat as a result of the natural fermentation process. The cow will produce gas that may be partially emitted by belching or passing gas. This is referred to as flatulence. The fermentation process will also create a thick foam

in the cow's rumen. If the cow has gorged on spring grass or red clover, the rumen expands to be noticeable on the left flank. As the foam continues to be produced, it can eventually strangle the cow causing it to die.

To prevent bloat, farmers give cattle anti-bloat pills or spray fields with anti-bloat chemical prior to letting the cattle graze. If a cow hasn't taken anti-bloat pills or eaten untreated grasses or clover, it is likely to bloat within a few hours. A bloated cow needs treatment quickly or it will die within a few hours. Walking the cow may help relieve some of the gases as it may belch or relieve itself. A drench of 100 ml. of vegetable oil will help prevent the foam from building up inside the rumen. The veterinarian does a simple procedure with a knife, slitting a two to four inch gash in the upper part of the rumen on the left side of the cow. The opening allows for gas to be emitted as well as provide an opening to remove some of the foam. With the opening, the fermentation process slows down. Vegetable oil can be poured directly into the opening to assist in getting rid of the foam.

Now it's time to confirm or deny your choice of whether Sassy's bloat problem was temporarily relieved by the cola soda pop or vegetable oil. If you selected cola soda pop, it does help humans causing them to belch and emit gas but it doesn't work with a cow. If you chose vegetable oil, you are right. The vegetable oil would help to move the foam in the rumen. Still the veterinarian would need to make an incision into the rumen.

[Answers: B, C, D, E, all help humans to feel better after having overeaten.]

Tortilla in a Bag

(SCIENCE Standard: Know and apply the concepts, principles and processes of scientific inquiry.)

Cuda's family came from Mexico where tortillas are a popular food. Warm tortillas filled with cooked beef or chicken, beans, cheese, and salsa are served as burritos. Here's a simple recipe for making tortillas.

Ingredients: 1 1/2 cup Flour
1/4 teas. Salt
1 teaspoon Baking Powder
3 Tablespoons Shortening
1/2 cup Hot Water from Tap

Other: Browned ground beef
Salsa
Refried beans
Shredded cheese
Shredded lettuce

Materials: Quart sealable bags
Electric Skillet or Griddle
Hot plate
Wax paper (to cover desks and roll tortilla dough)
Spatula, forks, spoons

1. Place flour, salt, and baking powder in the sealable bags. Close and shake to mix the ingredients.
2. Add shortening and recluse the bag. Work bag with hands until the mixture looks crumbly and no large pieces of shortening visible.
3. Open the bag, and add the hot tap water, knead in the bag until the dough is one large piece and the sides of the bag come clean.
4. Take the dough out of the bag and divide into four equal pieces. Put the pieces of dough on the wax paper on top of a table or desk. Cover the four pieces of dough with another piece of wax paper. Let the dough rest for 15 minutes.
5. After the 15 minutes have passed, roll or pat the dough into 8 to 10 inch circles. Place the circles on a griddle or skillet heated to medium or medium high. Cook until brown spots appear. Turn and cook on the other side until brown.
6. Fill tortillas with browned ground beef, beans, salsa, cheese, and lettuce to make burritos.

Physical Education

(Physical Education Standard: Acquire movement skills and understand concepts needed to engage in health-enhancing physical activity.)

In *CROSSOVER DRIBBLE*, the author describes the form needed to shoot by saying you need to “BEEF Your Shots” (p. 9).

BEEF is:

B—Balance: Keep feet together, shoulder-width apart. Shooting foot should be slightly behind your non-shooting foot.

E—Eyes: Choose a target (the front of the rim, the center of the hoop) and focus on that through your shot.

E—Elbow: Cock your elbow to a 90 degree angle. There should be wrinkles on the back of your wrist. Rest the ball on the pads of your fingers with the center of the ball on your index finger. Put the guide hand on the side of the ball, not under it.

F—Follow Through: Straighten your elbow and release the ball by flicking your wrist. Pretend you’re reaching into the hoop when you release the ball. Keep the guide hand straight and don’t use it to push the ball.

Take turns with a partner to shoot from three different spots on the floor—the free throw lane and the left and right elbow, for example. Watch and make certain your partner does BEEF. Remind your partner if a step isn’t followed.

READER'S THEATRE - FLUENCY

(Reading Standard: Read appropriate material aloud with fluency and accuracy.)

Purposeful rereading builds fluency. Reader's theatre gives an authentic reason for repeated practice. This activity also gives students the chance to work on reading with expression.

Several scripts are included at the end of this section to provide choices for students. Each script has two to four parts rather than one longer script with several parts. The scenes represent key events so they could also be used as part of a book talk presentation to other classes.

Reader's Theatre Script #1

Parts: Narrator, Dad, Captain, and Joe

Narrator: While Joe's mom is working one Sunday after his dad's accident, Joe and his grandfather, Captain, go into town to see Joe's dad at the hospital. Joe's dad greeted them as they strolled into the hospital room.

Dad: Hey, how are things going with my two hired hands?

Captain: How are things going with yourself?

Dad: Not bad. I heard a joke from the nurses. Did you hear about the chicken and the pig? They were talking about the farmer and his wife. The chicken said they were such nice people and took such good care of the animals they should do something for them. The pig said that sounded like a good idea, but what did the chicken have in mind? The chicken said, "We could give them a breakfast of ham and eggs." The pig said, "Hey, wait a minute. For you that's a contribution, but for me, that's a major commitment."

Narrator: Joe forced himself to laugh despite having heard his math teacher tell the same joke over and over again.

Joe: That's a good one, Dad. I brought you some magazines, Successful Farming and Sports Illustrated.

Dad: Great! That'll help me pass the time, but Joe, you can keep your Sports Illustrated. I don't read that stuff.

Narrator: Silently, Joe put the magazines on a table near the bed.

Dad: How are the crops doing? Corn comin' up okay?

Captain: Sure. Heck, we ain't amateurs you know. We've got things under control. Don't you fret about that.

Dad: Sassy and her calf doing okay?

Captain: They're fit as fiddles. That calf looks just like Sassy.

Joe: Yeah, it looks just like her and is just as big a pain in the neck. It started raining a couple of days ago and Sassy headed into the barn. You'd think the calf would follow her, but no. I tried to pick her up...

Captain: (laughing) Yeah, and the calf squirmed. When Joe reached for it, he split his britches.

Dad: (chuckling) Sounds like the calf's got lots of spunk. That's good.

Captain: Joe and I are full of good news. Say, I'm goin' to get a cup of coffee. You two want anything?

Dad: Nuthin' for me, Dad.

Joe: I'll take a soda.

Narrator: Captain leaves the room. Joe hadn't been alone with his Dad since just before the accident. He hoped the Captain wouldn't be gone long. He didn't know what to do or say. For a while they were both silent.

Dad: Joe, I've been thinking. There's a lot of work that needs to be done on the farm.

Joe: (voice quivering a bit) We're doing all right. Cuda helps out a lot.

Dad: Captain and Cuda can't do it. They don't know what to do.

Narrator: Joe thought to himself. Most of the time neither do I.

Dad: Oh, Captain was a good farmer in his day. But things ain't like they used to be. Farmin's changed a lot. And it keeps changing. I've been thinking about this a lot, Joe. There's just too much work for Captain and Cuda. Captain's getting' along in years, too. (He clears his throat.) Joe, I've decided you can't go to basketball camp this year.

Narrator: Stunned, Joe was silent. He clenched his fists. He wasn't going to give up on his dream just yet.

Joe: (Clenching his teeth) We have Cuda to help out, and I saved the money and everything!

Dad: No, Joe. I know how much you were counting on it, but Captain can't do the work alone, and Cuda really doesn't know what to do. And the hospital bills are mounting up, Joe.

Narrator: Joe looked out the window as tears welled up in his eyes as Captain comes back to the room.

Captain: Mack, it's not Joe's fault that you were in the wreck. Things just happen.

Dad: I know, but it's still hard to accept. Maybe I'll never accept it.

Captain: Maybe you won't, Mack. Let Joe do the camp.

Dad: No, Joe will help you and Cuda.

Joe: But, Dad....

Dad: You heard me. No basketball camp. That's it. I'm sorry.

Reader's Theatre Script #2

Parts: Narrator, Captain, and Joe

Narrator: The next morning, Joe let the cattle out of the barnyard. One of the cows lingered. Joe climbed up the gate to check it out. The cow's stomach was blown up like a helium balloon and she could barely move. It was his dad's favorite cow and Joe's favorite nemesis - Sassy.

Joe: (groaning) Not again. That doggone cow can't do anything right.

Narrator: Joe threw his hat down on the ground and climbed down. Picking up his hat, he tugged it down on his head and went to the house to fetch Captain. After carefully surveying the animal, Captain seemed worried.

Captain: If we don't do something for her quick like, she'll die before long. I should've figured one of them would bloat, with all the red clover they ate.

Joe: She deserves to die.

Captain: Nothing deserves to die, Joe. She's certainly got herself in a heck of a mess. She's one sad lookin' critter. If you'd checked the fence like you were supposed to, she wouldn't be in this mess! Go call the vet and see if he can come!

Narrator: Joe turned and began walking out of the barnyard toward the house.

Captain: (Yelling) Hurry up! We ain't got all day! Run, boy, run!

Narrator: With some coaxing of the cow by Scottie, Captain managed to lead Sassy into the barn and put her in a long abandoned milking stanchion. After calling the vet, Joe ran back to the barn.

Captain: What did the vet say?

Joe: His wife answered the phone. He'll be here in an hour or so.

Captain: For crying out loud, Joe, by then she'll probably be dead

Joe: What'll we do?

Captain: If your dad was here, he'd take a knife and stick her.

Joe: Stick her?

Captain: Yeah, stick her. He'd take a butcher knife and stab her with it in the side and the gas would escape. He's saved several cows that way. Remember two years ago? He saved that Johnson boy's 4-H calf that bloated on sweet clover in early May. That calf went on and took second place at the fair that summer.

Narrator: Joe did remember. He also remembered that his dad told him you always stick the animal between the third and fourth ribs. Or was it right in the stomach? He couldn't recall for certain - and the wrong spot could be fatal.

Joe: I'll get the knife so you can stick her.

Captain: Joe, your dad knows how to do it. I don't. Did he ever tell you anything about doing it?

Joe: (lowering his eyes) Yeah, but I didn't pay enough attention. We could call Dad.

Captain: And he'd hit the ceiling! Besides, they don't want him upset.

Narrator: Captain put his hands on his hips. Sassy let out a mournful bellow.

Captain: She's in bad shape, Joe. We've got to think of something - and pronto! She's filling up with air faster than a balloon. If we don't help her soon, we'll lose her. You know, if we could get her to belch, she'd be okay until the vet comes.

Joe: How can we do that?

Captain: What makes you belch?

Joe: (grinning) Your homemade chili.

Captain: (chuckling) Yeah, a lot of good that'll do us. You know, Joe, I do remember something about giving a cow vegetable oil, but I'm not sure...

Narrator: Something clicked in Joe's brain.

Joe: I'll be right back!

Narrator: Joe raced to the house. Picking up three plastic bottles of Coca Cola and a bottle of cooking oil, he ran back just as fast. Sassy rolled her eyes and stepped sideways as he rushed into the barn.

Captain: Don't scare her, Joe! She's going to be hard enough to handle the way she is!

Narrator: Joe put the bottle of oil between his legs. He wired a wooden gate tightly confining the cow in the stanchion next to the wall. Satisfied that Sassy couldn't move, Joe held her head and sloshed vegetable oil down her throat, followed by the three bottles of cola.

Joe: Well, what do you think?

Captain: I don't know. How long before you think it should work?

Joe: When I guzzle down pop real fast, I usually belch right away, but I don't know about cows.

Captain: Let's wait a spell and see what she does. Maybe the gate's putting too much pressure on her sides. Let's move that.

Narrator: Joe bent down to unwire the gate. As he stood up, Sassy raised her head and gave an enormous belch right in his face.

Captain: I'll be. It worked! That's a sure-fire remedy, Joe! Keep her moving so she can walk it off.

Narrator: Sassy belched again and again as Joe led her around the stall several times. The putrefied odor from the gas Sassy gave off filled the barn. Leaning on the cow, Joe bent over and vomited. Captain reared back his head and laughed.

Captain: If that don't beat all! Some vet you'd make, Slats!

Narrator: Captain handed Joe his handkerchief. Joe went over to a water hydrant and moistened the handkerchief before wiping his face with it.

Joe: That smell is awful! No wonder bloated cows die!

Captain: Well, you saved her life, Joe. And you saved her calf, too. Why you're Sassy's guardian angel!

Joe: Don't go and pin that on me, Captain. She hates me.

Narrator: As if in agreement, Sassy stretched out her neck and let out a gigantic belch, once again filling the barn with a malodorous odor. Joe and Captain pushed and shoved each other trying to get outside into the fresh summer air.

Reader's Theatre Script #3

Parts: Narrator, Cuda, Captain, and Joe

Narrator: Having Cuda around meant Joe could still work on hoops. Despite how long the days were, they typically ended with Joe playing one-on-one with Cuda, with Scottie curled up under the maple tree as the only fan in the stands. Joe's confidence increased as he became an accurate shooter from several different spots, despite Cuda's excellent defense.

Cuda: Hey, Man, that was a three-pointer!

Joe: Yeah! How about that!

Narrator: Cuda drew a line around the perimeter with the toe of his sneaker.

Cuda: Any shot beyond this line is a three-pointer. This is downtown, Man.

Joe: Sure Cuda. But fair warning, I'm planning to shoot out the lights downtown.

Cuda: Just try it and I'll be in your face every time!

Narrator: Cuda dribbled to his left, crossed over and continued dribbling. Unexpectedly he whipped the ball between his legs and drove to the basket for a lay up.

Cuda: (smiling and taking a bow) Play some D! That was too easy!

Joe: (shouting) My turn!

Narrator: Backing down with his dribble, Joe watched Cuda out of the corner of his eye, though Cuda was over him like a net over fish. Then Joe raced outside for a quick trey. Swish!

Cuda: I put a hand in your face and you still sink the shot. Have pity on my Man.

Narrator: Captain watched from the porch swing.

Captain: Hey fells, you two are getting so neither of you miss a shot. It's "Deadeye" Joe Perkins and "Clutch Shot" Cuda.

Narrator: The boys waved off his remarks and began to work on their drills, passing and moving the ball.

Cuda: These drills are a whole lot more difficult to do on gravel than in the gym.

Joe: You can't get a true dribble on gravel.

Cuda: Still, practice is practice. We can make do, Joe. Come fall, I'll be the number one point guard this side of the Ohio and you'll be a starter on the eight-grade team. Yeah, Man!

Joe: I hope so Cuda. Coach says to work to get better. And we've worked ourselves to a frazzle.

Cuda: Yeah. We're both lucky to have had Coach teaching us the fundamentals. A lot of players never get the basics.

Joe: I know.

Cuda: Yeah, Man. You can tell it when we play the other teams. A lot of those players don't know nothing about shooting form or

positioning for defense. Even their passing game is lousy. You know, Coach is probably the best coach around.

Joe: We're pretty lucky. But if we don't get back to work, Dad and Captain will have our hides I and our fundamentals.

Reader's Theatre Script #4

Parts: Narrator, Dad, Captain, and Joe

Narrator: Joe's dad leaned on his crutches and peered into the back of the pickup at the two feeder calves Joe had loaded.

Dad: Why'd you pick those two?

Joe: Well, they're finicky eaters.

Dad: But they might come out of it and start eating again.

Captain: Well, they volunteered to go up the ramp. Since they didn't fuss when we caught them up, I didn't think you'd mind much.

Narrator: Captain grabbed the steering wheel and climbed into the truck.

Dad: That's no reason to pick out the two best calves and send them to market.

Joe: Dad, they're not even average for our herd.

Dad: They might improve.

Joe: Come on, Dad, a lousy free-throw shooter might improve too, but they have to stand at the line and practice.

Captain: Joe's right. These calves are last to belly up to the feed bunk.

Dad: (shrugging) Guess you're right. Players who can't hit their free throws cost you ballgames. These two won't ever be winners. They'll eat enough to get by and never get much bigger. Sell 'em.

Narrator: Joe couldn't ever recall his dad bringing up basketball without giving him a dig.

Captain: Joe, get a move on so we can go sell these calves to some sucker to improve his herd.

Narrator: Joe's dad and Captain were in a talkative mood as they rode along.

Captain: We couldn't have picked a nicer day.

Dad: We could've gotten a lot of work done if we'd stayed home. If Cuda showed up, we might have repaired those holes in the barn.

Captain: Mack, you're going to wear yourself out thinking up all those things for me and the boys to do.

Dad: There's so much to do before we start combining the crops.

Captain: And it'll get done just like everything else has, in due time, Mack.

Dad: Guess you're right. It's just that being cooped up all the time with nothing to do makes you think up jobs you wouldn't think of otherwise.

Joe: Yeah, Dad. Won't you catch Captain's drift and give us some breathing room?

Dad: Well, maybe. You guys did so much work while I was in the hospital, I just thought now that you have a good boss to oversee you, more work would get done. (smiling) You know, crank it up another notch.

Captain: It's time we form a union, Joe. Better wages and vacation time and all that stuff.

Joe: Yeah, Cuda's soaking up some rays until school starts. Lucky dog! And you're planning to work my tail off until the first day of school. Ol' Miss Humphries's social studies class will be a welcome relief.

Dad: Okay, I'll back off. If Joe's looking forward to doing those gigantic research reports Humphries requires, then I must be pouring it on too much - but a little work never killed anybody.

Captain: Shoot, Mack, you never dole out just a little work!