

TOMATO LESSON #1

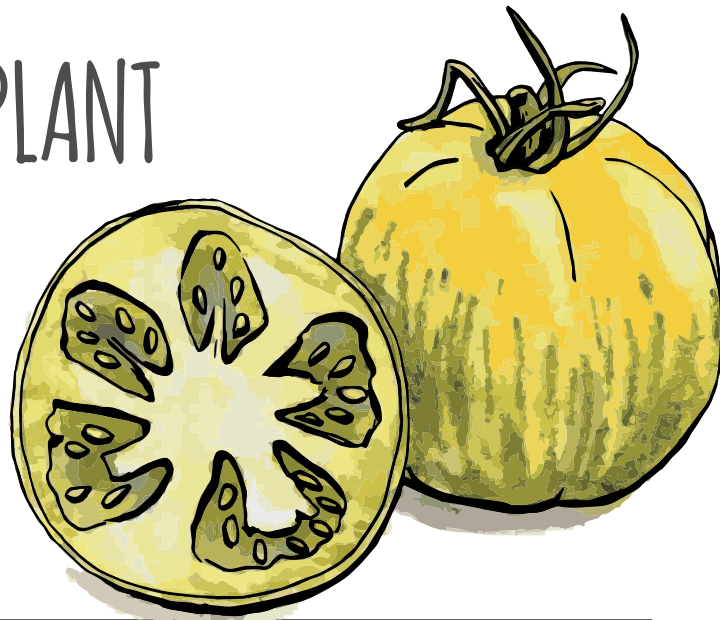
LIFE CYCLE OF THE TOMATO PLANT

Ask: What different stages do humans go through in life? (baby/infant, toddler, teen, etc.)

Say: The stages of development for anything living is called a life cycle.

Ask: What stages do you think are included in the life cycle of a tomato?

Watch: youtu.be/DKk6IgemIW8



ACTIVITY: MAPPING THE DRIVE

Say: Today, we are going to talk about the different developmental stages of a tomato plant, and then we will taste some tomatoes.

Directions: Have students sit in small groups.

Ask: What is the first stage of a tomato plant?

Say: The first stage of the life cycle of a tomato is a seed.

Directions: Pass out tomato seeds to each group for them to inspect.

Ask: What do you notice about tomato seeds? What do you wonder about tomato seeds?

Ask: What do tomato seeds need to move from this stage to the next in their life cycle?

Say: Tomatoes need nutrients (soil), water, and sunlight.

Directions: Allow students to observe the tomato plants without flowers and the tomato plants with flowers. Note: If you don't have any actual tomato plants available, you can just share a picture of a tomato plant without flowers and one with flowers.

Ask: Which plant comes first in the life cycle of a tomato? Why do you think that?

Say: The plant without flowers comes first in the life cycle of a tomato plant. The plant grows from a seed to a small plant without flowers, and then finally develops flowers which will turn into tomatoes when pollinated.

Directions: Allow students to observe the unripe (green) tomatoes and the ripe (red) tomatoes.

Ask: Stand up if you think the green tomato is the ripe tomato. Stand up if you think the red tomato is the ripe tomato.

Say: The red tomato is the ripe tomato. A tomato is ripe when it has a slight give when lightly squeezed and a fragrant aroma. Note: Some tomato varieties, like the tomatillo, are green when ripe.

Directions: Allow students to come up and feel the difference between the unripe green tomato and the red tomato.

Say: So far, we have learned that the life cycle of a tomato has the following stages: seed, plant without flowers, plant with flowers, unripe tomato, ripe tomato.

MATERIALS NEEDED

- Tomato seeds
- Tomato plant without flowers
- Tomato plant with flowers
- Unripe (green) tomato
- Ripe (red) tomato
- Paper plates
- Plastic knife
- Toothpicks

Directions: Cut open the ripe tomato and give each group a piece of the cut tomato on a paper plate. Pass out toothpicks to the students. Have students taste test the different tomato varieties and identify any differences in taste between them.

Ask: What do you see inside the tomato?

Ask: What are the stages in the life cycle of a tomato?

Say: The life cycle of a tomato has the following stages: seed, plant without flowers, plant with flowers, unripe tomato, ripe tomato.

Ask: How can you tell if a tomato is ripe?

Say: A tomato is ripe when it has a slight give when lightly squeezed and a fragrant aroma.

ALTERNATIVE ACTIVITY: MAKE 3D TOMATOES

Say: Today, we are going to make our own paper tomatoes to take home.

Ask: What are the stages in the life cycle of a tomato?

Say: The life cycle of a tomato has the following stages: seed, plant without flowers, plant with flowers, unripe tomato, ripe tomato.

Ask: What color of tomatoes do you see in the store?

Say: Tomatoes are ripe when they give slightly with a light squeeze and have a strong aroma. Ripe tomatoes come in different colors depending on the kind of tomato that you grow.

Ask: What variety of tomato would you like to make and take home today? We have red tomatoes, yellow tomatoes, and green tomatoes.

Directions:

1. Give each student one piece of construction paper or cardstock in their color of choice, along with one piece of 2" x 2" green construction paper. Hand out the glue and scissors for the students to share.
2. Demonstrate how they will turn their paper horizontally and create accordion folds along the paper to make 6 even strips. Have students cut along the folded lines so they have 6 strips.
3. Play the Youtube video to show them how to make their tomato. Pause the video as needed as they work and follow along with it - youtube.com/watch?v=dM7I9H0Uds4.

Ask: If our tomatoes were real, what would we find inside of them?

Say: Tomatoes have flesh and seeds on the inside of them.

ADDITIONAL ACTIVITIES:

- *Life Cycle of a Tomato* worksheet: k5learning.com/worksheets/kindergarten/science/plant-life-cycle-b.pdf
- *How to Grow Tomatoes* video: youtu.be/9z95PIRMtBg



MATERIALS NEEDED

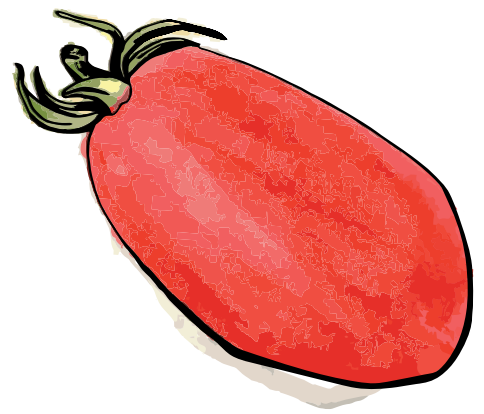
- Red, yellow, and green construction paper or cardstock
- 2" by 2" green construction paper or cardstock squares
- Scissors
- Glue
- Markers, colored pencils, or crayons



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education.ne.gov/ns/farm-to-school/farm-to-after-school

TOMATO LESSON #2

TOMATO - FRUIT OR VEGETABLE?



Ask: Can you name some fruits? What about some vegetables?

Ask: What do you think is the difference between a fruit and a vegetable?

Watch: youtu.be/DTK-uWx_VQo

Say: It's important to note that botanists and nutritionists classify fruits and vegetables differently because they use different criteria and focus on different aspects. Botanists classify based on the plant's structure and reproduction. So, things like tomatoes are botanically fruits because they come from flowers and contain seeds, even though we might not think of them as fruits in the culinary sense. Nutritionists, on the other hand, classify fruits based on how we use and eat the foods. This is why things like tomatoes, despite being fruits botanically, are often treated as vegetables in nutrition because they aren't sweet and are used in savory dishes.

ACTIVITY: PICO DE GALLO

Say: Today, we are going to make a recipe that uses tomatoes as the primary ingredient, Pico de Gallo.

Recipe:

- 3 Roma tomatoes, diced
- 1/2 cup red or white onion, diced
- 1/4 cup cilantro, minced
- 1/2 jalapeño, seeds and membrane removed, minced
- 1 clove garlic, minced
- 1 tbsp lime juice
- Salt and pepper to taste

MATERIALS NEEDED

- Recipe ingredients
- Plastic spoons
- Small bowl
- Paper plates and bowls
- Plastic knives
- Tortilla chips

1. Put students into small groups of 4 to 5. Give each group a paper plate, plastic spoon, plastic knife, two paper bowls, and 3 Roma tomatoes.
2. Have students cut the top off the tomatoes. Place tomatoes on the flat side just created. Cut tomatoes into 1/8 inch slabs by cutting from the top of the tomato to the paper plate. Place two or three stacked slabbed pieces flat on the plate and cut into long strips. Turn the paper plate and cut across the long strips to make diced pieces. Put the diced pieces into the paper bowl. Repeat until all tomatoes are diced.
3. In a small bowl, add diced tomatoes and salt. Stir.
4. Add onion, cilantro, jalapeño, and garlic. Stir.
5. Add lime juice and mix until completely combined. Add salt and pepper to taste.
6. Pass out tortilla chips to all students and let them try the Pico de Gallo.

Ask: Why did we add salt to the tomato in step one?

Say: Salt enhances the flavor of a tomato by drawing out some of the water in the tomato.

Ask: What vegetables did we use in this recipe?

Say: The vegetables in this recipe are onions, jalapenos, and garlic.

Ask: What fruits did we use in this recipe?

Say: The fruits in this recipe are tomatoes and limes.

ALTERNATIVE ACTIVITY: TOMATO ART

Say: Today, we are going to look at some unique tomatoes and then make our own tomato.

Watch: youtu.be/EBiULAW0-LM?si=PEQIc_igf99MN_Bj

Ask: What shapes of tomatoes did you see? What colors did you see? What patterns did you see on the skins of the tomatoes?

Directions: Re-watch the video playing close attention to the shapes, colors, and patterns of the tomatoes.

Ask: Did you see anything else after watching the video again that we didn't mention before?

Say: Let's close our eyes. In your mind, picture a tomato that you would like to grow. In your mind, answer the questions: how big is my tomato, what color or colors is my tomato, is it big and only one grows in a space at a time or is it small and a bunch of them grow together like grapes?

Directions: Give each student construction paper and a crayon. They are going to draw the outline of their tomato on the construction paper. Explain to students that the watercolor will go inside the crayon outline so make sure there is enough room inside the outline. Allow students to watercolor their tomatoes. When students are done, they can move their papers to the drying station to dry. Once they are dry, have students present their tomatoes.

MATERIALS NEEDED

- Construction paper
- Crayons
- Watercolors
- Watercolor brushes
- Paper cups with water for brush rinsing
- Paper towels
- Drying station

ADDITIONAL ACTIVITIES:

- *Tomatoes for Neela* Book Read Aloud - Tomato history, culinary techniques: youtu.be/FD5U3QcpQIQ?si=IVveDRDmY0YdY4Sh
- *I Will Never Not Ever Eat a Tomato* Book Read Aloud - Being open to new foods: youtu.be/THyOSgyQrrU?si=-ulj_uWok3l8QFc



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DAIRY LESSON #1

MILK & CREAM

Ask: When I say dairy, what foods do you think of?

Say: When we talk about dairy products, most people think of foods that are made from milk.

Ask: How do you think we get cream?

Say: Cream is a dairy product made from the fat layer skimmed from the top of milk after it comes out of the cow. When milk is processed, it is put through a centrifuge (a machine that spins the milk like a merry-go-round). Since the cream is heavier than milk, it separates from the milk.



ACTIVITY: MAKING BUTTER

Say: Today we are going to see what happens if we shake cream for a long time.

Directions: Place students in small groups of 3 or 4. Give each small group a jar and lid. In each jar, add ½ cup heavy whipping cream and a pinch of salt. Screw the jar lid on tight and have students take turns shaking the jar. It will take around 10 minutes for the cream to turn into butter, so ask the questions below as the students take turns shaking the jar.

Ask: We are using cream to make butter instead of milk. What did you notice about the cream when we put it in your jar?

Ask: When you are at the grocery store, you can buy different kinds of milk: whole, 2%, 1%, and skim. What do you think those labels are referring to?

Say: The labels refer to how much cream, or fat, is still in the milk when it is bottled.

Ask: Listen as you shake the jar. What do you hear? What do you see?

Ask: In what ways do we use butter when cooking and baking?

Say: We can use butter to add flavor, moisture, and texture to different recipes.

Directions: When the cream has clotted and becomes butter, you will see a ball of butter with a milky liquid at the bottom. If necessary, pour the contents of the jar onto a strainer to strain out the milky liquid so you are only left with the butter. Allow the students to try their butter by spreading it on bread with a plastic knife.

Ask: What method did we use to change the cream into butter?

Say: The method we used is called “churning.” This involves shaking or whipping the cream so the butter separates from the liquid.

Ask: What do you think would have happened if we had used milk instead of the heavy whipping cream inside the jar? Would it have become butter?

Say: The milk would not become butter because there is not enough fat in the milk to separate out. The heavy whipping cream has enough fat in it to separate out from the other milky liquids.

MATERIALS NEEDED

- Jars with lids
- Heavy whipping cream
- Salt
- Strainer
- Bread
- Plastic knives

ALTERNATIVE ACTIVITY: MILK TASTE TEST

Say: Today we are going to taste test different cream amounts in milk.

Ask: When you are at the grocery store, you can buy different kinds of cow's milk: whole, 2%, 1%, and skim. What do you think those labels are referring to?

Say: The labels refer to how much cream, or fat, is still in the milk when it is bottled.

Ask: How do you think the different kinds of milk will taste compared to each other?

Directions: Give each student a piece of paper, writing utensil, and 4 small paper cups. Have students divide the paper into four quadrants by drawing a horizontal line across the middle of the page and a vertical line across the middle of the page. Label each quadrant with one of the milk types: whole, 2%, 1%, and skim. Then, have students label each of their four small paper cups with one of the milk types: whole, 2%, 1%, and skim. Tell students not to drink the milk until you tell them. Fill one small paper cup with skim milk for each student. As you are filling the cups, ask the following questions to keep students engaged:

Ask: What color is the milk?

Ask: Are there any bubbles or cloudy spots in the milk?

Ask: What does it smell like?

Directions: After all students have a cup of skim milk, have them taste it. On their piece of paper, have them draw an emoji that best represents what they thought of the milk in the corresponding quadrant (smiley face, frowny face, etc.) Repeat this process for each milk type.

Ask: Which was your favorite and why?

Ask: What was the difference between the one you liked the most and the one you liked the least?

MATERIALS NEEDED

- 4 small paper cups per student
- Piece of paper for each student
- Writing utensil for each student
- Skim milk
- 1% milk
- 2% milk
- Whole milk

ADDITIONAL ACTIVITIES

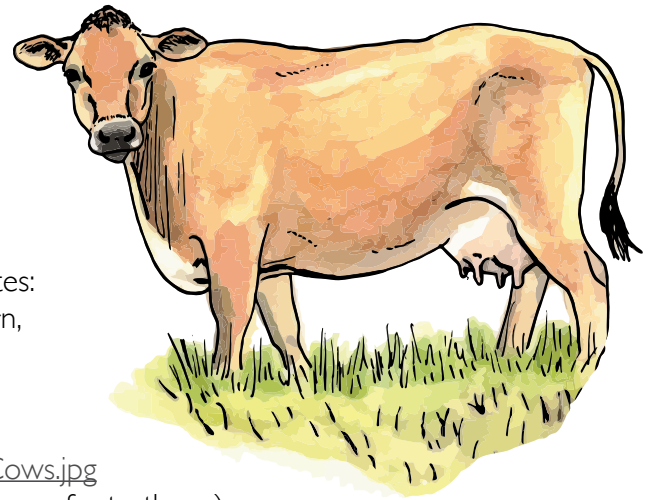
- *Let's Make Butter!* video from SciShow Kids
[youtube.com/watch?v=eILYWF8T8g0](https://www.youtube.com/watch?v=eILYWF8T8g0)
- *Milk Song* video from Go Noodle
[youtube.com/watch?v=0xZGW0b-yYE](https://www.youtube.com/watch?v=0xZGW0b-yYE)



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DAIRY LESSON #2

COW IDENTIFICATION



Ask: What does a dairy cow look like?

Say: There are seven main breeds of dairy cows in the United States: Ayrshire, Brown Swiss, Guernsey, Holstein, Jersey, Milking Shorthorn, and Red & White Holstein.

Watch: [youtube.com/watch?v=eL-dwZbTOhI](https://www.youtube.com/watch?v=eL-dwZbTOhI)

Post: discoverdairy.com/wp-content/uploads/2020/06/Breeds-of-Cows.jpg
(Print these posters and put them around the room so students can refer to them.)

Ask: Which of the dairy cow breeds looks the most like the dairy cow you pictured earlier?

ACTIVITY: AROUND THE WORLD COW CARD MEMORY

Directions: Ask students to find a partner. Have the students line up across from one another forming two circles (as shown below). Give each pair of students one set of the memory game. Students will play the game of memory with their partner. When all the games are finished, the students in the outside circle will rotate one student to their right and then play the game again with a new partner. This will continue until the students have gone all the way around the circle and are back across from their original partner.

Say: We are now going to play a game of memory. When you get your cards, please shuffle them and place them upside down in a grid. You and your partner will take turns. On your turn, you will flip two cards, one at a time. If the cards match, then you will pick them up and place them in a pile in front of you. If the cards do not match, then you will put them back upside down in their original place in the grid. Once all the cards have been matched, you will count the number of pairs that you have. The person with the most pairs wins.

Play: Allow students to play the memory card game.

Ask: What are the seven most common breeds of dairy cows in the United States?

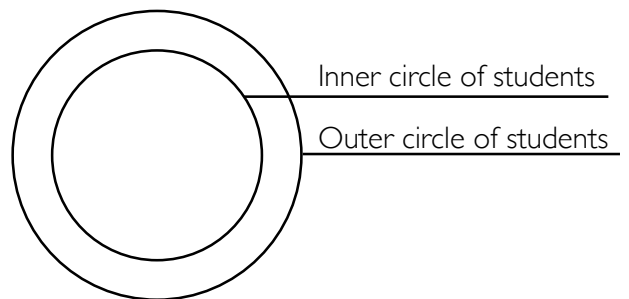
Say: There are seven main breeds of dairy cows in the United States: Ayrshire, Brown Swiss, Guernsey, Holstein, Jersey, Milking Shorthorn, and Red & White Holstein.

Ask: Why might we need more than one kind of dairy cow breed?

Say: Different breeds of dairy cows have various traits. Some may be better at producing specific types of milk, while others may be better adapted to live in the diverse climates of different regions of the United States.

MATERIALS NEEDED

- Cow Memory Card Game



ALTERNATIVE ACTIVITY: MAKING ICE CREAM

Ask: Do you know which cow breed has the best milk to be used to make ice cream and cheese?

Say: The Guernsey cow.

Say: Today we are going to use half and half to make ice cream. Half and half is called that because it is half whole milk and half cream.

Directions: Give each student a quart size resealable plastic bag. Add 1 cup half and half, 1 ½ teaspoon vanilla extract, and 1 tablespoon of sugar into each bag. Help students close it leaving as little air as possible in the bag. Now give each student a gallon size resealable plastic bag. Fill it ¾ full with ice and add ¼ cup salt to the ice. Put the quart size resealable plastic bag into the ice bag and seal the ice bag.

Ask: Why do you think we added salt to the ice?

Say: The salt lowers the freezing point of water which means the ice is colder than if it were alone.

Directions: Have students vigorously shake their bags for approximately 6 minutes or until the ice cream has hardened. Once the ice cream is ready, remove the quart size resealable plastic bag and rinse it off to ensure no salt gets into the ice cream. Give each student a spoon. Have students open their ice cream bag and stir the ice cream with the spoon until it gets creamy. They can then eat it.

Ask: We used half and half to make this ice cream. How do you think the ice cream would have been like if we would have used milk?

Say: The ice cream would not be thick and creamy; it would be more watery/runny because there is not as much cream (fat) in milk.

Ask: The video said the Guernsey cow breed's milk was a golden color and makes good ice cream. Why do you think it has a golden color and is good for making ice cream and cheese?

Say: Guernsey cow's milk has a high amount of cream (fat) in the milk produced.

Ask: Do you like the ice cream? Why do you think ice cream from a store tastes differently?

Say: The ice cream sold in the store tastes different because additional ingredients, such as sugar and toppings, are added to it.

MATERIALS NEEDED

- 1 quart size resealable plastic bag per student
- 1 gallon size resealable plastic bag per student
- Half and half
- Vanilla extract
- Sugar
- Ice
- Salt
- Plastic spoons
- Optional: Towels (in case their hands get cold or you need to wipe up anything)

ADDITIONAL ACTIVITIES

- *Ice Cream for You* by Harley Chan, National Geographic, 2001. In this early reader, learn where milk comes from and how it turns into ice cream.
- *From Milk to Ice Cream* by Kristin Thoennes Keller, Capstone Press, 2005. Follow along as cows are milked, the milk is taken to the dairy, and made into ice cream.



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AYRSHIRE



AYRSHIRE



RED & WHITE HOLSTEIN



RED & WHITE HOLSTEIN



BROWN SWISS



BROWN SWISS



MILKING SHORTHORN



MILKING SHORTHORN



GUERNSEY



GUERNSEY



HOLSTEIN



HOLSTEIN



JERSEY



JERSEY

DAIRY LESSON #3

JOURNEY FROM FARM TO GROCERY STORE

Ask: Where do you think milk comes from?

Ask: How do you think it gets from the farm to your grocery store?

Directions: View the poster as a group and talk about what it says. Watch the video on milk's journey from farm to store that best fits your group's developmental age.

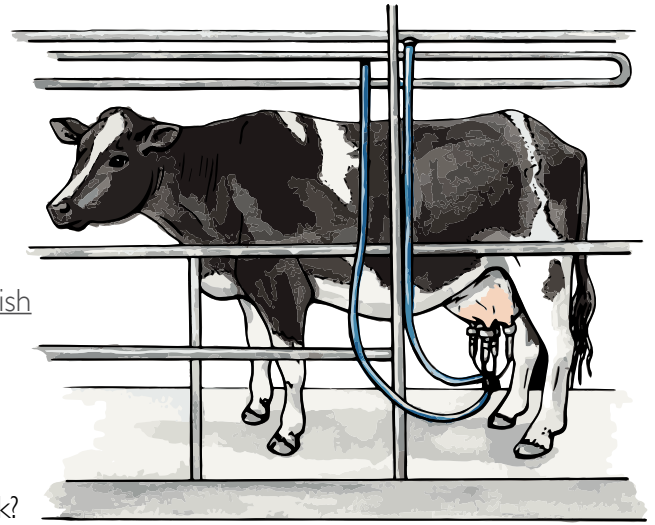
Poster: midwestdairy.com/resource/farm-to-fridge-poster-english

Video (upper elementary/middle school):
youtube.com/watch?v=I LEGI6SF4jc&t=118s

Video (K-3): youtube.com/watch?v=Qt8SqUB386k

Ask: What kinds of transportation did you see moving the milk?

Ask: How did they make sure the milk was safe?



ACTIVITY: MAPPING THE DRIVE

Directions: Watch the video below on how long it takes for milk to get from the cow to your table.

Video: youtube.com/watch?v=LVyLCqPIYeE

Ask: How many hours did it take the milk to get from the farm to the kids in the video?

Say: 48 hours

Ask: How many days is 48 hours?

Say: 2 days

Say: Today we are going to map out some dairy farms in Nebraska and see how far away they are from where we live.

Directions: Give each student a blank map of Nebraska and a writing utensil. Discuss where on the map you live and then have students place a dot on that location on their map. Have students label that dot as "home" or the name of the city/town. On your device, look up one of the dairy farms listed on the map. Zoom out so students can see the full state outline and where to place that dot on their map. Have the students label the dot with the name of the dairy.

Ask: Is this dairy farm near or far from where we are?

Optional Activity: Use your map app to find the distance from your city/town to the location of the dairy farm. Find the dairy farm that is closest to you from the farms listed.

Directions: Repeat finding and mapping dairy farm locations.

Ask: From the farms we mapped, what part of Nebraska has the most dairy farms?

Ask: Why might there be so many dairy farms in that part of Nebraska?

MATERIALS NEEDED

- Printed blank map of Nebraska for each student
- Writing utensil for each student
- Computer/laptop/phone with a map app (i.e. google maps)
- Projector/screen/TV so all students can see what is on your device

ALTERNATIVE ACTIVITY: DAIRY TASTE TEST

Say: Today we are going to taste test different dairy products that we can buy at the store.

Directions: Give each student a piece of paper and writing utensil. As you are passing out the first taste test, ask the following questions to keep students engaged:

Ask: What do you think this dairy product is?

Ask: What does it smell like?

Ask: What kind of texture do you think it is going to have?

Ask: Do you think it is going to taste sweet, sour, or salty?

Directions: Have students divide the paper into four quadrants by drawing a horizontal line across the middle of the page and a vertical line across the middle of the page. Label each quadrant with one of the dairy products. Once each student has a serving of the first taste test, let them all try the food. On their piece of paper, have them draw an emoji that best represents what they thought of the dairy product in the corresponding quadrant (smiley face, frowny face, etc.). Repeat this process for each dairy product.

Ask: Which was your favorite and why?

Ask: What was the difference between the one you liked the most and the one you liked the least?

ADDITIONAL ACTIVITIES:

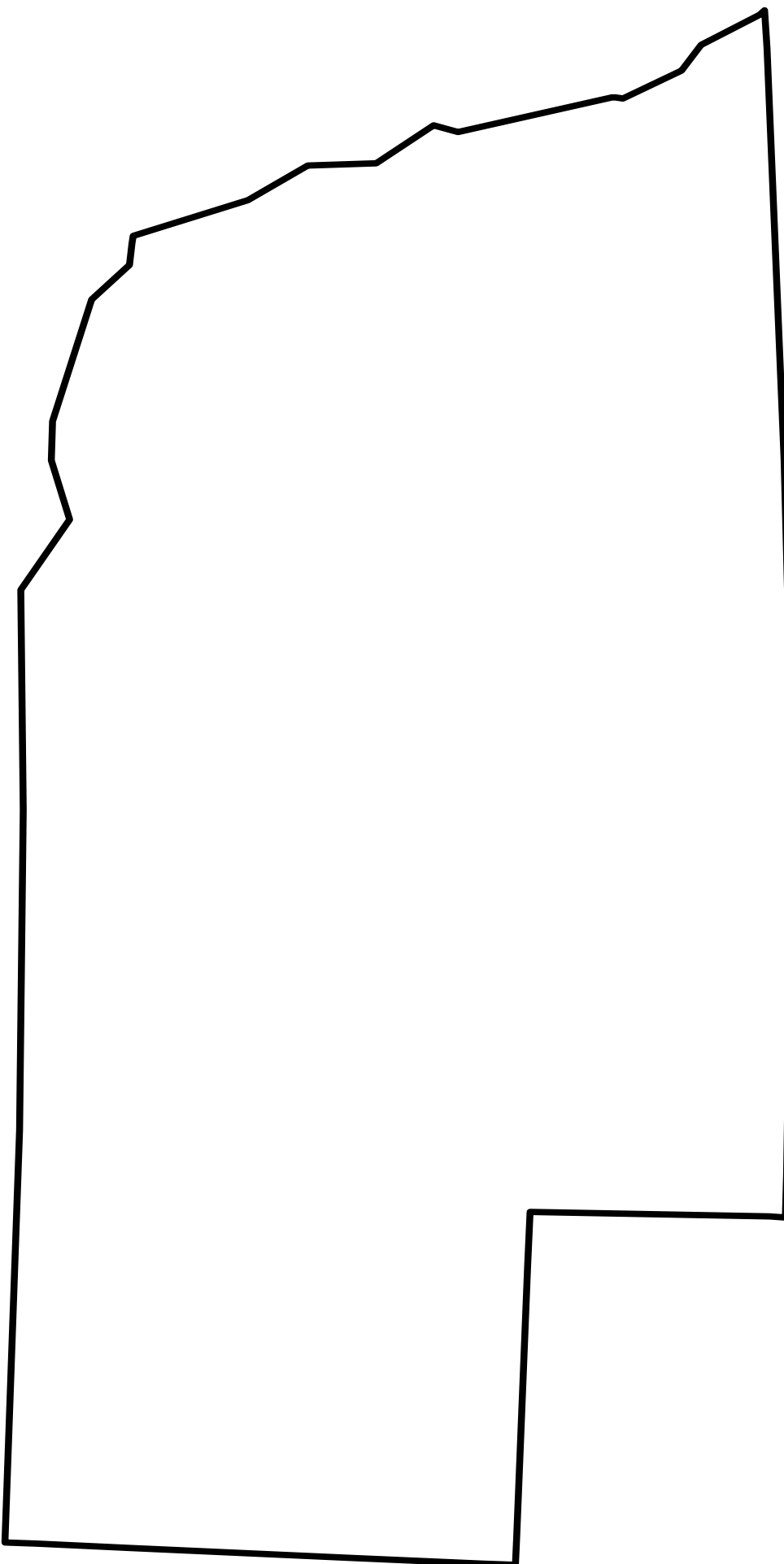
- Coloring page: midwestdairy.com/resource/dairy-coloring-page
- *How Did That Get In My Lunchbox: The Story of Food* by Butterworth and Gaggiotti

MATERIALS NEEDED

- 4 dairy products for each student to taste test
- Piece of paper for each student
- Writing utensil for each student
- 4 serving utensils for each student



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NEBRASKA DAIRY FARMS

- BeautyView Farm in Wahoo
- Larson Farms in Creston
- Pacific Dairy in Milburn
- Classic Dairy in Jansen
- JJC Jerseys in Beaver Crossing
- Thiele Dairy in Clearwater
- Burbach Dairy in Hartington
- Zeisler Cattle Inc in Butte
- Dolezal Dairy in Pender
- Prairieland Dairy in Firth

This list of Nebraska dairies comes from the Nebraska Department of Education, Walk to Unlock Program. It is not inclusive of all dairies in the state. Do you know other dairies close to you that you can add to the map?

CUCUMBER LESSON #1 PICKLING



Ask: What foods do you enjoy eating with pickles?

Ask: Have you tried different types of pickles? Dill? Bread and Butter? Sweet?

Say: There are so many different recipes to make pickles.

Ask: What food is turned into a pickle?

Say: Pickles are cucumbers that have gone through a process called pickling.

Ask: Why might we pickle cucumbers?

Say: Pickling is a food preservation method that allows food to last longer before spoiling.

ACTIVITY: REFRIGERATOR PICKLES

Say: Pickling is a way to make food last longer. There are many foods that we pickle besides cucumbers, such as eggs, beets, and other produce that spoils.

Recipe:

- 2 cups Kirby cucumber, thinly sliced
- 1/2 cup white vinegar
- 1 1/2 tsp kosher salt
- 2 tbsp fresh dill, chopped

MATERIALS NEEDED

- Recipe ingredients
- Paper plates
- 1-pint mason jars with lids and rings
- Plastic knives

1. Put students into small groups of 4 to 5. Give each group 4 cucumbers, a paper plate, plastic knife, and mason jar.
2. Have students use the plastic knife to thinly slice the cucumbers.
3. Add cucumber slices to a clean 1-pint jar.
4. Add vinegar, salt, and dill to the jar.
5. Close the lid tightly and shake to distribute ingredients. (Liquid may not cover cucumber slices. Don't worry. The salt will draw liquid from the cucumbers in a few hours.)
6. Place the jar in the refrigerator. Over the next 6 hours, periodically remove the jar from the refrigerator and shake (about 2-3 times).
7. After 6 hours' time, enjoy delicious, crispy pickles.

Ask: How can pickling cucumbers help prevent food waste?

Say: When we harvest cucumbers, we might have too many to eat before they spoil. Pickling the cucumbers would allow us to save them to eat later, instead of creating food waste.

ALTERNATIVE ACTIVITY: TASTE TEST

Prep: Cut the different pickle types into bite-sized pieces. Place on a paper plate by type.

Say: Pickling is a way to make food last longer. There are many foods that we pickle besides cucumbers, such as eggs, beets, and other produce that spoils. Today we are going to taste different pickle recipes.

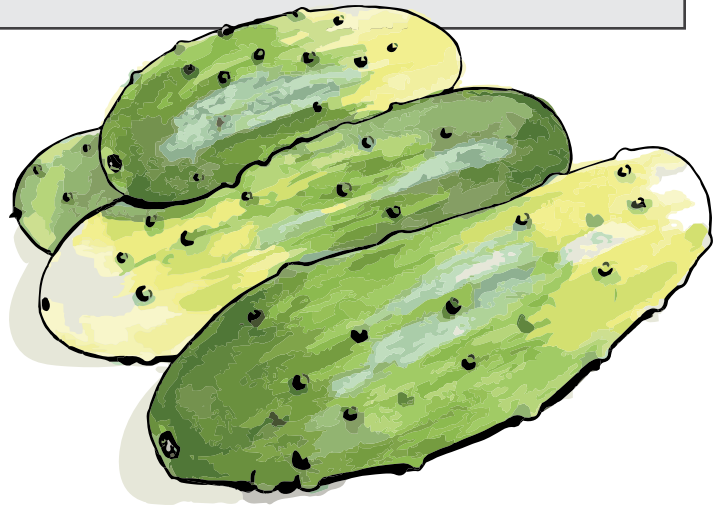
Directions: Pass out a toothpick to each student. Walk around the room with one type of pickle at a time and have students take a bite-sized piece with their toothpick. Once everyone has a pickle piece, taste them at the same time.

Ask: Do you think this pickle tastes sweet, salty, sour, or bitter? What would you want to eat with this pickle for a meal or a snack?

Directions: Repeat this for all pickle types. After all the pickles have been sampled and discussed, ask the students which pickle they thought was the best and which was the worst.

MATERIALS NEEDED

- Several different types of pickles (Examples: Dill, Bread and Butter, Sweet, Gherkins, etc.)
- Toothpicks
- Paper plates or bowls



ADDITIONAL ACTIVITIES:

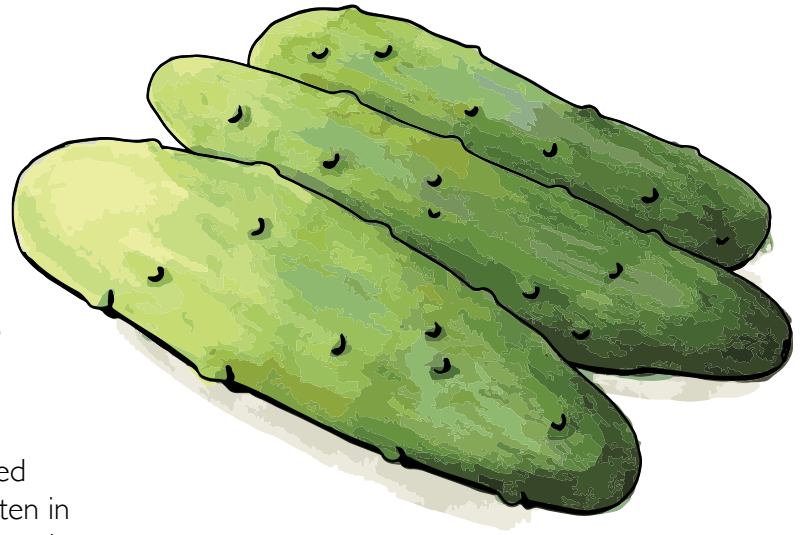
- *What Are Pickles?* video from SciShow Kids youtu.be/qnTrdAjXX8s
- *How Does Pickling Work?* video from Serving Up Science youtu.be/gw6YpN2oRog
- *Pickles, Please! A Dilly of a Book Read Aloud* youtube.com/watch?v=k89euhNI0IE



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CUCUMBER LESSON #2

CUCUMBERS AROUND THE WORLD



Ask: When I say cucumbers, what foods come to mind?

Say: Cucumbers are used in different ways all over the world. In many Asian countries, cucumbers are a staple in daily diets. In Japan, cucumbers are often enjoyed in a light vinegar-based salad, while in Korea, they are eaten in a spicy cucumber salad. In the Mediterranean region, cucumbers are used in tzatziki sauce, which is a creamy yogurt-based dip popular in Greek cuisine. In the Polish town of Krzeszów, a Cucumber Festival is held every year, which celebrates the local cucumber harvest.

ACTIVITY: JAPANESE CUCUMBER SALAD

Say: Today we are going to make a Japanese salad that uses cucumbers as the primary ingredient.

Recipe:

- 1 long English cucumber
(Note: It has to be an English cucumber for this recipe, because they have very small seeds compared to other cucumber varieties. They are usually sold wrapped in plastic.)
- 1 tbsp rice vinegar
- 1/2 tsp sesame seed oil
- Salt to taste
- 1 tsp sesame seeds

MATERIALS NEEDED

- Recipe ingredients
- Mason jars with lids and rings
- Paper plates
- Plastic knives
- Plastic forks

1. Put students into small groups of 3 to 4. Give each group 1 English cucumber, a paper plate, mason jar with lid and ring, and plastic knife and fork.
2. Have students use the plastic knife to thinly slice the cucumber.
3. Add cucumber slices to a clean mason jar.
4. Add rice vinegar, sesame seed oil, and sesame seeds to the jar.
5. Place the lid and ring tightly on the jar and shake.
6. Give each student the opportunity to taste the salad.

Ask: What did you think about this salad?

Ask: How do you usually eat cucumbers in your home?



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BEEF LESSON #1

ALL ABOUT BEEF

Ask: What foods are produced by cows?

Say: Cows can produce many different foods. Cows produce food in two main categories: beef and dairy.

Read: *How Do Animals Give Us Food?*

Watch: youtube.com/watch?v=0dmZKRLLjZ4

Ask: Do you eat any foods that contain beef? What are they?

Ask: Do you eat any foods that contain dairy? What are they?

ACTIVITY: IS IT BEEF OR IS IT DAIRY?

Directions:

1. Start by placing beef and dairy cards on opposite sides of the room.
2. Have the students stand in the middle of the room.
3. Tell the students they will 'vote' by moving to one side of the room or the other as you show a series of pictures. If they think the product is a beef product, then they will move to stand by the beef card. Alternatively, if they think the product is a dairy product, then they will move to stand by the dairy card.
4. Remind the students that beef and dairy products are produced by cows.
5. Hold up the first card and tell everyone to cast their vote by moving to stand by either the dairy card or the beef card.
6. Once everyone has chosen a side, call on a few students and ask them to tell the class why they chose that particular side. Then, share the correct answer.
7. This can be redone as many times as you wish, or until the cards run out.
8. At the end, ask the students if there are any dairy and/or beef products they eat at home that were not shown during the game.



MATERIALS NEEDED

- Card Deck - canva.com/design/DAGc9B6MU9Q/tbU6yWQXh356X-xSFp2T0w/view

ALTERNATIVE ACTIVITY: MINI-BURGERS

Watch: youtu.be/t9cDQSlz79c?si=oQw5TvITApahSv4X

Say: Today, we are going to make a recipe that uses beef as the primary ingredient: mini burgers.

Recipe:

- 1 lb ground beef
- 1 tsp salt
- 1 tsp pepper

1. Preheat the air fryer to 360 degrees.
2. Place ground beef in a mixing bowl and season with salt and pepper.
3. In the mixing bowl, mix together the seasonings and ground beef.
4. Divide the ground beef into 4 tight balls and make an indentation in the middle with a fingertip.
5. Cook the burgers for 10 minutes and flip halfway through.

ADDITIONAL ACTIVITIES:

- *Animals I Know* Book Read Aloud
uniteforliteracy.com/ngr/library/animals/book?BookId=11
- *Click, Clack, Moo Cows that Type* Book Read Aloud
youtube.com/watch?v=7UNIXrW2alw
- *The Cow Loves Cookies* Book Read Aloud
youtube.com/watch?v=dMQrg4kcRrE
- *Farm Sounds* Book Read Aloud
uniteforliteracy.com/ngr/library/agriculture/book?BookId=2237
- *Fresh from the Farm* Book Read Aloud
uniteforliteracy.com/unite/plants/book?BookId=1283

MATERIALS NEEDED

- Recipe Ingredients
- Tongs
- Medium bowl
- Paper plates
- Gloves
- Hamburger buns (optional)
- Air fryer



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DAIRY LESSON #1

MILK & CREAM

Ask: When I say dairy, what foods do you think of?

Say: When we talk about dairy products, most people think of foods that are made from milk.

Ask: How do you think we get cream?

Say: Cream is a dairy product made from the fat layer skimmed from the top of milk after it comes out of the cow. When milk is processed, it is put through a centrifuge (a machine that spins the milk like a merry-go-round). Since the cream is heavier than milk, it separates from the milk.



ACTIVITY: MAKING BUTTER

Say: Today we are going to see what happens if we shake cream for a long time.

Directions: Place students in small groups of 3 or 4. Give each small group a jar and lid. In each jar, add ½ cup heavy whipping cream and a pinch of salt. Screw the jar lid on tight and have students take turns shaking the jar. It will take around 10 minutes for the cream to turn into butter, so ask the questions below as the students take turns shaking the jar.

Ask: We are using cream to make butter instead of milk. What did you notice about the cream when we put it in your jar?

Ask: When you are at the grocery store, you can buy different kinds of milk: whole, 2%, 1%, and skim. What do you think those labels are referring to?

Say: The labels refer to how much cream, or fat, is still in the milk when it is bottled.

Ask: Listen as you shake the jar. What do you hear? What do you see?

Ask: In what ways do we use butter when cooking and baking?

Say: We can use butter to add flavor, moisture, and texture to different recipes.

Directions: When the cream has clotted and becomes butter, you will see a ball of butter with a milky liquid at the bottom. If necessary, pour the contents of the jar onto a strainer to strain out the milky liquid so you are only left with the butter. Allow the students to try their butter by spreading it on bread with a plastic knife.

Ask: What method did we use to change the cream into butter?

Say: The method we used is called “churning.” This involves shaking or whipping the cream so the butter separates from the liquid.

Ask: What do you think would have happened if we had used milk instead of the heavy whipping cream inside the jar? Would it have become butter?

Say: The milk would not become butter because there is not enough fat in the milk to separate out. The heavy whipping cream has enough fat in it to separate out from the other milky liquids.

MATERIALS NEEDED

- Jars with lids
- Heavy whipping cream
- Salt
- Strainer
- Bread
- Plastic knives

ALTERNATIVE ACTIVITY: MILK TASTE TEST

Say: Today we are going to taste test different cream amounts in milk.

Ask: When you are at the grocery store, you can buy different kinds of cow's milk: whole, 2%, 1%, and skim. What do you think those labels are referring to?

Say: The labels refer to how much cream, or fat, is still in the milk when it is bottled.

Ask: How do you think the different kinds of milk will taste compared to each other?

Directions: Give each student a piece of paper, writing utensil, and 4 small paper cups. Have students divide the paper into four quadrants by drawing a horizontal line across the middle of the page and a vertical line across the middle of the page. Label each quadrant with one of the milk types: whole, 2%, 1%, and skim. Then, have students label each of their four small paper cups with one of the milk types: whole, 2%, 1%, and skim. Tell students not to drink the milk until you tell them. Fill one small paper cup with skim milk for each student. As you are filling the cups, ask the following questions to keep students engaged:

Ask: What color is the milk?

Ask: Are there any bubbles or cloudy spots in the milk?

Ask: What does it smell like?

Directions: After all students have a cup of skim milk, have them taste it. On their piece of paper, have them draw an emoji that best represents what they thought of the milk in the corresponding quadrant (smiley face, frowny face, etc.) Repeat this process for each milk type.

Ask: Which was your favorite and why?

Ask: What was the difference between the one you liked the most and the one you liked the least?

MATERIALS NEEDED

- 4 small paper cups per student
- Piece of paper for each student
- Writing utensil for each student
- Skim milk
- 1% milk
- 2% milk
- Whole milk

ADDITIONAL ACTIVITIES

- *Let's Make Butter!* video from SciShow Kids
[youtube.com/watch?v=eILYWF8T8g0](https://www.youtube.com/watch?v=eILYWF8T8g0)
- *Milk Song* video from Go Noodle
[youtube.com/watch?v=0xZGW0b-yYE](https://www.youtube.com/watch?v=0xZGW0b-yYE)



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