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# Kansas Corn: After School Program

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Access Lab and Materials Online | Created 2023

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# Kansas Corn: After School Program

## Overview

The “We Grow Corn! Raising Corn on a Kansas Family Farm” book was written with the goal to educate the students about how corn is grown and what it is used for. Agriculture is the largest industry in the state of Kansas. More bushels of corn are grown in Kansas compared to other grain commodities, yet many people do not realize that the corn grown in Kansas is not sweet corn but instead field corn.

Included in your kit are 4 units that will educate students about how corn is grown and its uses. Each unit includes three activities:

- A craft activity that comes with all supplies.
- An online breakout box challenge.
- An additional activity that uses supplies that can be found easily.

Suggested Snack: If you purchase snacks for your program, we have suggested a corn snack that goes well with the unit.

### *Online Resources*

To be successful at using all the resources for this program, access the *After School Program* webpage at [kscorn.com/afterschool](http://kscorn.com/afterschool). You will find the videos, documents, links and more that are referenced throughout this guide such as:

- Training videos for each unit.
- Links to online breakout box challenges.
- Teacher guide with the activity links.

### *Adaptable Activities*

A lot of options have been provided for each unit. Depending on the length of time you have for your program you can spread the activities out over several days. Review all that is provided for each unit and adapt to fit your needs.

## Materials

### *Unit 1: Let's Plant Corn (pages 5 – 8)*

Introduce the topic and assess the children for prior understanding:

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
  - Also available online, read by the author (20:24)
  - After reading full book return focus on pages 4-7 (10 Minutes)
- Videos to watch:
  - Kernels of Knowledge Video: Meet Farmer Brad McCauley (2:36)
  - Kernels of Knowledge Video: Meet Farmer Steve Rome (1:44)
- Activity #1: Corn Plant Growth Cycle Activity (15-20 minutes)

- ½ printed cardstock with four growing cycle sections
- 16 corn kernels
- Three small brown rectangle pieces
- Sprout sticker
- Two brown leaf cutouts
- Glue
- Crayons/markers/colored pencils
- Activity #2-Online Challenge
  - Electronic device to project challenge
- Activity #3-Space it Out
  - Scotch/Painters tape or sidewalk chalk
  - 6 inch marker options: Rulers or (6) 1-inch squares or (6) linking cubes or six-inch strips of paper
- Suggested Snack: Corn Nuts

### ***Unit 2: Growing Corn (pages 9–13)***

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
- Focus on pages 8-11 (10 Minutes)
- Videos to watch:
  - Kernels of Knowledge Video: Growing Corn in Northeast Kansas (3:13)
  - Kernels of Knowledge Video: Growing Corn in Southwest Kansas (4:03)
- Activity #1: Water Cycle Bead Bracelet (10-20 Minutes)
  - Water Cycle Coloring Sheet
  - Pipe cleaner
  - 3 clear beads
  - 3 green beads
  - 3 blue beads
  - 3 yellow beads
  - 3 white beads
  - Crayons or markers
- Activity #2-Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Parts of a Corn Plant
  - Materials to make the plant such as yarn, tissue paper, construction paper, etc.
  - Paper and pencil or crayons
- Suggested Snack: Tortilla Boats

### ***Unit 3: Harvest (pages 14–18)***

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
  - Focus on pages 12-21 (10 Minutes)
  - Optional Book: “Batholomew and the Oobleck” by Dr Suess

- Videos to watch:
  - Kernels of Knowledge Video: Harvesting Corn in Northeast Kansas (3:59)
  - Kernels of Knowledge Video: Harvesting Corn in Southwest Kansas (3:26)
- Coloring Sheet: Let's Follow Some Corn? (10 Minutes)
- Activity #1: Oobleck (10-15 minutes)
  - 4 Tablespoons cornstarch
  - 2 Tablespoons water
  - Small cup
  - Popsicle stick
  - Tablespoon
- Activity #2-Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Types of Corn
  - Paper and Markers
- Suggested Snack: Bugles

#### *Unit 4: We Need Farmers (pages 19 –21)*

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
  - Focus on pages 22-23 (10 Minutes)
- Video to watch:
  - Field Trip! Careers in Agriculture - YouTube provided by into the Outdoors (24:34)
- Activity #1: Build a farm (20-30 Minutes)
  - Bag of biodegradable packing peanuts
  - Wet paper towel or sponge
  - Piece of paper
  - Building supplies: small boxes, cans, popsicle sticks, etc.
  - Crayons or markers, tape and glue
- Activity #2-Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Farm to Plate
  - Food packages from today's lunch
  - Grocery store ads
  - Paper, scissors, markers, glue
- Suggested Snack: Popcorn Balls

# Kansas Corn: After School Program

## Unit 1: Let's Plant Corn

### *Introduction*

Unit 1 gives an overview of what will be learned in more detail in the remaining units and the students will learn the process of planting corn. By reading the entire “We Grow Corn!” book the student is introduced to the farmers, Brad McCauley and Steve Rome, and gets them excited to learn about growing corn.

### *Time*

45 minutes – 1 hour

### *Materials*

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
  - Also available online, read by the author (20:24)
  - After reading full book return focus on pages 4-7 (10 Minutes)
- Videos to watch:
  - Kernels of Knowledge Video: Meet Farmer Brad McCauley (2:36)
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- Activity #1: Corn Plant Growth Cycle Activity (15-20 minutes)
  - ½ printed cardstock with four growing cycle sections
  - 16 corn kernels
  - Three small brown rectangle pieces
  - Sprout sticker
  - Two brown leaf cutouts
  - Glue
  - Crayons/markers/colored pencils
- Activity #2-Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Space it Out
  - Scotch/Painters tape or sidewalk chalk
  - 6-inch marker options: Rulers or (6) 1-inch squares or (6) linking cubes or six-inch strips of paper
- Suggested Snack: Corn Nuts

### *Book*

To begin the unit, read “We Grow Corn! Raising Corn on a Kansas Family Farm.” The book was designed for many different reading levels. If the students are elementary level, you can choose to skip some of the more advanced fact bubbles. The book gives a great overview of the growing stages of corn which is the base for this unit’s activity. If students have questions, keep in mind that more details will be discovered in the following units, however you can choose to answer questions as you go. When reading focus their attention on the growth cycle of corn.

# Kansas Corn: After School Program

## Unit 1: Let's Plant Corn

After reading the entire book, return to pages 4-7. On pages 4-5 the student will learn about farm machinery that is needed to grow a corn crop. Take note of the size of the equipment, many students do not realize how large the equipment is. On pages 6-7 the student will learn the details of planting corn. For some students this may be the first time they realize that planting corn in a field is very different than in a garden. A planter will plant around 30,000 seeds in an area the size of a football field. You can ask the students how long it would take them to plant that many seeds by hand. Farmers need equipment like tractors and planters to be able to put seeds in the ground faster. The planter also makes sure to put seeds in the ground with the right amount of spacing and depth, around 6 inches apart and 2 inches deep with 30 inches between rows (pages 6-7 show these details).

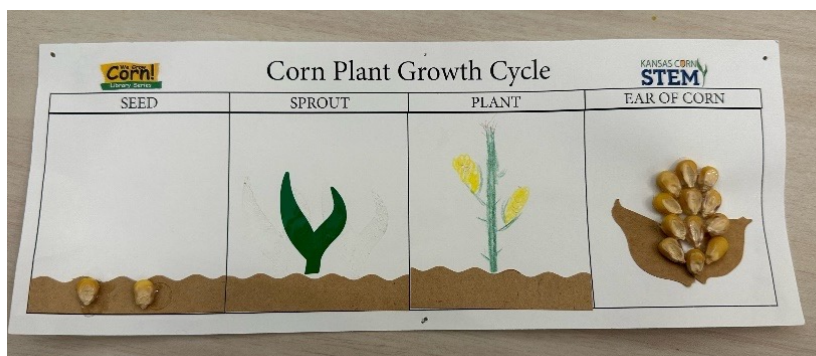
### Videos

The Kernels of Knowledge videos allow the students to dig deeper into the details related to growing corn. The first two videos feature the farmers from the book as they show how they grow corn. The third video focuses on what a farmer needs to do to prepare for planting. Much of this involves making decisions on when and what to plant but also getting the equipment ready. The fourth video focuses on planting corn. The students will be able to see what it is like to plant corn from inside a tractor and as someone standing in the field.

- Kernels of Knowledge Video: Meet Farmer Brad McCauley (2:36)
- Kernels of Knowledge Video: Meet Farmer Steve Rome (1:44)
- Kernels of Knowledge Video: Preparing for Planting (3:25)
- Kernels of Knowledge Video: Planting Corn (3:46)

### Activity #1-Corn Plant Growth Cycle

Throughout the “We Grow Corn!” book, students learn about the process of growing corn. When looking at the growth cycle of corn, there are many stages farmers watch. Four main growth stages will be discussed in this activity: seed, sprout, plant, and ear of corn. The end product should look similar to this picture with the materials provided:



# Kansas Corn: After School Program

## Unit 1: Let's Plant Corn

### *Instructions*

- Lay out all supplies and place card of the growing stage boxes in front.
- Seed: take a brown rectangle piece which represents the dirt. Optional: You can use scissors to change the way the top of the dirt looks. Glue to bottom of that box.
- Glue two kernels on top of dirt to represent the planting process.
- Sprout: take second brown rectangle (dirt) and do the same with the sprout box. Take the sprout sticker and place above the dirt to reflect that they are emerging from the ground.
- Plant: take third brown rectangle (dirt) and do the same as previous boxes. Color or draw a picture of what a corn plant looks like in late summer. See page 12 for the book for an example.
- Ear of Corn: place the two brown leaf cutouts in the box like they are wings, these represent husk. Take corn kernels and glue them between the husk to create an ear of corn.

Online you can find an instruction video that can be used to guide students through the activity.

### **Explanation**

#### *Describe the four stages:*

**Seed:** Seeds, also called kernels, are planted in the ground using a planter. A planter will plant around 30,000 seeds in an area the size of a football field. You can ask the students how long it would take them to plant that many seeds by hand. Farmers need equipment like tractors and planters to be able to put seeds in the ground faster. The planter also makes sure to put seeds in the ground with the right amount of spacing and depth: around 6 inches apart and 2 inches deep with 30 inches between rows (pages 6-7 show these details). The seed then will sit in the ground until it germinates. The warmer the ground, the sooner you will see the seed emerge from the ground as a sprout.

**Sprout:** The little leaves that start to come out of the ground are called sprouts. The farmer wants all the sprouts to come out of the ground around the same time. This is why when you drive by a field a week after corn has been planted you will see a perfect line of little green plants. A sprout is the first sign of success that the plant is off to a good start.

**Plant:** During the summer, the plant will need sunlight, water, and nutrients from the soil to keep growing. By late summer, the farmer hopes to have a tall corn plant with 1-2 ears of corn on each plant. A corn plant can get as tall as a basketball goal.

# Kansas Corn: After School Program

## Unit 1: Let's Plant Corn

Ear of Corn: At harvest, the corn plant has died and the kernels on the ear of corn have dried. The farmers need the corn to be dry so that it can be used to feed livestock and make fuel. The type of corn grown in Kansas is field corn which is a grain. This is the final stage of the corn growth stage. A combine rips the ear of corn off the plant and separates the kernels from the cob and then the millions of corn kernels are taken to a place where it will be used. What the student needs to understand at this stage is that the one seed (kernel) that was put into the ground during the first stage will become 800 seeds/kernels.

### Activity #2- Online Breakout Box Challenge

This challenge can be done as a large or small group. Each group will need an electronic device to access the online challenge. If done in a large group, project the challenge onto the screen and designate one person to enter in the guesses. The first time they do an online challenge it may seem difficult but the more challenges they complete the easier and more fun they will become. Answer key is on pages 22 – 23.

### Activity #3- Space it Out

#### Overview

Do farmers plant their seeds by hand like we do in our garden? After this activity, students will be able to tell how far apart corn kernels are planted in the field and how farmers use equipment to plant thousands of seeds in a short amount of time.

#### Activity

- Remind the students what they learned on pages 6-7 of the book.
- Each student will need tape (if inside) or sidewalk chalk and a 6-inch marker. Show the diagram on page 7. Show how farmers, using planters, plant their corn kernels six inches apart.
- Set boundaries for the students so they know where to “plant” their kernels. Students will draw corn kernels with chalk using their 6-inch marker.
- Discussion: How many kernels did you plant? How do you think farmers feel about having a machine to help them plant? What if they had to plant all those kernels by hand?

#### Optional Online Challenge

If time allows there is an online challenge that goes with this activity. Visit lesson online to access the challenge.

#### Out the Door

On the way out the door, ask the students how many kernels they were able to plant and if they had to plant 10,000 seeds would they want to do this by hand or with a planter?



# Kansas Corn: After School Program

## Unit 2: Growing Corn

### *Introduction*

In unit 2 the students will learn how corn grows and what is needed to grow a healthy corn plant. Farmers are faced with many challenges throughout the growing season. Insects and weeds may impact the plants badly but the amount of water a plant receives will also determine how much the corn plant will produce.

### *Time*

30 – 45 minutes

### *Materials*

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
- Focus on pages 8-11 (10 Minutes)
- Videos to watch:
  - Kernels of Knowledge Video: Growing Corn in Northeast Kansas (3:13)
  - Kernels of Knowledge Video: Growing Corn in Southwest Kansas (4:03)
- Activity #1: Water Cycle Bead Bracelet (10-20 Minutes)
  - Water Cycle Coloring Sheet
  - Pipe cleaner
  - 3 clear beads
  - 3 green beads
  - 3 blue beads
  - 3 yellow beads
  - 3 white beads
  - Crayons or markers
- Optional: Coloring Sheet
- Activity #2-Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Parts of a Corn Plant
  - Materials to make the plant such yarn, tissue paper, construction paper, etc.
  - Paper and pencil or crayons
- Suggested Snack: Tortilla Boats

### *Book*

If the students have already read the entire “We Grow Corn!” book, this unit will focus on pages 8-11. On pages 8-9 the students will learn that corn needs heat and water to germinate. They will also learn how weather can impact the success of the crop because farmers always worry about the weather. Many students do not realize how tall a corn plant can get (as tall as a basketball goal) and that one kernel will produce around 800 kernels.

# Kansas Corn: After School Program

## Unit 2: Growing Corn

On pages 10-11 the students will learn about scouting which is the process of walking through the fields and determining what the plants need to grow healthy. They will learn about the role of a sprayer and irrigation. This leads to the activity for the day which focuses on the water cycle. In Western Kansas many farmers use irrigation to water their crops because they don't receive as much rainfall. In Eastern Kansas farmers rely on rainfall to water their crops.

### Videos

Kernels of Knowledge videos allow the students to dig deeper into the details related to growing corn. The first video focuses on what is needed for the corn crop to grow in eastern Kansas. The second video focuses on growing corn in western Kansas with the focus being on the use of a center pivot sprinkler system to irrigate the crops. The students will be able to see what it is like to be in a field monitoring the growth of the crop. These video links can be found at online under Unit 2.

- Kernels of Knowledge Video: Growing Corn in Northeast Kansas (3:13)
- Kernels of Knowledge Video: Growing Corn in Southwest Kansas (4:03)

### Activity #1: Water Cycle Bracelet

During this activity, the students will be able to make the connection on the importance water plays in growing a corn crop. The water cycle describes the continuous movement of water and at what stage the water reaches the corn plant.



### Instructions

1. Lay out the pipe cleaner and fifteen beads.
2. Look at the water cycle coloring sheet and start with evaporation.
3. Place the clear bead on pipe cleaner first.
4. Follow arrows around the sheet and place the next color bead on pipe cleaner.
5. Repeat the process with the remaining beads by adding them to the pipe cleaner.
6. Wrap pipe cleaner around wrist and tie ends to make bracelet.
7. Optional: color the sheet to review the cycle again.

# Kansas Corn: After School Program

## Unit 2: Growing Corn

Online you can find an instruction video that can be used to guide students through the activity.

### *Explanation Video*

This video can be played to the students to explain more about the water cycle or used as a personal training video to prepare for the activity.

### **The Water Cycle | The Dr. Binocs Show | Learn Videos For Kids - YouTube**

#### *Relating the content from the video back to Kansas*

During corn growing season which is April-September the most common form of precipitation is rain, which is very important because it waters the corn plants. The excess water that is not used by the plant is collected in Kansas lakes or seeps through the soil to be collected as ground water. The Ogallala Aquifer, one of the world's largest aquifers that holds ground water, is located in part of Western Kansas and expands into neighboring states. This is where many western Kansas farmers get their water to irrigate the crops. Farmers make sure they only use the water they need so the amount of water in the aquifer is maintained.

### **Activity #2: Online Breakout Box Challenge**

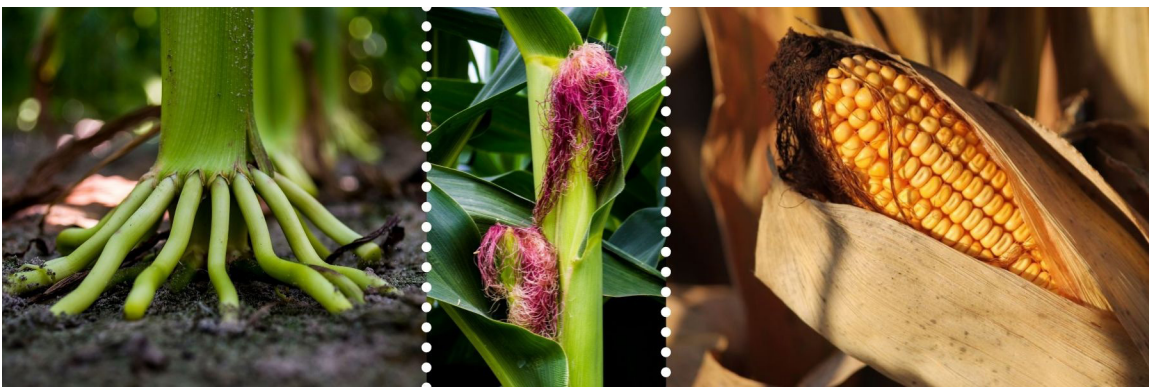
This challenge can be done as a large or small group. Each group will need an electronic device to access the online challenge. If done in a large group, project the challenge onto the screen and designate one person to enter in the guesses. The first time they do an online challenge it may seem difficult but the more challenge they complete the easier and more fun they will become. Answer key is on pages 22 – 23.

### **Activity #3: Parts of a Corn Plant**

#### *Overview*

How many of the students have seen a corn plant? Help them identify and learn about each part of the plant and its function.

#### *Activity*



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## Unit 2: Growing Corn

- Before you watch the video ask questions like: Has anyone seen a corn field? What does a corn plant look like? Can you name the parts of the plant?
- Watch the video: “Parts of the Corn Plant.”
- Ask: What words do you remember from the video? What parts of the plant did you already know about? Does this corn plant have any of the same parts as other plants?
- Have the students draw their own corn plant or break into groups to create a 3D corn plant model.
- Review parts of the plant one at a time to help them label their plant.

### *Take the Quiz*

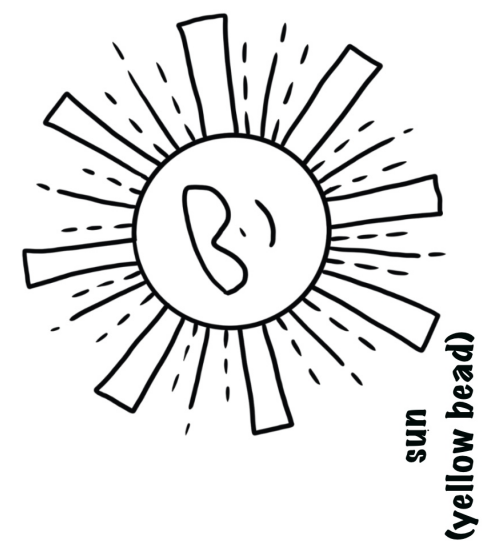
Watch the “Quiz on Corn Plant Parts” video. Pause it throughout so the students can answer.

### *Optional Online Breakout Box Challenge*

If time allows there is an online challenge that goes with this activity.

### *Out the Door*

On the way out the door, the students will need to tell you one part of the corn plant, using the correct terms discussed today.

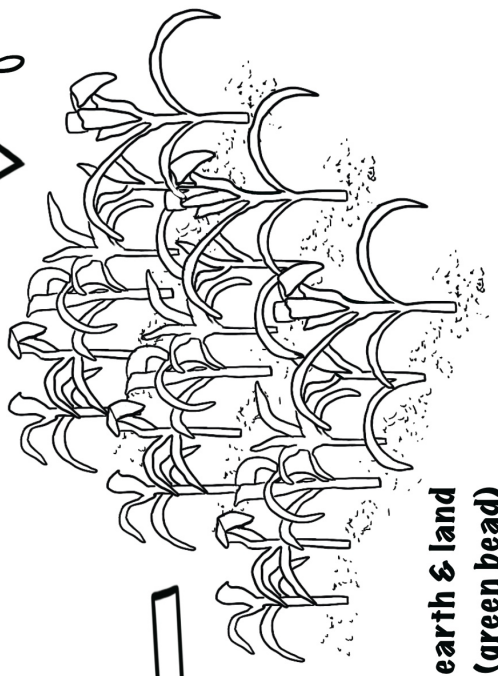
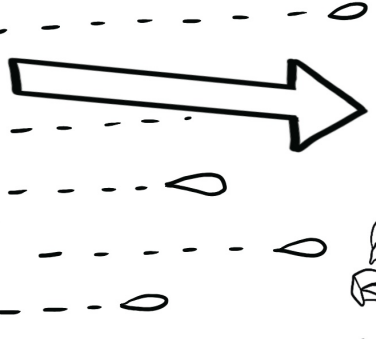


sun  
(yellow bead)

condensation/clouds  
(white bead)



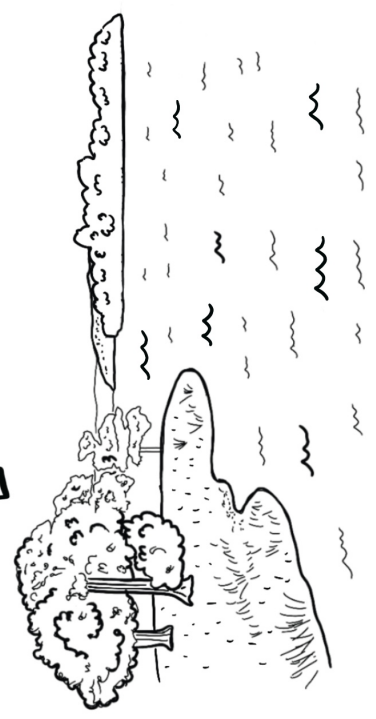
precipitation  
(blue bead)



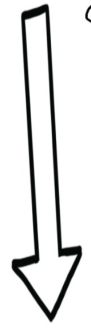
earth & land  
(green bead)

# The Water Cycle

evaporation  
(clear bead)



water



# Kansas Corn: After School Program

## Unit 3: Harvest

### *Introduction*

Harvest is the best time of year when it comes to growing corn because the farmer gets to see how successful they were at growing their crop. During unit 3 the students will learn about harvest, the process of getting the corn from the field to the elevator, ethanol plant or storage bins and how harvest is a fun time for the family. The students will also learn that there are over 3,500 uses for corn, many are in products we use every day but the main uses for field corn is for livestock feed and fuel.

### *Time*

45 minutes – 1 hour

### *Materials*

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
  - Focus on pages 12-21 (10 Minutes)
- Optional Book: “Batholomew and the Oobleck” by Dr Suess
- Videos to watch:
  - Kernels of Knowledge Video: Harvesting Corn in Northeast Kansas (3:59)
  - Kernels of Knowledge Video: Harvesting Corn in Southwest Kansas (3:26)
- Coloring Sheet: Let’s Follow Some Corn? (10 Minutes)
- Activity #1: Oobleck (10-15 minutes)
  - 4 Tablespoons cornstarch
  - 2 Tablespoons water
  - Small cup
  - Popsicle stick
  - Tablespoon
- Activity #2: Online Breakout Box Challenge
  - Electronic device to project challenge
- Activity #3-Types of Corn
  - Paper and Markers
- Suggested Snack: Bugles

### *Book*

If the students have already read the entire “We Grow Corn!” book, this unit will focus on pages 12-21. On page 12 the students will be able to see what the corn plant looks like in the spring, summer, and fall. Harvest happens in the fall when the corn plant is brown, and the kernels are dry. The students will also learn that a bushel of corn weighs about 56 pounds. On page 13 the students will see the steps it takes to harvest the corn crop. Pages 14-15 focus on family and how harvest is a very busy time, so the family members usually meet in the field or shop for meals to be able to spend time with their farmer.

# Kansas Corn: After School Program

## Unit 3: Harvest

On pages 16-17 the students will learn the difference between sweet corn and dent corn, also called field corn. Corn has over 3,500 uses; many products we use today like soft drinks, fireworks, hand sanitizer, etc. are examples of some of those products. What is cool to know is that corn started as a grassy plant called teosinte and over thousands of years has become the plant we know today. Pages 18-19 focus on how field corn is used for livestock feed. Pages 20-21 show how corn is used for making fuel, also known as ethanol, and for sending corn around the world through exports.

### Videos

Kernels of Knowledge videos allow the students to dig deeper into the details related to harvest. The first video shows the students what harvest is like in eastern Kansas and where the grain is taken when it leaves the field. The second video shows the students what harvest is like in western Kansas. These videos provide a way for students to see inside and outside of a combine when it is cutting corn.

- Kernels of Knowledge Video: Harvesting Corn in Northeast Kansas (3:59)
- Kernels of Knowledge Video: Harvesting Corn in Southwest Kansas (3:26)

### Coloring Sheet

Using the coloring sheet, the students will be able to follow corn from the time of harvest to consumption. Have the students start with the farmer and follow the arrows. They can color each step as you explain the next step, or you may choose to explain all steps first and then have them color in order at their own pace. This coloring sheet serves as a good summary of what was discussed throughout the book.

### Activity #1: Oobleck

Almost all the field corn grown in Kansas is used to feed livestock or to make fuel. A small percentage of Kansas's corn is used in many household products and as an ingredient in many food items. However, one product made from corn is very fun to play with, cornstarch! Cornstarch is a powder that comes from the starchy long sugars, known as carbohydrates, found in a corn kernel. When cornstarch and water are mixed in the right proportions, they create a substance called oobleck, named after the book by Dr. Seuss titled, *Batholomew and the oobleck*. This crazy substance is a liquid when you play with it slowly but will turn to a solid if you go too fast! Not only is it fun to play with, but we can use cornstarch to thicken our gravy to pour over our mashed potatoes. We also use it in all kinds of food we eat like sauces, soups and even desserts! Let's make some oobleck and play with it!

### Instructions

- Fill a cup with 4 level tablespoons of cornstarch.
- Add 2 tablespoons of water.
- Mix together with a popsicle stick.
- You want a batter-like consistency that easily flows when slowly stirred but heavily thickens when quickly stirred or when a force is applied to it.

# Kansas Corn: After School Program

## Unit 3: Harvest

- Adjust with a tiny bit more cornstarch if too runny or a tiny bit more water if it's too thick and powdery.
- Play with it!

Online there is an instruction video that can be used to guide students through the activity.

### *What to do with Oobleck*

- Stir it fast, stir it slow.
- Pour it into your hands. Form it, roll it, mess with it; then stop and try to hold it in your hands.
- Toss it in the air and then catch it. Toss it back and forth with a parent or friend.
- Toss it in the air and let it hit the ground.
- Toss it like a baseball and hit it with a plastic bat. Please use eyewear protection.
- Place it on the ground and hit it with a hammer. Please use eyewear protection.

### *Explanation*

Water surrounds the starch molecules which allow them to slowly move freely, making it a liquid. But when moved too fast the water gets pushed out and the starch molecules collide with each other, forming a solid. Then when stopped, the water molecules move back in between the starch molecules to return to a liquid.

Let's make more Oobleck!

Make a large amount of it! Use a bowl or a cake pan or a kiddie swimming pool!

- Slowly place your whole hand in it. Squeeze it gently and then quickly. Then try to pull your hand out as fast as you can!
- Claw across the surface of oobleck with your fingernails.
- Place your feet in it. Step in and out of it at different speeds. Can you keep from sinking?
- Punch the surface of the oobleck slowly at first and then harder and harder.
- Parent Supervision: Place a block of wood on top of the oobleck. Then, carefully, try to hammer a nail into the wood block.
- Place plastic wrap over the diaphragm (or cone) of an old speaker. Pour some oobleck in the center. Play some music with different amounts of bass. Watch the oobleck dance!

### **Activity #2: Online Breakout Box Challenge**

This challenge can be done as a large or small group. Each group will need an electronic device to access the online challenge. If done in a large group, project the challenge onto the screen and designate one person to enter in the guesses. The first time they do an online challenge it may seem difficult but the more challenge they complete the easier and more fun they will become. Answer key is on pages 22 – 23.



# Kansas Corn: After School Program

## Unit 3: Harvest

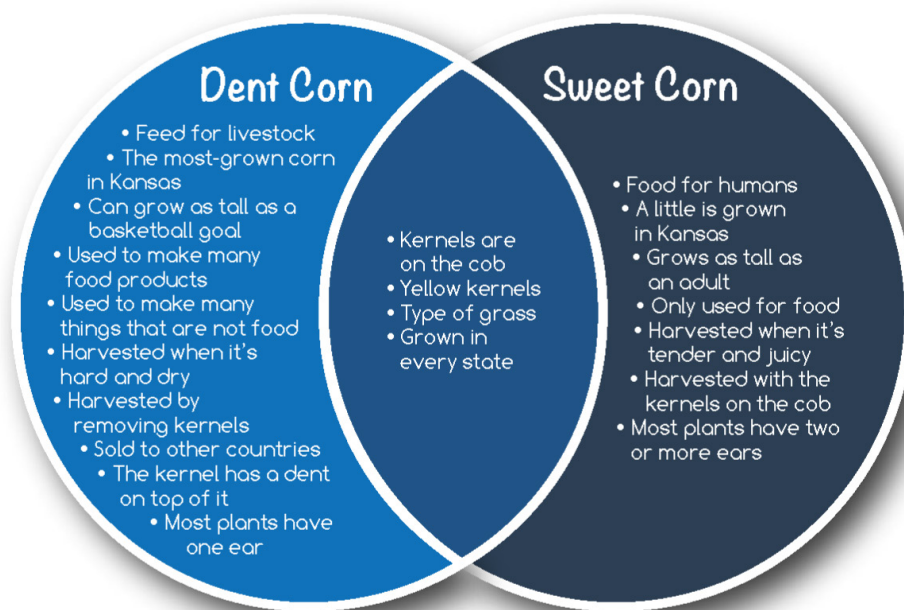
### Activity #3: Types of Corn

#### Overview

99% of the corn grown in Kansas and the U.S. is dent corn (field corn). Many people think sweet corn is the main type of corn. After this activity, students will learn there are many types of corn, and they will specifically be able to name the differences between dent corn and sweet corn.

#### Activity

- Read page 16 aloud and have students look at the picture of the sweet corn and dent corn.
- Watch Farmer Bill's "Types of Corn" video.
- As a group, create a Venn Diagram to compare and contrast the two types of corn (what it looks like, what it is used for, when it is harvested). In small groups or individually, have students create their own Venn Diagram or draw a picture of the two different types of corn.



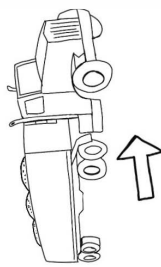
#### Optional Online Breakout Box Challenge

If time allows there is an online challenge that goes with this activity.

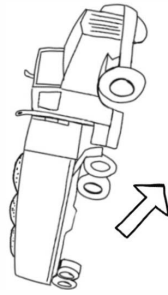
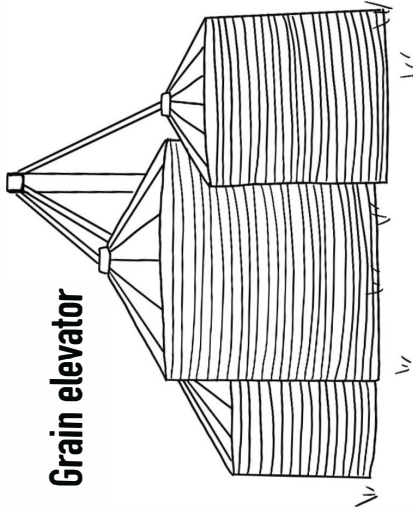
#### Out the Door

On the way out the door, have the students tell you one thing about either dent or sweet corn.

Farmer

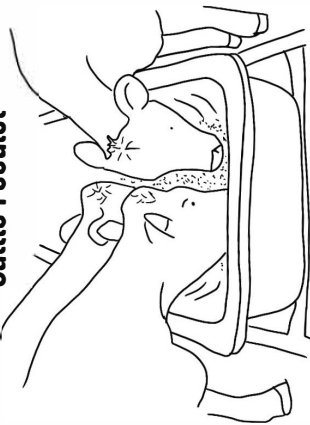


Grain elevator

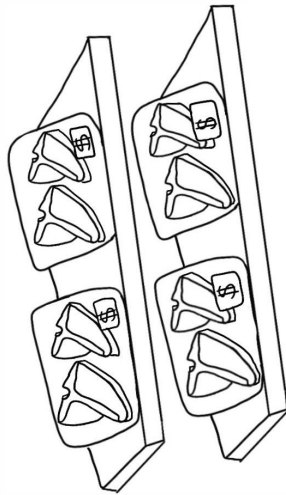
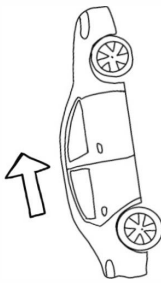
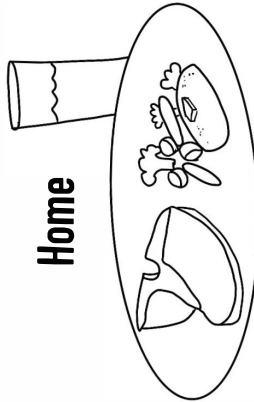


# Let's follow some corn!

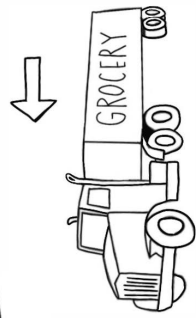
Cattle Feedlot



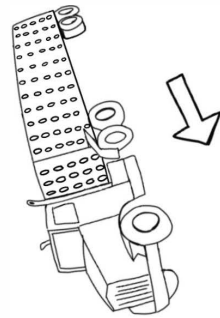
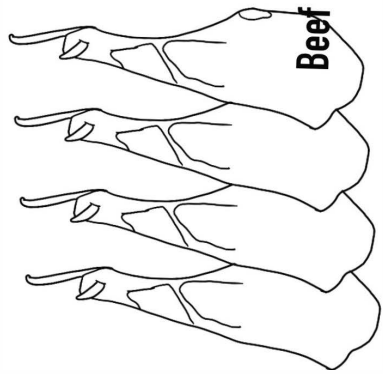
Home



Grocery Store



Beef processing plant



# Kansas Corn: After School Program

## Unit 4: World Needs Farmers

### *Introduction*

In unit 4, students will learn why we need farmers, and that agriculture is a big industry full of many job opportunities. This unit allows the students to celebrate farmers and agriculture.

### *Time*

1 hour

### *Materials*

- “We Grow Corn! Raising Corn on a Kansas Family Farm” by Sharon Thielen, Ph.D.
- Focus on pages 22-23 (10 Minutes)
- Videos to watch:
  - Field Trip! Careers in Agriculture - YouTube provided by Into the Outdoors
- Activity #1: Build a farm (20-30 Minutes)
  - Bag of biodegradable packing peanuts
  - Wet paper towel or sponge
  - Piece of paper
  - Building supplies: small boxes, cans, popsicle sticks, crayons or markers, tape and glue
- Activity #2-Online Challenge
  - Electronic device to project challenge
- Activity #3-Farm to Plate
  - Food packages from today’s lunch
  - Grocery store ads
  - Paper, scissors, markers, glue
- Suggested Snack: Popcorn Balls

### *Book*

If the students have already read the entire “We Grow Corn!” book, this unit will focus on pages 22-23. The world needs farmers because they are the reason we have food, fuel, clothes, and other products we use every day. Every year the number of people one farmer feeds increases, but being a farmer is not the only profession in agriculture. There are thousands of jobs in agriculture, many that people don’t realize are agriculture related.

### *Video*

Into the Outdoors has an episode about Careers in Agriculture. This episode is over 24 minutes long but a great one for the students to watch. The kids in the video are tasked to learn about careers in agriculture and will take the viewers on a field trip to explore four careers. This video could be played during snack time or even while they do their activity.

- Field Trip! Careers in Agriculture - YouTube provided by Into the Outdoors (24:34)

# Kansas Corn: After School Program

## Unit 4: World Needs Farmers

### Activity #1: Build a Farm

The world needs farmers. Like farmers, people who work in agriculture are trying to make products that are safe and healthy. Scientists create products using corn to replace products made of plastic. An example is packing peanuts. Plastic packing peanuts do not break down when put in a land fill however biodegradable peanuts when added to water will disappear, a much safer product for our environment. And what is great, they are made from corn! Let's see if these peanuts are biodegradable. Afterwards we are going to celebrate all that farmers do by building a farm.

#### *Instructions*

1. Open the bag of peanuts.
2. Place one peanut into a small cup of water and watch it dissolve.
3. Discuss the importance of developing biodegradable products.
4. Let's build a farm! Take products such as small boxes, cans, newspaper, popsicle sticks, etc. and have students work together to construct a farm.
5. Use the remaining packing peanuts for the farm. Prepare a wet paper towel or sponge. Slightly wet part of the peanut. Place the peanut on the paper or another peanut and they will stick together. \*Note if the peanut gets too wet it will dissolve.

#### *Packing Peanut Building Ideas*

Young students (preschool age) may find it easier to build their farm flat on the piece of paper. Older students should have success creating a three-dimensional farm. We would love to see what your students created by sharing on social media @kansascornstem.

### Activity #2: Online Breakout Box Challenge

This challenge can be done as a large or small group. Each group will need an electronic device to access the online challenge. If done in a large group, project the challenge onto the screen and designate one person to enter in the guesses. The first time they do an online challenge it may seem difficult but the more challenge they complete the easier and more fun they will become. Answer key is on pages 22 – 23.

### Activity #3: Farm to Plate

#### *Overview*

What role does corn play in our food? It is important for students to know where their food comes from. After completing this activity, students will be able to identify food that was made with corn.

# Kansas Corn: After School Program

## Unit 4: World Needs Farmers

### *Activity*

- Read pages 16-19 aloud.
- Watch Farmer Bill’s “Farm to Plate” video.
- Talk about today’s lunch. What items in your lunch contained corn? How do you know?
- Encourage students to read the back of the packages.
- Review pages 18-19 to learn how dent corn is used to feed our livestock. Was anything in today’s lunch fed corn?
- Using grocery store ads, students cut out items that contain corn. Glue to paper and present to others.

### *Optional Online Breakout Box Challenge*

If time allows there is an online challenge that goes with this activity.

### *Out the Door*

On the way out the door, have students tell you one thing they know is made of corn. Also encourage them to find items at home that contain corn.

# Activity #2: Online Breakout Box Answer Key

## Unit 1:

### *We Grow Corn! – Our Farm*

- ABC Lock- F,A,M,I,L,Y
- 123 Lock- 4,5,0,0
- 123 Lock- 6,8

### *We Grow Corn! – Let's Plant Corn!*

- ABC Lock- P,L,A,N,T,E,R
- Color Lock- Blue, Green, Purple, Red (the color around the photo is placed in order based on the name it is matched with)
- 123 Lock- 9,0 (3x30)

## Unit 2:

### *We Grow Corn! – Growing Corn*

- ABC Lock – R,A,I,N
- Direction Lock - Right, Down, Left, Left, Right
- Shape Lock – Circle, Triangle, Star, Diamond, Square

## Unit 3:

### *We Grow Corn! – Harvest*

- Shape Lock- Triangle, Circle, Star, Square
- Color Lock- Green, Blue, Purple, Red (number of dashes at top of each photo determines order)
- 123 Lock- 7,1,4,9

### *We Grow Corn! – How is Corn Used?*

- 123 Lock – 5,3,2 (field corn is used in each category)
- Color Lock- Blue, Green, Green, Black, Yellow
- Direction Lock- Up, Right, Left, Down, Left
- 123 Lock – 6,4,2,1,7

## Unit 4:

### *We Grow Corn! – The World Needs Farmers!*

- 123 Lock- 1,5,5
- Color Lock- Green, Yellow, Red, Blue
- ABC Lock- C,O,R,N

# Activity #3: Online Breakout Box Answer Key

## Unit 1:

### *Space It Out*

- 123 Lock- 2,3,5
- 123 Lock- 2,2,5
- ABC Lock- S,I,X,I,N,C,H,E,S

## Unit 2:

### *Parts of a Corn Plant*

- Color Lock- Blue, Brown, Yellow, Black, Green
- ABC Lock – C,O,R,N,C,O,B
- 123 Lock- 5,2,4,1,6
- ABC Lock- S,E,E,D,T,O,S,T,E,M

## Unit 3:

### *Types of Corn*

- ABC Lock-S,W,E,E,T
- ABC Lock-F,E,E,D
- 123 Lock-1,1,6

## Unit 4:

### *Farm to Plate*

- 123 Lock – 1,8,6
- ABC Lock- C,H,I,P,S
- 123 Lock- 2,2