



We Grow Corn! – How is Corn Used?

Unit 5

Introduction

In Unit 5 the reader will learn how corn harvested in Kansas is used. First the reader will learn the difference between sweet corn and field corn as field corn is the most common corn grown in Kansas and the Midwest. 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 16-21 (15 Minutes)
- Optional Book: “Bartholomew and the Oobleck” by Dr Sues (not included)
- Coloring Sheet: Let’s Follow some corn? (10 Minutes)
- Activity: Oobleck (10-15 minutes)
 - 4 Tablespoons cornstarch
 - 2 Tablespoons water
 - Small cup
 - Popsicle stick
 - Tablespoon
- Snack: Beef Jerky
- Extension Activity/TEACH-FLEX Lesson (see lesson for material list)
- Technology for Online Challenge (available at wegrowcorn.com) (10 minutes)

Book

If the reader has already read the entire “We Grow Corn!” book, this unit will focus on pages 16-21. On pages 16-17 the reader 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 a soft drink, 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 shows how corn is used for making fuel, also known as ethanol, and for sending corn around the world through exports.

*Remote learners can watch the author read the book online at wegrowcorn.com. Pages 16-21 are read between 13:01-18:25.

Let's follow some corn!

Using the coloring sheet, readers will be able to follow corn from the time of harvest to consumption. Have the readers 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

Almost all the field corn grown in Kansas is used to feed livestock or to make fuel. A small percentage of Kansas' corn is used in many household products and as 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, *Bartholomew and the Oobleck*. This crazy substance is a liquid when you play with it really 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

1. Fill a cup with 4 level tablespoons of cornstarch.
2. Add 2 tablespoons of water.
3. Mix together with a popsicle stick.
4. 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.
5. Adjust with a tiny bit more cornstarch if too runny or a tiny bit more water if it's too thick and powdery.
6. Play with it!

At wegrowcorn.com Unit 5 Library Series there is an instruction video that can be used to guide readers 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!

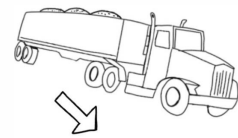
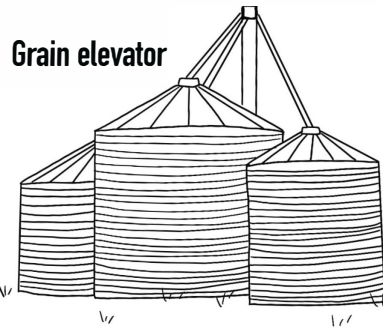
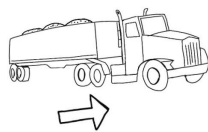
Online Challenge

A breakout box challenge is a fun way to test the reader on what they learned. This can be done as a group or individually if they have their own technology device. To find the challenge visit wegrowcorn.com Unit 5. Answer key on page 61.

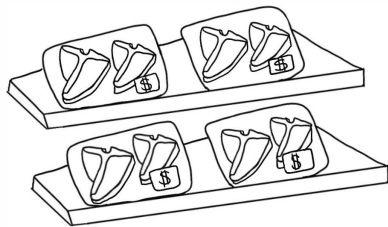
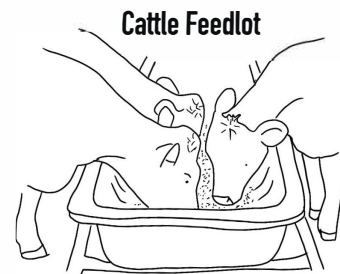
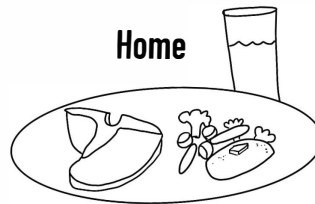
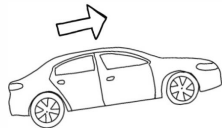
Extension Activity/TEACH-FLEX Lesson

To keep the conversation going about corn here is an additional activity that can be used in the library or encourage your students to complete at home. All materials use common products found at home. The activity also includes the book "Popcorn" by Frank Asch. It is read online by Ilene Stanton and available at wegrowcorn.com.

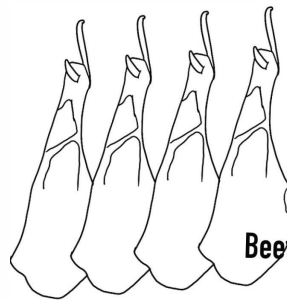
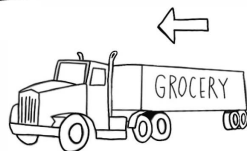
- [What's Your Favorite? | KS Corn](#) (Includes Book "Popcorn" by Frank Asch)



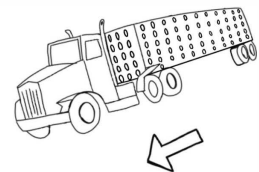
Let's follow some corn!



Grocery Store



Beef processing plant



**KANSAS CORN
STEM**