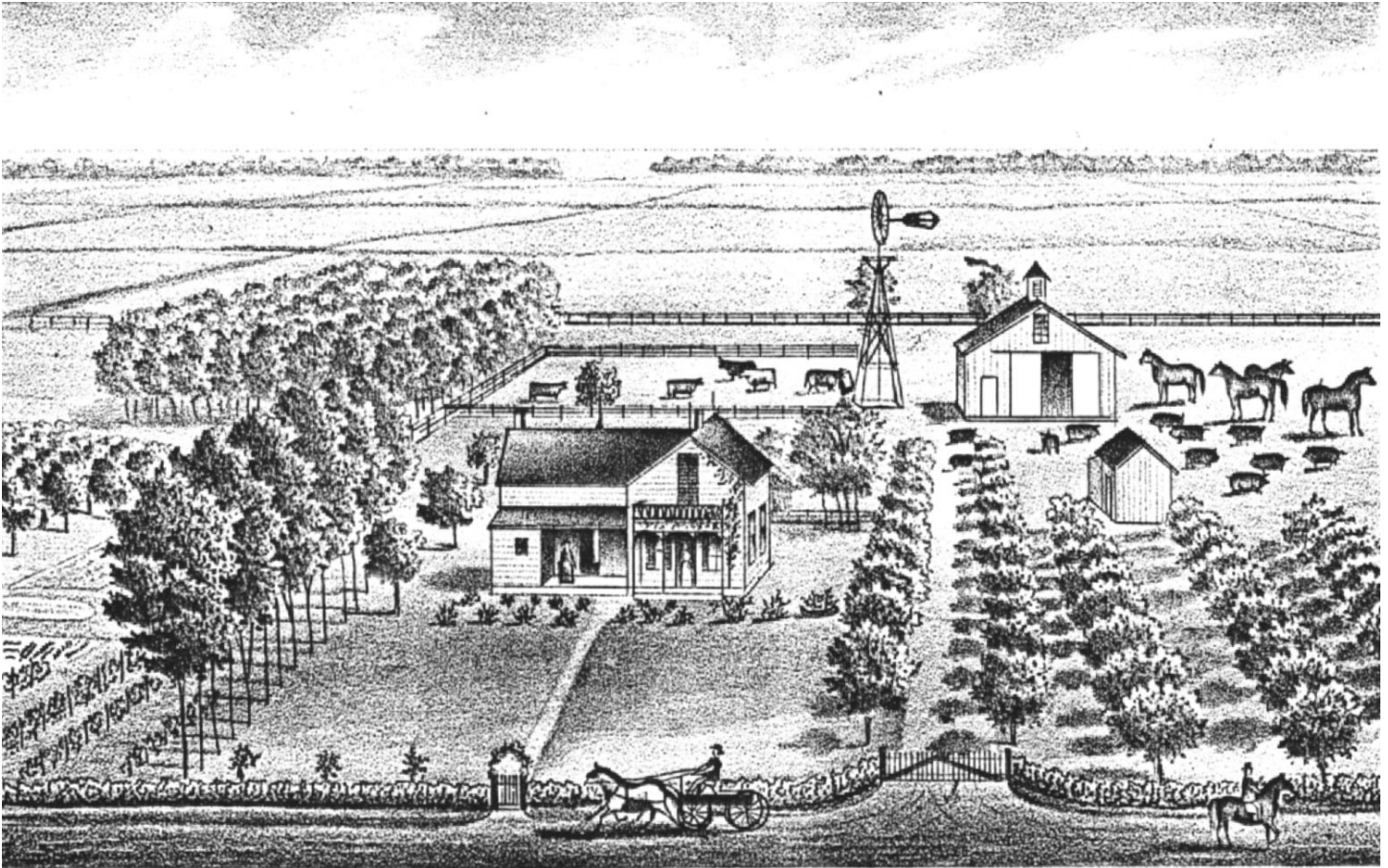


FARM LIFE: 1800S STYLE

(GRADES K-2ND)

2/18/2016



Education / Interpretation Department
1865 West Museum Blvd.
Wichita, KS 67203
316-350-3322
Registration: 316-350-3317
www.oldcowtown.org



Contents

Welcome to Old Cowtown Museum. We are glad you are coming and look forward to working with you to meet your educational goals. If you have any ideas, requests, or comments don't hesitate to call 316-350-33223

Before Your Field Trip3

Pre-Visit Checklist.....5

For The Chaperone6

For the Students: We Need Your Help7

Day Of The Field Trip7

Museum Mission and Purpose8

Tour Overview8

Tour Objectives8

 Kindergarten9

 Kansas History Government and Social Studies Standards9

 First Grade9

 Kansas History, Government and Social Studies Standards10

 Second Grade10

 Kansas history, Government and Social Studies Standards10

WELCOME TO OLD COWTOWN MUSEUM. WE ARE GLAD YOU ARE COMING AND LOOK FORWARD TO WORKING WITH YOU TO MEET YOUR EDUCATIONAL GOALS. IF YOU HAVE ANY IDEAS, REQUESTS, OR COMMENTS DON'T HESITATE TO CALL 316-350-3322

BEFORE YOUR FIELD TRIP

REVIEW THE PURPOSE FOR YOUR TRIP—Old Cowtown Museum sets out goals and themes for its tours and programs; help your students gain the most from their experience by sharing with them the goals **you** have for this field trip.

CHAPERONES—Chaperones can enrich the educational value of the trip and help to keep your students safe and focused on the educational activities. Please bring **at least one chaperone for every 10 students**. A handout for chaperones has been included with this packet; distribute it to all chaperones prior to your arrival at Cowtown.

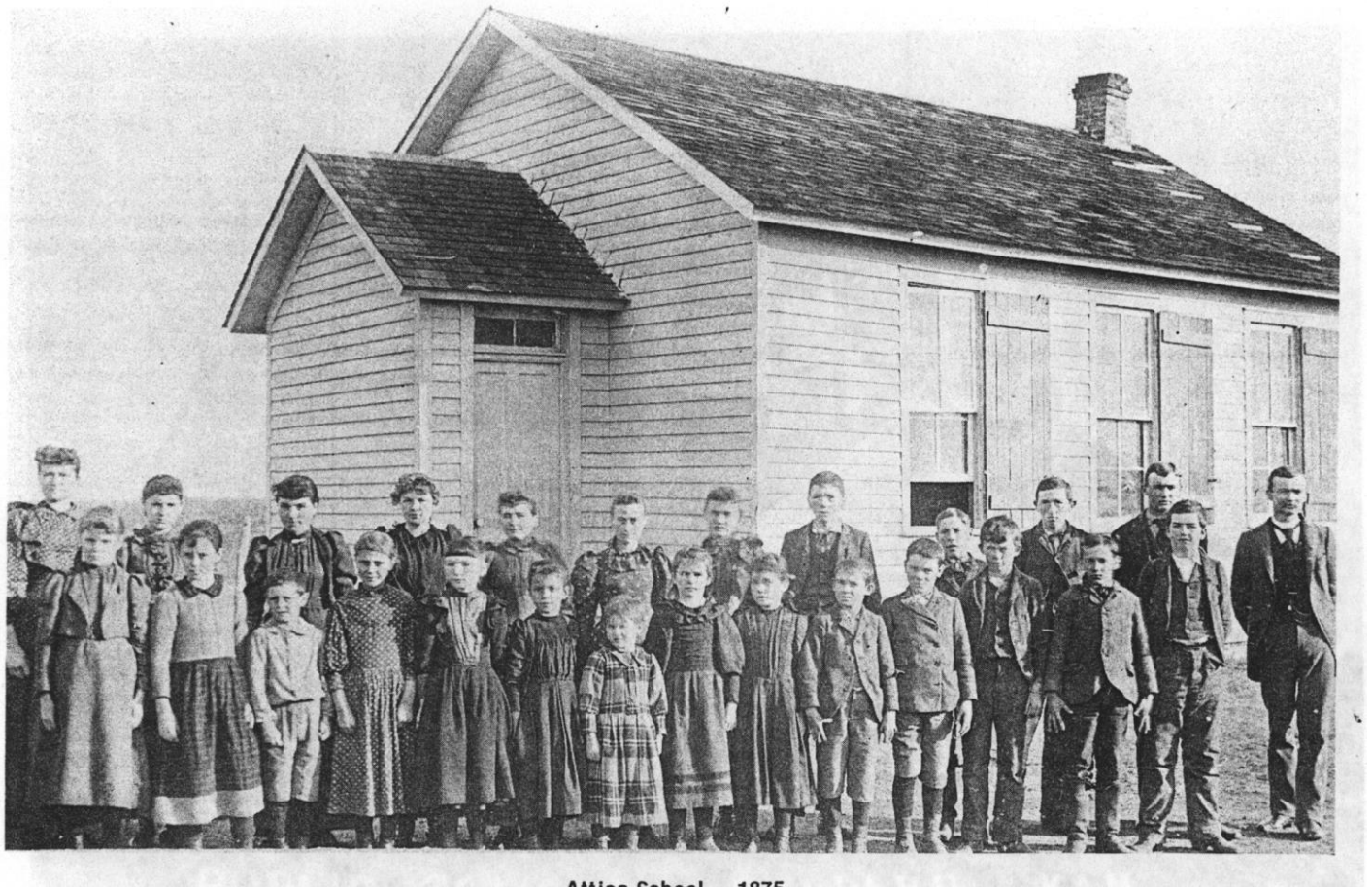
LUNCH PLANS—Old Cowtown Museum provides picnic tables for those who wish to bring their lunches. Tables are available on a “first-come, first-served basis. Remind your student ***not*** to take snacks from the picnic area into the rest of the Museum.

NAME TAGS—We require name tags that list the name of the school and first name of each child and chaperone in your tour group (as well as last name if possible). This helps our interpreters address student questions and is helpful when dealing with unforeseen injury or security issues.

SPENDING MONEY—The Old Cowtown Museum gift shop, S. G. Bastian and Sons Mercantile, will be open during your visit. The shop offers products that are educational, fun, and sentimental in a wide range of prices (from approximately \$1.00 to \$15).

(Please note that S. G. Bastian and Sons sells toy “weapons” to the general public; however, we respect the zero tolerance weapons policy enforced at school. To assist your students in complying with that policy, *Old Cowtown Museum will not intentionally sell any toy “weapons” to school children on school-approved field trips.*)

Some teachers do not allow students to bring money because they are afraid that students will lose it, have it stolen, or that some will bring more than others. Other teachers encourage students to purchase mementos of their field trip. Whether you permit or discourage your students to bring money, we encourage you to **state and enforce your preference *before*** the trip to eliminate confusion and conflict.



CLOTHING—To enhance the sense of going back in time, we encourage students to dress as they did in the 1870s.

For girls, calico and cotton dresses were usually full, with long sleeves, and frequently aprons were worn over their dresses. Their hair was often worn in long braids, sometimes with ribbons. Bonnets or straw hats were worn in summer and stocking caps in the winter.

For boys knickers (short trousers that fit tightly just above or just below the knee) were favored; however, sometimes long trousers were worn. Suspenders were worn to keep their pants up. Boys' shirts had long full sleeves and often round collars. Boys wore hats or caps of straw or felt in the summer and, just like girls, stocking caps in winter.

PRE-VISIT CHECKLIST

- _____ Schedule your tour as far in advance as possible.
- _____ Share with the students your tour objectives and expectations.
- _____ Select at least one pre-visit activity that is suited to your students.
- _____ Brainstorm with your students questions they wish to have answered on the tour.
- _____ Determine (tentatively) at least one post-visit activity.
- _____ Confirm your transportation arrangements.
- _____ Make lunch arrangements if necessary.
- _____ Collect fees and have a single check prepared payable to **Old Cowtown Museum**.
- _____ Review behavior expectations with students.
- _____ Encourage students to wear 1870s clothing.
- _____ Create and distribute name tags.
- _____ Collect signed permission slips if necessary.
- _____ Chaperones
 - _____ Be sure you have a *minimum* of **1 chaperone for every 10 students**.
 - _____ Inform chaperones about the tour and their expected participation.
 - _____ Provide a map and educational background material.
 - _____ Provide with strategies for dealing with unacceptable behavior.
 - _____ Provide a copy of “Your Role as a Chaperone” and “We Need Your Help.”
 - _____ Inform chaperones of time schedule (departure and arrival back at school)

FOR THE CHAPERONE

We at Old Cowtown Museum are grateful that you will be coming to the Museum with your child/group. This is a wonderful opportunity for children to see and experience many things they do not normally encounter.

Your participation is very important; you have an opportunity to assist in the education of the children you are with by helping them focus on the educational activities. You can also enrich their visit by sharing your knowledge and by the quality of your interactions with them. Stay with the children at all times and help to direct their attention as you walk through the Museum.

General Guidelines

- 1) Be familiar with what the teacher expects to be accomplished during the tour.**
- 2) Stay with your students at all times.**
- 3) You are entrusted with the safety and care of the children you are with; watch and make sure they are acting in a safe manner at all times.**
- 4) Remind students to ask before touching; some items are artifacts and should not be touched.**
- 5) When encountering animals, please do not allow children to chase or pick them up.**
- 6) Model the behaviors you expect the students to follow.**

We want your visit to Old Cowtown Museum to be a safe and enjoyable experience for all our visitors. For the benefit of all our guests please encourage your students to follow all our guidelines.

**Thank you again
for accompanying this group to
Old Cowtown Museum!**

ATTENTION TOUR LEADER:

*Please read the following information to your students **prior to arriving** at the Museum even if they have participated in programs at the Museum before. **Thank you!***

We are glad you will be coming to visit the Old Cowtown Museum!

FOR THE STUDENTS: WE NEED YOUR HELP

In order that your visit will be a safe one and to make sure that Old Cowtown will last a long time for others to see and enjoy, please follow these rules.

- 1) There may be many other classes here at the same time you are here. Please **stay with your teacher/chaperone at all times and wear your nametag.**
- 2) The boardwalks are uneven, rough, and may be slick especially when it is raining or snowing. **Please walk carefully on the boardwalks so you do not slip or trip and fall.**
- 3) Please drink water **only** at the water fountains by the restrooms. **The water you pump from the hand pumps is not clean enough to drink!**
- 4) Remember to **ask before touching**; some items are artifacts and should not be touched.
- 5) **When encountering animals, please do not pick them up or chase them.** Pet the cats and watch the chickens (they have claws and sharp beaks).

Thank you for helping to make your visit a safe one!

DAY OF THE FIELD TRIP

CHECK IN—Please arrive at the Visitors Center, 1865 West Museum Blvd. (Sim Park Drive) on the east side of the Museum grounds. Your group may visit S. G. Bastian & Sons Mercantile while one person checks in. Please bring **one check** payable to **Old Cowtown Museum**. (Those with memberships will need to present their membership card before entering.) After rejoining your group, our staff will permit you onto the grounds.

DEPARTURE—The museum is a closed loop so you will depart the same direction way you entered.

MAP—A map is provided on the back of this guide. When you arrive you and your chaperones will be provided with complete maps of Old Cowtown Museum.

RESTROOMS—There are three restrooms available to the groups—one in the Visitors Center; two on the Museum grounds on the east in a red building near the School House and on the west behind the Meat Market. Drinking fountains are also available at these locations.

EMERGENCIES—In case of emergency a telephone is available in the Visitors Center. Should anyone need to contact you or your group, they may call the Visitors Center **(350-3320)** and a staff member will locate you. Identification is easiest if your students are wearing name tags.

FIRST AID—For minor injuries we have a first aid kit in the Visitors Center and Saloon. Your tour guide will have access to a first aid kit at all times. For more serious incidents we will call 911.

SECURITY—Should an emergency occur that would require Security assistance, such as a lost child, contact any employee on the grounds who will place you in contact with Old Cowtown Museum Security personnel.

SEVERE WEATHER—The personnel in the Visitors Center monitor weather conditions. In case of severe weather, our interpretive staff will alert you and guide you to shelter.

LOST AND FOUND—Items found at the Museum can be turned in at the Visitors Center. Check for lost items at the same location.

MUSEUM MISSION AND PURPOSE

Old Cowtown is an open-air, living history museum that interprets the history of Wichita, Sedgwick County, and life on the southern plains, circa 1865-1880. The Museum accomplishes this through the preservation of artifacts, by exposure to interactive historic experiences, and other activities for the education and entertainment of our visitors.

TOUR OVERVIEW

Students will examine the link between food and the farm to discover the farmer's role in its production. A costumed interpreter will lead the students to the 1880s DeVore Farm where they will interact with livestock and grain crops that were once part of a typical Sedgwick County farm 130 years ago. They will also spend time in the farm house and learn about the domestic chores, and leisure activities that contrast with modern times. At the end of their time at the DeVore Farm, students and their guides are invited to explore the rest of Old Cowtown Museum to learn about other places where food would have been found.

TOUR OBJECTIVES

This program, including the pre- and post-visit activities, should help your students meet the following curriculum standards set forth by the Kansas State Board of Education.

KINDERGARTEN

– Self

Life on an 1880s farm revolved around everyone completing task and chores that contributed to farms success as a business. Everyone had a vital role to play including the children. Not performing many of those tasks had immediate consequences. Kindergarteners will try some of the farming tools to get a sense of the work involved... They will learn about the workings of the farm house and will be able to contrast with their modern living. Kindergartners will also learn some of the rules of society so that they, like farm children, could participate in the social life of the town. They will also try a few of the toys of the time to learn that life was not all work and no play.

KANSAS HISTORY GOVERNMENT AND SOCIAL STUDIES STANDARDS

The student will recognize and evaluate significant choices made by individuals, communities, states, and nations that have impacted our lives and futures. **(KHGSS 1.1)**

--Students will examine how making choices to meet their daily needs at home affects their lives.

-- Students will recognize needs are defined as those things that are a necessity to life.

--Students will recognize that people make choices because they cannot have everything they want.

--Students understand that money can be used to purchase goods and services.

The student will recognize and evaluate the rights and responsibilities of people living in societies. **(KHGSS 2.1)**

--Students will explore their responsibilities at home.

--Students will recognize the existence and importance of rules at home.

--Students will understand the role of authority figures at home and why they are needed.

--Students will know that people work at jobs to earn money to pay for what they want and need.

The student will recognize and evaluate significant beliefs, contributions, and ideas of the many diverse peoples and groups and their impact on individuals, communities, states, and nations. **(KHGSS 3.1)**

-- Students will describe the how life is different for people who live in the city and people who live in the country.

The student will recognize and evaluate continuity and change over time and its impact on individuals, institutions, communities, states, and nations. **(KHGSS 4.1)**

--Students will understand that rules change and why they change.

FIRST GRADE

– Family Life

Children's identity as a member of a farm family came with a set of rules and expectation about behavior. Their participation in the family business was essential. First Grade children discover chores that were divided by gender based on assumptions about ability. They will try some of the farming tools and see if the assumption men's strength suited them for outdoor work... They will learn some of the indoor girl's chores and see if women were actually the weaker sex. They will learn some of the manners of proper society which were so important in protecting the family's reputation. They will also try a few of the toys in the sitting room that were used to amuse oneself between chores. .

KANSAS HISTORY, GOVERNMENT AND SOCIAL STUDIES STANDARDS

The student will recognize and evaluate significant choices made by individuals, communities, states, and nations that have impacted our lives and futures. **(KHGSS 1.1)**

- Students will recognize that rules have positive consequences, such as keeping them safe and --negative consequences if they ignore safety rules.

- Students will explore how people decide what is a want and what is a need?

- Students will recognize that people and families cannot have everything they want so they have to make choices.

The student will recognize and evaluate the rights and responsibilities of people living in societies. **(KHGSS 2.1)**

- Students will explore the rights and responsibilities family members have to each other.

- Students will understand that people have jobs to earn money in order to meet needs and wants.

The student will recognize and evaluate continuity and change over time and its impact on individuals, institutions, communities, states, and nations. **(KHGSS 4.1)**

- Students will explore the changing role of family over time.

- Students will understand how different families met their need for shelter and other basic needs.

- Students will explore how have people's wants and needs changed over time?

The student will recognize and evaluate dynamic relationships that impact lives in communities, states, and nations. **(KHGSS 5.1)**

- Students will discover why farming and ranching symbols of Kansas.

SECOND GRADE

Continuity and Change

1880s Farm life relied on many tools that were the precursors for modern times. Second graders will explore the evolution of farm tools from past to present. They will also witness some of the challenges of running a home without the modern conveniences. They will connect amusements of the time their modern replacements, if ones can be found, and decide if the modern are better

KANSAS HISTORY, GOVERNMENT AND SOCIAL STUDIES STANDARDS

The student will recognize and evaluate significant choices made by individuals, communities, states, and nations that have impacted our lives and futures. **(KHGSS 1.1)**

- Students will explore how have past inventions changed or impacted their daily life.

- Students will explore how do people decide what is a want and what is a need?

The student will recognize and evaluate the rights and responsibilities of people living in societies. **(KHGSS 2.1)**

- Students will explore why need rules are needed in society.

The student will recognize and evaluate significant beliefs, contributions, and ideas of the many diverse peoples and groups and their impact on individuals, communities, states, and nations. **(KHGSS 3.1)**

--Students will explore who decides what rules are made and followed.

The student will recognize and evaluate continuity and change over time and its impact on individuals, institutions, communities, states, and nations. **(KHGSS 4.1)**

--Students will recognize and evaluate continuity and change over time through the study of daily life of a Plains Indian family, a pioneer family, and a modern family.

--Students will describe how people's wants and needs changed over time.

-- Students will draw conclusions about how people meet their wants and needs in the past and today.

-- Students will recognize that past inventions are the foundation for future improvements

History of Agriculture in Wichita

The history of Wichita is of people making economic decisions to sustain a city in an area of few natural resources. Money was first made by hunting and hauling goods to the Native Americans in Indian Territory (Oklahoma). At the same time, Wichita began to recruit the cattle trade that dominated Wichita from 1868 to 1876 and resulted in the creation of Wichita as the county seat for the new Sedgwick County, the destruction of its rival, Park City, and the acquisition of a railroad. The profits from the cattle trade eliminated the need for all city property and taxes. Many businesses made over \$200,000 a year. Yet, all along there was a growing farming presence that would eventually replace both these economic forces.

While early settlers in United State history were subsistence farmers opening the land until other came, those who came to Wichita in the 1870s viewed farming as a small business with national and international connections. The country was becoming more urbanized; and as global trade continued to build the demand for farm products, farmers were also subject to adverse international events. Exports fell at the end of the Crimean War in 1857, leading to an economic depression as grain from Russia once again filled European markets.

The Federal government had encouraged settlement in the west through the building of the Trans-Continental Railroad and the creation of the Homestead Act, which provided free land ownership after 5 years of occupation. With agriculture as the dominant economic activity for most citizens, this provided means and motivation for many to move west. Those who came to Wichita found a slightly different situation. Created on land held in trust by the Federal Government for the Osage Indians, land in the Wichita area had to be bought outright for \$1.25 an acre. This was a significant capital outlay but was still far cheaper than established farmland in Illinois or Indiana. Many settlers came with hopes of owning and farming their own land.

This created friction between the cowboys and the farmers, for the needs of each were mutually exclusive. The cattle herds needed wide expanses of unfenced, unplowed land to pass through or graze. Farmers wanted herd laws to protect their lands and the orderly development of the area which would support their investments. They also protection of their local eastern-bred herds from the Texas tick fever that the longhorns brought.

Businessmen were reluctant to give up the cattle trade, but farming held the promise of a constant market for goods as opposed to the feast and famine cycle of the cattle trade. Farmers in Sedgwick County joined with local citizens upset by moral lapses of prostitution, gambling, and drunkenness brought by the cattle trade persuaded the state legislature in 1875 to move to quarantine line for Texas cattle west of Wichita. This made way for farmers to develop the area unhindered.

For men coming to the area, farming was a risky occupation full of physical hard work and danger that also held economic rewards. One had to have funds to pay for travel to the area, to purchase the land, and to provide for a family until the first crop was in and sold. There were also dwellings, barns, and outbuildings to

build. Requiring a high initial capital outland, the early machinery was somewhat simplistic. It was heavy and dangerous but brought the promise of productivity. The men who came to the area were eager, optimistic experimenters anxious to find out what this untested area could produce. They planted orchards and grew field crops such as castor beans, flax, cotton, hemp, maple sugar, honey, and sorghum. They also experimented with the new machines that were being developed as the Midwest, with its wide flat plains, was tailor-made for mechanized farming. They were also a practical sort who grew corn, oats, and wheat as their primary crops. Corn was grown for feed and cash crops, oats for horse feed, and wheat as the one true cash crop. Though today Kansas is known as the Wheat State, during the time the Museum represents corn was the most produced grain in the country.

By 1880, the year the DeVore farm portrays, the population of Sedgwick County had grown from 1,000 in 1870 to almost 19,000. The total number of farms had grown from 0 to 2,700. Sedgwick County had become the county with the most acres under cultivation in the state and a leader in corn production.

An average farm in 1880 held 155 acres with 31 acres in corn, 27 acres in wheat, and 7 acres in oats. It would have 4 cattle and 2 milk cows. A few farms still had oxen to pull farm equipment, but many would have 3 horses and a mule instead. The remaining livestock would be 2 sheep and 20 pigs. Machinery values jumped to \$120 of the average \$2,000 a farm was worth. While these averages masks the diversification that many farmers were engaged in, it does reveal the progressive and experimental Sedgwick County farmer that the DeVore farm depicts.

Pre-/Post-Visit Activities Pre-/Post-Visit Activities

MAKING FOOD!



Most state extension offices have food-oriented programs. One that would go well with a visit to the farm would be bread-in-a-bag recipes in which students make bread dough in a bag, bake it, and eat it! An Internet search for *bread in a bag* will yield several recipes.

MATH—HOW DO YOU HELP AT HOME?

Ask students about the types and amount of chores they perform for their family. Place the results on a bar graph. How many of these have to do with preparing food? After their visit to Old Cowtown lead a discussion about how children in the 1870s and 1880s contributed to feeding the family.

ART—HOW DID CHILDREN HELP LONG AGO?

After reading sections of books that include 1870s family life (the *Little House* books, *Caddie Woodlawn*, etc. [see Bibliography]) help the students compile a list of the chores the characters perform. (How many of them had to do with food?) Engage the students in a discussion about the importance of those activities as well as how the characters felt about those tasks. Then ask students to draw a picture of a character performing one of their chores (including facial expressions that indicate their attitude toward the task).

CHORES: HAVE THEY CHANGED?

The chores of pioneer children contributed directly to the family welfare. Today, most people define childhood as a time in which children contribute to the family by enriching relationships rather than sustaining them. Help the students compile a list of the level of contribution to the family welfare that children of today provide. Use the list of chores from the previous activity and compare the two. Do the students think chores today are still valuable? Is it important that they perform tasks in their family? Has the value of chores changed? Are they still

necessary for the family welfare, or do they play a different role in the modern family? Have them hypothesize how they could play a more active role in the family—for survival or to enrich the family life.

1870s ECONOMICS

Many activities of children in young Wichita had a lot to do with food. Most homes had at least a kitchen garden where fresh herbs and vegetables were grown. Children were kept busy preparing the soil, planting, weeding, watering, and harvesting the various vegetables produced. Lead a discussion with students about the economic reasons even “town” families had kitchen gardens in the 1870s. Do families today have kitchen gardens? Why—for economic reasons or because they enjoy gardening? Do the parents of any of the children in the class have a garden? Do they *have* to help? Do they *want* to help? Do they enjoy it? What one food would they like to try and grow? Provide students with a selection of vegetable seeds and start your own classroom garden.

ARE YOU GOING TO EAT THAT?

Food producers are doing all kinds of things with colors of food, like purple and green ketchup and pink margarine. Have your students create a new food (or variation of a food). What color would it be? What would it taste like?

MUSIC—WHISTLE WHILE YOU WORK!

For some tasks on the farm that are repetitive or require group effort some people make games of the task or create songs to sing while working. Examples of historic traditions of singing while working could be explored further. Sound recordings of many work songs are available at local libraries. Many took the form of chants with a driving beat that permitted group exertion to occur at once. Others were melodic, told stories, or were nonsense songs that worked to pass the time or teach a moral or history lesson. Allow students to create a game to play or song to sing while accomplishing some task at school; then, try playing the game or singing the song. Follow up the activity with a discussion about how well it worked—Did it help pass the time faster? Did it make the chore easier? Was it distracting? Etc.

ART—PUT YOURSELF IN A JOB!

After students have learned about farm life and explored the town of 1870s Wichita, ask them to choose an occupation from those they observed at Old Cowtown Museum. Would they like to be a farmer, a carpenter, a buffalo hunter, a school teacher, a merchant, a cowboy, etc? Then ask them to draw, color, or paint a picture of themselves doing that job, complete with the appropriate costume and tools.

WHAT IS FOR LUNCH?

Students brought their own lunches to school in the 1870s. On the following page is a list of 1870s food choices for students. Copy the list or show it on the overhead and let students construct a lunch they might have taken to school in the 1870s. Bring some ingredients and let them try some at school. (Molasses, cider, and lard are often things that modern children have not tried to eat.) Or, you might have them select from the 1870s list for the lunches they bring to Old Cowtown Museum. In what would an 1870s student have packed his lunch? (*pail* or *basket*) How would he have brought his apple cider or drink (other than water)? (*glass jar*)

Here is a list of food 1870s children would eat. Circle foods you would use to make your own lunch.

CHEESE SANDWICH

MOLASSES SANDWICH

LARD AND SUGAR SANDWICH

JELLY SANDWICH

EGG SANDWICH

SLICED MEAT SANDWICH

CRACKERS

HARD-BOILED EGGS

APPLES

PEARS

PEACHES

GRAPES

PLUMS

CARROTS

TOMATOES

HOMEMADE COOKIES

WATER

APPLE CIDER

Here is a list of foods that were *not* available in the 1870s. Can you think of others?

PIZZA

PEANUT BUTTER

ORANGES

BANANAS

OREO COOKIES

POTATO CHIPS

CANDY BARS

JUICE BOXES



GROWING CORN IN A ZIP-LOCK BAG?!

Do your students think they need a big field to grow corn? Think again! With a few common household items and some corn kernels they can be on their way to growing corn in the classroom or at home.

For this experiment *each* student or group will need: 6 corn kernels, paper towels, 1 sandwich-size zipper-lock bag, water, and a marker.

1. Label the zipper-lock bag with the student's name and the date.
2. Wet a paper towel completely and wring out excess water.
3. Place the 6 corn kernels in the center of the paper towel. (Using this many kernels will increase the chances of sprouting.)
4. Lay the bag in a place exposed to natural daylight or a grow lamp where it can be observed.
5. Check the bag regularly, water the kernels, and watch the corn grow. (When the corn grows too tall for the bag, unzip the top.)

Students should make observations regarding the growth of their corn (i.e., number of kernels spouting, daily growth/change, etc.). At the conclusion of the experiment, students can then write a paper detailing their findings.

CORN, CORN EVERYWHERE

Corn and products made from corn improve the lives of Americans in thousands of little ways. Often, consumers don't even know corn is present, let alone know what role it plays. But if corn wasn't available many common products would be less useful, more expensive, or even unavailable. On a following page you will find a *test* for students to learn about products that contain corn. Copy the test and see what students think. (Reward any student who gets 100% with a bag of microwave popcorn.) Discuss the answers and ask students to speculate about other ways corn affects their lives. They might want to read labels at home to see if they find any unusual products that contain corn.

QUESTIONS, QUESTIONS, QUESTIONS

Allow students computer time to search the Internet to find out the answers to these questions. Assign groups of 2 students to work together to find the answer to questions below. The next day over a snack of popcorn, each group presents their answer to the class. (*The answers to all these questions can be found at the National Corn Growers Association website, www.ncga.com/education/main/FAQ.html*)

Questions:

What is baby corn?

What's the difference between popcorn and other corn varieties?

How many kernels in a bushel of corn?

Where is the Corn Belt?

What's the largest grain crop?

Other than corn on the cob, how is corn used?

What does corn have to do with soft drinks?

How is corn used in paper?

Where is corn grown?

What's the primary use for corn?

How many uses are there for corn?

What is CMA and how is it used?

What is sweet corn?

What's the difference between sweet corn and field corn?

How many kinds of sweet corn are there?

How do you grow sweet corn?

How much sweet corn is grown in the United States?

CORN, CORN EVERYWHERE



Corn and products made from corn improve the lives of Americans in thousands of little ways. Often, consumers don't ever know corn is present, let alone know what role it plays. But if corn and its products weren't available many common products would be less useful, more expensive, or even unavailable.

Study the following list. Draw a circle around any item in which corn plays a role.

Frozen Pizza



Wallpaper

Lettuce

Pillows

Crunchy Snacks

Ice Cream

S'mores

Glue

Makeup

Aspirin

Diet Foods

Bread

Crayons and Chalk

Lollipops

Cardboard Boxes

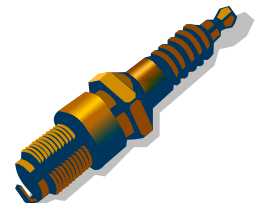
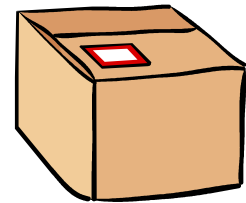
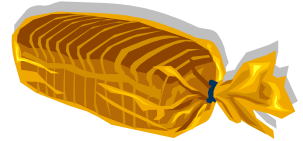
Pollution

Walls

Kitty Litter

Paint

Spark Plugs



TEACHER'S KEY

CORN, CORN EVERYWHERE

Corn plays a role in *all* of these products. Share the information below with your class.

No frozen pizza! Freezing pizza is a problem, because the moisture in the sauce can migrate into the crust, making it so soggy that it's unappealing to eat. Modified corn starch is used to provide a barrier that prevents water migration and keeps the crust crisp.

On a low-fat diet? Say thank you for corn. Many low-fat foods depend on corn-derived food starches to provide qualities that used to come from fats. Examples include everything from low-fat salad dressing to baked goods and meat products.

Frustrating wallpaper. If you've installed wallpaper, you know how important it is to have time to adjust each strip accurately. Repositioning is possible because the wallpaper paste is made with corn starch modified to slow down its adhesive action.

Daily bread buying. Corn syrup prevents waste and saves consumers money by keeping bread fresh longer. By retaining moisture, corn syrup keeps baked goods from drying out too quickly and going stale.

Brown lettuce leaves. Many fruits and vegetables start to turn an unattractive brown once they're cut and exposed to air. Citric acid, recognized as a safe food ingredient, can prevent browning . . . and much of the U. S. supply of citric acid is made from corn sweeteners.

No coloring for kids. Whether playing with chalk on the sidewalk or crayons in school, American children rely on corn. Corn starch is used as a binder to help such products hold together better when in use. It may also be used to dust molds during the manufacturing process so that brand-new crayons pop out undamaged.

Americans are sleeping with corn. A whole new family of corn products, marketed under the Ingeo trademark, includes pillows and comforters stuffed with 100% corn fill and blankets woven from the Ingeo fiber. Ingeo products are environmentally friendly because they take less energy to produce than many synthetics and they can be composted back into natural components.

Drippy lollipops. Candy makers began using corn syrups in lollipops and other hard candies generations ago because the syrups hold moisture and prevent drips.

Putting the crunch in snack foods. When Americans snack corn products are more popular than potato chips. In addition to corn and tortilla chips (20% of the snack foods we eat), other snacks such as cheese puffs rely on corn ingredients to provide their crunch.

Packing, storing, and moving with corn. Corn starch provides the adhesive to glue down every little ridge in corrugated cardboard. Whether you're taking delivery on a new appliance, boxing old clothes for the church bazaar, or moving across country, you're using corn.

Crystals in ice cream. As a box of ice cream goes in and out of freezers on the way home from the store and in the kitchen, it's natural for crystals to develop in it. Part of the role corn sweeteners play in ice cream and other frozen desserts is to keep crystals from developing.

Ack, hack, cough, gag. Corn contributes in many ways to reducing pollution. Ethanol, used to reduce air pollution, is probably the best-known example. Others include corn-based plastics like PLA (polylactic acid),

which composts back into natural components after use, and the use of corn starch in industrial filters to reduce water pollution.

Want S'more? Not without corn! Marshmallows stay fresh longer because corn syrup keeps them from drying out too quickly. Corn ingredients are also used to make graham crackers, which means you can't enjoy S'mores without corn!

What, no walls? As viewers of *This Old House* learned in one episode, corn starch which helps bind the gypsum filling together, is an essential ingredient in manufacturing gypsum or wallboard for building walls.

Sticky Stuff. Pyrodextrins (a cornstarch) are used for their adhesive property in glues and pastes.

What do kitty litter and makeup have in common? Corncobs, when finely ground, are relatively dust-free and very absorbent. The absorbency makes corncobs useful carriers for vitamins, hand soaps, cosmetics, and animal litters, as well as agricultural products such as pesticides and fertilizers.

Painting with corn? Tetrahydrofurfuryl alcohol is a resin developed from processing corncobs. These resins are useful in the paint and varnish industry as solvents for dyes, resins, and lacquers.

Have a headache? Take corn. An oxidized starch paste made from corn, which dries to a clear, adherent, continuous film, is spread in a thin layer over aspirin. Some intravenous solutions consist of dextrose (a corn product) and water solutions. Corn steep liquor provides a ready source of soluble nitrogenous nutrients plus growth factors that stimulate antibiotic production; over eighty-five different types of antibiotics are produced.

Start your car with corn. Cornstarch is used in the production of the porcelain component of the spark plug.

Of 10,000 items in a typical store, at least 2,500 items use corn in some form during production or processing.

Access the website www.ontariocorn.org/classroom/products.html for a more complete listing of products containing corn.

STUDENT BIBLIOGRAPHY

- Ancona, George. *The American Family Farm: a Photo Essay*. Orlando: Harcourt, 1989.
- Arnow, Jan. *Hay from Seed to Feed*. New York: Knopf, 1986.
- Barchers, Suzanne I. And Patricia C. Marden. *Cooking up U. S. History: Recipes and Research to Share with Children*. Englewood: Teacher Ideas Press, 1991.
- Behrens, June and Pauline Brower. *Colonial Farm*. Chicago: Childrens Press, 1976.
- Bellville, Cheryl. *Farming Today Yesterday's Way*. Minneapolis: Carolrhoda Books, 1984.
- Bial, Raymond. *County Fair*. New York: Houghton Mifflin, 1993.
- Bial, Raymond. *Corn Belt Harvest*. Boston: Houghton, 1991. (Photo)
- Bial, Raymond. *Portrait of a Farm Family*. Boston: Houghton, 1995.
- Brady, Peter. *Tractors*. Mankato: Bridgestone. 1996.
- Bryant-Mole, Karen. *See it for Yourself: Soil*. Austin: Raintree, 1996.
- Bushey, Jerry. *Farming the Land: Modern Farmers and Their Machines*. Minneapolis: Carolrhoda Books, 1987.
- Cook, Brenda. *All About Farm Animals*. New York: Doubleday, 1988.
- Cooper, Jason. *Farms (Great Places to Visit)*. Vero Beach: Rourke, 1992
- Egan, Robert. *From Wheat to Pasta*. New York: Childrens Press, 1997.
- Facklam, Margery, and Steven Parton. *Who Harnessed the Horse?: The Story of Animal Domestication*. Boston: Little Brown, 1992.
- Fowler, Allan. *If it Weren't for Farmers (Rookie Read-About Science)*. Chicago: Childrens Press, 1993.
- Freedman, Russell. *Children of the Wild West*. New York: Clarion Books, 1983.
- Garland, Hamlin. *Boy Life on the Prairie*. Lincoln: University of Nebraska Press, 1961.
- Gesiert, Bonnie. *Haystack*. Boston: Houghton, 1995.
- Gibbons, Gail. *The Milk Makers*. New York: Macmillian, 1985.
- Gibbons, Gail. *Farming*. New York: Holiday House, 1988.
- Goldreich, Gloria. *What Can She Be? A Farmer*. New York: Lothrop, 1974.
- Guiberson, Brenda Z. *Winter Wheat*. New York: Holt, 1995.
- Halley, Ned B. *Eyewitness Farm*. New York: Knopf, 1996.
- Henderson, Kathy. *I Can Be a Farmer*. Chicago: Childrens Press, 1989.
- Illsley, Linda. *Cheese (Foods We Eat)*. Minneapolis: Carolrhoda Books, 1991.
- Ise, John. *Sod and Stubble*. Lincoln: University of Nebraska Press, 1936.
- Isenbart, Hans-Heinrich. *Baby Animals on the Farm*. New York: G. P. Putnam, 1981.
- Jacobsen, Karen. *Farm Animals (A New True Book)*. Chicago: Childrens Press, 1981.
- Jaspersohn, William. *A Day in the Life of a Veterinarian*. Boston: Little Brown, 1978.
- Johnson, Sylvia. *Wheat*. Minneapolis: Lerner, 1990.
- Kallen, Stuart A. *The Farm (Field Trips)*. Edina: ABDO Publishing, 1997.
- Kellogg, Cynthia. *Corn: What it Is. What it Does*. New York: Green Willow, 1989.

Kerrod, Robin. *Pets and Farm Animals (Encyclopedia of the Animal World)*. New York: Facts on File, 1990.

Kurelek, William. *A Prairie Boy's Summer*. Boston: Houghton, 1975.

Littlewood, Valerie. *Scarecrow!*. New York: Dutton, 1992.

Llewellyn, Claire. *Tractor*. New York: Darling Kindersley Publishing, 1995.

McFarland, Cynthia. *Cows in the Parlor: A Visit to a Dairy Farm*. New York: Macmillian, 1990.

Meyer, Carolyn. *Milk, Butter, and Cheese: The Story of Dairy Products*. New York: Morrow, 1974.

Miller, Jane. *Seasons on the Farm*. New York: Prentice Hall, 1986.

Ontario Science Center. *Foodworks: Over 100 Science Activities and Fascinating Facts That Explore the Magic of Food*. Reading: Addison-Wesley, 1987.

Patent, Dorothy Hinshaw. *Where Food Comes From*. New York: Holiday House, 1991.

Patent, Dorothy Hinshaw. *Farm Animals*. New York: Holiday House, 1974.

Patten, Barbara J. *Growing Food We Eat: Food for Good Health*. Vero Beach: Rourke, 1996.

Penner, Lucille Recht. *The Colonial Cookbook*. New York: Hastings House, 1976.

Ruede, Howard. *Sod-House Days: Letters from a Kansas Homesteader, 1877—1878*. Lawrence: University Press, 1965.

Turner, Dorothy. *Milk (Foods We Eat)*. Minneapolis: Carolrhoda Books, 1989.

Ventura, Piero. *Food: Its Evolution Through the Ages*. Boston: Houghton, 1994.

Wake, Susan. *Butter (Foods We Eat)*. Minneapolis: Carolrhoda Books, 1990.

Wilder, Laura Ingalls. *The Laura Ingalls Wilder Country Cookbook*. New York: Harper Collins, 1995.

Williams, Brian. *Farming (Ways of Life)*. Austin: Raintree, 1993.

Winckler, Suzanne, and Mary M. Rodgers. *Our Endangered Planet: Soil*. Minneapolis: Lerner, 1994.

Yerkow, Lila Perl. *Slumps, Grunts, and Snickerdoodles: What Colonial America Ate and Why*. New York: Houghton Mifflin, 1975.