

Investigate Illinois

Grade Level: 4-8

Lesson Overview

Illinois is known for famous figures like Abraham Lincoln and features like expansive fields of corn. However, Illinois is home to many lesser-known but equally interesting features as well. In this lesson, students will investigate Illinois agriculture, famous people, historical tidbits, and sites.

Student Objectives

Students will research an important Illinois person, place, or feature and develop written reports and/or presentations based on their research.

Materials

- ✓ Josephine Cochrane, Illinois Inventor Information Sheet
- ✓ Investigate Illinois cards (set of 32)
- ✓ Investigate Illinois Reflection Sheet master
- ✓ Investigate Illinois Answer Key
- ✓ computer and internet access
- ✓ access to the school library
- ✓ writing materials

Procedure

1. Ask students if they ever wash dishes at home. Do they enjoy doing it? Why or why not? Tell them you will share with them the story of a famous Illinois woman who some people today might consider to be a hero. Read aloud the information page titled “Josephine Cochrane, Illinois Inventor.” After reading the story, distribute copies of or project the Investigate Illinois Reflection Sheet. Use it to guide a class discussion of the key points of Josephine Cochrane’s story.
2. Ask students how many knew the inventor of the dishwasher was from Illinois, and whether they found the story interesting. Explain that our state is full of fascinating stories like that of Josephine Cochrane’s. Each student will have the opportunity to choose a unique Illinois person, place, or feature to investigate. Once they have researched their topic, they will develop reports and/or presentations to share with the class.

3. Display the Investigate Illinois cards where students may view them during free time. Once all students have had a chance to review them, allow each to choose a card. The card they choose will be the topic they research.
4. Explain that their card is only starting point to learn about their topic. Students will continue their research in the library and online. (Note: This is a good opportunity to discuss tools for finding credible, accurate sources of information and comparing the information presented from multiple sources. See the Investigate Illinois Answer Key for suggested resources.)
5. Based on their research, students will write a report and/or create a presentation to share with the class. Presentation tools may include apps such as Google Slides, BookCreator, video creation apps, etc,
6. Distribute copies of the Investigate Illinois Reflection Sheet. Students should complete a reflection sheet as they listen to each presentation. After each presentation, allow students a few more minutes to complete their reflections. Conduct a brief classroom discussion of the presented topic, with students referring to their reflection sheets as needed. (Presentations may take place over the course of several days.)
7. Review the presented topics with a guessing game.
 - a. Make a set of signs, each displaying the name of an Investigate Illinois topic. Tape one sign to the back of each student, making sure no one receives the topic they researched. Students should NOT see what the sign on their back says, nor should they ask anyone to tell them.
 - b. Each student must identify the Illinois person, place, or interesting feature by circulating and asking other students only “yes” or “no” questions, e.g., “Am I a person?” or “Is this a place I could visit?” They may ask just one question of each student before moving on.
 - c. Once they have correctly guessed what is on their sign, students should return to their seats but continue answering questions from others.
8. Conclude with a class reflection on what students discovered about Illinois.

Extension Activities

1. Have each student conduct research on a new Illinois person, place, or topic with an agricultural connection in order to create a new Investigate Illinois card.
2. Provide Illinois Highway maps and challenge students to map the location of each Investigate Illinois card topic.

Standards

Illinois English Language Arts Standards

CCSS.ELA-LITERACY.CCRA.W.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.CCRA.W.7

Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

CCSS.ELA-LITERACY.CCRA.SL.4

Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.CCRA.R.10

Read and comprehend complex literary and informational texts independently and proficiently.

Illinois Social Science Standard

SS.H.2.4. Using artifacts and primary sources, investigate how individuals contributed to and the founding and development of Illinois.

The **M**ultidisciplinary **A**gricultural **I**ntegrated **C**urriculum (mAGic) was created in 2004 under the leadership of the Illinois State Board of Education (ISBE) and the Facilitating Coordination in Agricultural Education Project (FCAE). Funding was made available through the FCAE grant budget from the agricultural education line item of the ISBE budget. This revision, as printed, was developed in January 2021.



These mAGic lessons are designed to bring agriculture to life in your classroom. They address the Illinois Learning Standards in math, science, English language arts and social studies.

Illinois mAGic project update writers/reviewers: Rhodora Collins – Dekalb County; Suzi Myers – Kane County; Connie Niemann – Montgomery County; Debbie Ruff – Livingston County; Jennifer Waters – Sangamon County; Dawn Weinberg – Hancock County; and Carrie Winkelmann – Menard County.

Josephine Cochrane, Illinois Inventor

| |
|--|
| 1839 – Born Josephine Garis in Ashtabula County, Ohio; raised in Valparaiso, Indiana |
| 1858 – Moved to Shelbyville, Illinois where she married William Cochran |
| 1870 – Family moved into a mansion where they hosted many social events |
| 1886 – Received U.S. patent no. 355,139 for her “Dish Washing Machine” |
| 1913 – Died in Chicago; buried in Shelbyville, Illinois |
| 1917 – Posthumously received U.S. patent no. 1,223,380 for an improved design |
| 2006 – Inducted into the National Inventors Hall of Fame |

Josephine Cochrane, inventor of the first commercially successful dishwashing machine, was born in Ashtabula County, Ohio in 1839. Her father was a civil engineer, and her great grandfather, John Fitch, was an inventor known for his steamboat-related innovations. Cochrane, thus, may have had creative tendencies in her family. However, she was not formally educated in the sciences.

Cochrane was a socialite. She and her husband, William, often entertained guests at their home. Accustomed to having servants do much of her housework for her, Cochrane did not set out to create the dishwasher to relieve her of the hard work of manually doing the dishes. Rather, the idea came to her when she grew frustrated that her fine china was chipping, mostly by the harsh handling it suffered by the servants as they scrubbed it in the sink. At first Cochrane tried washing the dishes herself. But she found the task burdensome, and thought there must be a better way.

She worked out a design that employed water jets and a dishrack that would hold the soiled tableware in place. Soon after she first began working on the design, her husband passed away and she was left with debt. This tragedy gave Cochrane a push. She became driven in her desire to create a successful model of her machine. Though others had attempted to create similar devices, including a hand-cranked model patented in 1850, none had become commercially viable. She was determined that her machine could meet a real consumer need.

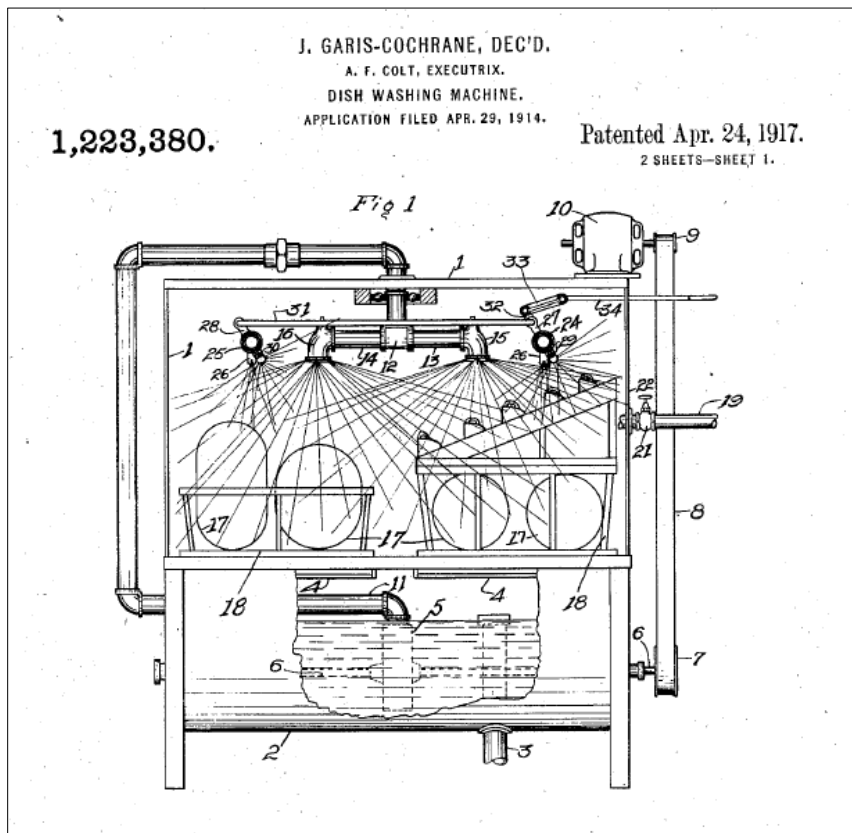
Working in a shed behind her home, Cochrane got to work. After measuring plates, cups and saucers, she constructed wire compartments in which they would fit. Then she placed the compartments inside a wheel which lay flat within a copper boiler. The wheel turned, powered by a motor, and soapy water would squirt up over the dishes to clean them. In 1886 she patented her design and began making machines for friends, calling it the "Cochrane Dishwasher." She also advertised the machines in local newspapers. She established Cochrane's Crescent Washing Machine Company. Soon restaurants

and hotels became interested. In 1893, Cochrane presented her machine at the Chicago World's Fair, where she won an award for its design and durability.

Initially, the machines sold well to businesses, but not to individual consumers. Some homemakers admitted that they enjoyed washing dishes by hand, and the machines reportedly left a soapy residue on the dishes. They also demanded a great deal of hot water, and many homes did not have hot water heaters large enough to supply the machine sufficiently. The machines' popularity skyrocketed in the 1950s, when technology, women's attitudes toward housework, and dishwashing detergent changed in the dishwasher's favor. Today, the dishwasher is a part of the typical American household.

Cochrane's company eventually became KitchenAid, part of the Whirlpool Corporation. She died in 1913, at the age of 74.

Text retrieved from <https://lemelson.mit.edu/resources/josephine-cochrane> on 7-1-2020
Copyright © Massachusetts Institute of Technology



1 Josephine Cochrane's second patent, for an improved design of a "Dish Washing Machine," was awarded after she died.

Name _____

Investigate Illinois Reflection Sheet

Presentation topic:

Name of presenter:

What do you think is the most important fact about this Illinois person, place, or feature?

List two other important details you learned about this topic:

1.

2.

Describe how you think Illinois might be different if this person, place, or feature had never existed.

Investigate Illinois Cards ANSWER KEY

The Investigate Illinois cards are meant to give students just enough information to introduce each topic; they are not intended to be a thorough overview. Each card includes questions to compel students to conduct their own investigations.

This key is a guide for teachers. It includes answers to the questions found on each card as well as websites that may serve as starting points for student research.

Agriculture in Illinois

DeKalb Genetics

1. What was the original meaning behind the famous “winged ear” symbol for DeKalb seed?

The original winged-ear symbol depicted DeKalb brand corn flying away with the farm mortgage, advising farmers to "Let DeKalb Quality Hybrids Be Your Mortgage Lifter." This was a powerful message during the Depression as farmers struggled to make their land payments.

2. Who were the key figures involved in the development of hybrid corn?

Hybrid corn breeding first took place in 1909, mostly with the work of scientist George Harrison Shull. Other important early figures include Edward Murray East, Donald F. Jones, and Henry A. Wallace.

3. What are the benefits of corn hybridization, and how has hybrid corn changed agriculture?

Corn hybridization is a traditional breeding process in which inbred lines are crossed to create seed varieties with improved plant characteristics (such as increased number of kernels, drought tolerance, pest resistance, etc.) and greater yields. The first commercial hybrid corn was available in 1926. The use of hybrid corn increased dramatically in just a few years:

1935 – 1% of total corn acreage planted with hybrids

1940 – 30% of total corn acreage planted with hybrids

1960 – 96% of total corn acreage planted with hybrids

Today – around 99% of total corn acreage planted with hybrids

Hybrid corn allows farmers to produce more corn on the same amount of land. Hybridizing is also the primary practice used for other crops like cotton, wheat and sorghum.

4. What other brands of seed corn are available in Illinois?

Answers may include AgriGold, Asgrow, Cargill Seed, Crow’s Hybrid, Golden Harvest, LG Seeds, Mycogen, NK Brand Seed, Pfister Hybrid, Pioneer Hi-Bred International, Stine Seed, Wyffels Hybrids, and others.

5. Plant scientists have developed ever more precise ways to improve crops like corn. Explain biotechnology and how it can be used to help corn, farmers, and the environment.

Biotechnology is a range of methods used to modify plants or animals to achieve specific traits. Modern biotechnology includes the tools of genetic engineering. For example, most corn grown today is genetically engineered to resist pests, leading to reduced use of pesticides. This results in crops that yield more grain; that save farmers time, money, and fuel; and that reduce fuel emissions and soil erosion.

Recommended Resources:

<https://www.daaha.org/100-years-of-dekalb-ag-innovation> - DeKalb Area

Agricultural Heritage Association – Virtual Exhibit of DeKalb Ag history

<https://bit.ly/2BxwPBf> - Illinois State Historical Society – Historical Marker:

Winged Ear Logo

<https://bit.ly/2A0h8yM> - USDA ARS – Improving Corn

<https://bit.ly/2INoSaf> - USDA NASS - Corn Hybridization

<https://bit.ly/2z8ofpJ> - USDA - Biotechnology FAQs

DOT Foods

1. Name seven states other than Illinois where DOT Foods has a distribution center.
Answers may include Arizona, California, Georgia, Idaho, Indiana, Maryland, Missouri, New York, Oklahoma, and Tennessee.
2. Which distribution center is closest to the DOT Foods corporate headquarters, Chicago or Chesterfield, MO?
Chesterfield, MO – 126 miles.
3. In addition to the food redistribution aspect of the company, what other companies are under the DOT Foods umbrella?
edotfoods, Inc. and Dot Transportation.
4. List 10 companies that use DOT Foods as a redistributor of their products.
Answers will vary.
5. What types of jobs can be found at DOT Foods?
Answers may include truck drivers, accountants, maintenance, etc.

Recommended Resource:

www.dotfoods.com - DOT Foods company website

Funks Grove

1. Near what town and in what county is Funks Grove located?

Near Shirley, Illinois, in McLean County.

2. What historic “hard road” brought many customers to Funk’s Grove for the Funk’s maple sirup? **Route 66.**
3. What is the difference between maple sirup and syrup?
Sirup is made by boiling sap. Syrup is the end product of adding sugar to fruit juice.
4. Go home and read the label of your pancake syrup. Does it contain real maple sirup? If not, what does it contain?
Most pancake syrup today is made with corn syrup and maple flavoring, unlike the product that is made at Funk’s Grove.
5. Have you ever tasted real maple syrup?
Answers will vary.

Recommended Resource:

<https://bit.ly/2NxDeMS> - Legends Of America - Shirley and Funks Grove: Maple Sirup Country

Hunter Haven Farms

1. What does it mean for a herd to be registered?
Each animal in the herd is recorded in the breed association herdbook (such as Holstein Association) and a certificate about each animal exists. The certificate lists information such as name of owner, name of animal, date of birth, number, dam, sire, and identifying color markings.
2. The cows at Hunter Haven are milked in a modern facility known as a milking parlor. What is a milking parlor, and how does it work?
A milking parlor is the area of a dairy farm where milking takes place. Cows come into the parlor two or three times a day. Many farms now have robotic milking machines, which cows can come to as they choose.
3. Describe the process of methane digestion. (Hint: this process is also known as anaerobic digestion.)
The process by which microorganisms break down biodegradable materials—such as manure—in the absence of oxygen (see http://en.wikipedia.org/wiki/Anaerobic_digestion)
4. One of the main feed components for cows at Hunter Haven is distiller’s grain. How is distiller’s grain produced in ethanol production?
Corn is ground and separated. The starch (about 70% of the kernel) is converted to ethanol alcohol. The remaining nutrients—including protein, fat, minerals, and vitamins—are concentrated into distillers grain.

Recommended Resources:

<https://bit.ly/2VIE4NC> - Journal Standard - "Hunter Haven Farms among the area's first large dairies"

<https://bit.ly/3gj269C> - FarmEnergy.org – Hunter Haven Farms

<https://www.usdairy.com/> - National Dairy Council – Undeniably Dairy

Illinois Department of Agriculture

1. How does agriculture benefit Illinois' economy?

"Marketing of Illinois' agricultural commodities generates more than \$19 billion annually. ...Billions more dollars flow into the state's economy from ag-related industries, such as farm machinery manufacturing, agricultural real estate, and production and sale of value-added food products. Rural Illinois benefits principally from agricultural production, while agricultural processing and manufacturing strengthen urban economies." – Illinois Department of Agriculture (IDOA)

2. Who farms in Illinois?

"Although Illinois' food and fiber industry employs nearly 1 million people, there are only 75,087 farm operators, down from 164,000 in 1959. ...Illinois farmers are generally more than 50 years old. Forty-nine percent hold jobs off the farm and consider farming their secondary occupation. Family farms still dominate, though some of these have incorporated." – IDOA

3. Are many of Illinois' agricultural products exported to other nations?

"Illinois ranks third nationally in the export of agricultural commodities with \$8.2 billion worth of goods shipped to other countries. ...Illinois is the nation's second leading exporter of both soybeans and feed grains and related products. Approximately 44 percent of grain produced in Illinois is sold for export." – IDOA

4. What are the characteristics of a typical Illinois farm?

"...as of April 2019, Illinois had 72,000 farms. Illinois farmland covers 27 million acres—about 75 percent of the state's total land area. ...The average size of an Illinois farm, including hobby farms, is 375 acres. Most farm acreage is devoted to grain, mainly corn and soybeans." – IDOA

5. Explore the Consumers area of the Illinois Department of Agriculture website at <http://www.agr.state.il.us/>. List three ways the IDOA ensures consumer safety in Illinois.

Answers may include: ag products inspection, egg inspections, and meat & poultry inspections.

Ingredient

1. List the items in your desk that might contain a corn product.

Possible answers: paper, book, plastics, etc.

2. What does the word pharmaceutical mean?

Pharmaceuticals are drugs.

3. Have you ever used corn starch in cooking? If so, what were you making?
Answers will vary.
4. Find an ingredient label that contains corn in some form.
Answers may include corn oil, corn flour, corn meal, corn starch, modified starch, high fructose corn syrup, dextrose, ethyl alcohol or ethanol, etc.
5. Why do you think that Ingredion was founded in and is still based near Chicago, Illinois?
Chicago is in the “Corn Belt.” It also has a good transportation system, many factories, and a large population.

Recommended Resources:

www.ingredion.us - Ingredion company website

<https://en.wikipedia.org/wiki/Ingredion> - Wikipedia - Ingredion

The Maschhoffs, Inc.

1. What are the top five pork-producing counties in Illinois? (Hint: Look up “Illinois Agricultural Statistics” online.)
Answers will vary over time.
2. Most of today's pigs are raised in specially-designed barns known as confinement buildings. What are the advantages of raising pigs in a building vs. outdoors?
Barns protect pigs from weather, predators, and disease. The barns have automated feeding technology, allowing stored feed to be automatically dispensed into feeders as needed. Pigs also have constant access to automatic waterers. In summer, pigs are cooled with openings along the sides of the barns, large fans to keep air moving, and water sprinklers which mist the pigs. In winter, special “curtains” cover the sides of the barn to block wind while heaters keep the pigs comfortable.
3. Have you ever visited a pig farm? Watch a factual video about pig farming and write three observations about how pig farmers care for their animals.
(Suggested videos: “A Day on a Pig Farm at <https://youtu.be/U-AI1-7obdk> or “A Field Trip to Ohio Pig Farms and Farm Song” at https://youtu.be/rAw7Fs_IAW4.)
Answers will vary.
4. The pork industry provides thousands of jobs in Illinois. List at least five different careers that have to do with raising pigs.
Pork producer/farmer, veterinarian, animal nutritionist, livestock transport driver, farrowing technician.

Recommended Resources:

<http://www.themaschhoffs.com/> - The Maschhoffs company website

Prairie Farms

1. How many and what kind of products does Prairie Farms offer?
For a full list and description, please visit their website. Product categories include milk, cottage cheese, sour cream, dips, yogurt, ice cream, butter, cream, frozen treats, juices and other drinks.
2. What has Prairie Farms done to promote milk as a healthy beverage to youth?
Answers will vary, but could include partnering with Paralympic athletes and promoting products with “kid appeal” like Milk Snacks.
3. Describe the Prairie Farms distribution and service area.
Prairie Farms services a vast area of the Midwest and beyond including locations in 16 states from Minnesota to Texas and Nebraska to Ohio.
4. What is PFD Supply Corporation?
As a Prairie Farms subsidiary operation, PFD Supply is a primary one-stop distributor of products to fast food outlets.
5. What slogans are used to promote milk and its nutritional value?
Undeniably Dairy, Got Milk?, etc.

Recommended Resource:

<https://www.prairiefarms.com/> - Prairie Farms website

Famous People

Abraham Lincoln

1. What life experiences do you think would have made Lincoln so supportive of farmers and agriculture?
Answers will vary; should mention that he was born on the Kentucky frontier and one of his many jobs as a young man was working on a farm.
Abraham Lincoln signed legislation that created the United States Department of Agriculture (USDA). Visit the USDA website at www.usda.gov to answer the following questions:
2. List three priority research topics identified by the USDA.
Answers may include: global food supply and energy, climate and energy needs, sustainable use of natural resources, nutrition and childhood obesity, food safety, education and science literacy, and rural-urban interdependence/rural prosperity.
3. Which USDA agency provides leadership to help people conserve, maintain, and improve our natural resources and environment?

Natural Resources Conservation Service (NRCS)

4. The USDA's Animal and Plant Health Inspection Service (APHIS) regulates imports of live animals and plants as well as animal and plant products. Why is it important to control what plants, animals, and products are brought into our country?

Plants, animals, and products from other countries must be monitored closely because they can harbor pests, pathogens, or invasive species which may harm our agriculture or environment.

Recommended resource:

<https://www.nal.usda.gov/topics/lincolns-agricultural-legacy> - USDA National Agricultural Library - Lincoln's Agricultural Legacy

Joseph Glidden

1. Before barbed wire, how do you think ranchers would know their cattle from other rancher's cattle?

Ranchers would mark their cattle with brands for each ranch.

2. What changes did the invention of barbed wire make for ranchers?

The range was no longer open. It caused the end of cattle drives to get them to market.

3. Barbed wire was nicknamed "the Devil's Rope." Why?

Barbed wire's sharp points injured many cattle that came in contact with it.

4. Was Joseph Glidden the only inventor of barbed wire?

No. Others included Michael Kelly, Jacob Haish, and Isaac Ellwood.

5. What is a patent?

An exclusive right officially granted by a government to an inventor to make or sell an invention.

Recommended Resources:

<http://www.gliddenhomestead.org/> - Joseph E. Glidden Homestead

https://en.wikipedia.org/wiki/Barbed_wire - Wikipedia - Barbed Wire

<https://www.barbwiremuseum.com/history.htm> - Devil's Rope Museum

<https://bit.ly/2A2w2EJ> - National Archives - Glidden's Patent Application for Barbed Wire

Joseph Smith

1. What types of tourism opportunities are available in Nauvoo?

Historic sites, museums, visitors center, daily performances, and recreation.

2. What is the distance between Nauvoo and Carthage? Warsaw and Carthage?

Nauvoo to Carthage is 22 miles; Warsaw to Carthage is 17 miles.

3. What happened to the original temple in Nauvoo?

Two years after the Mormon expulsion from Nauvoo, it was set on fire by an arsonist. Two years later, a tornado destroyed the temple's north wall. In 1867, the temple was demolished by decision of the Nauvoo City Council for fear it would collapse and kill someone.

4. Who was the leader of the Mormon church following Joseph Smith's death?

Brigham Young.

5. What was the Nauvoo settlement called before it was named Nauvoo? What do the previous and current names mean?

Commerce, or Commerce City. This name, chosen in 1834, reflected hopes to play a prominent role in U.S. westward expansion. In 1840 the settlement became home to an influx of Mormon settlers and its name was changed to Nauvoo, a Hebrew word for "beautiful."

Recommended Resources:

<http://www.beautifulnauvoo.com> - Nauvoo, Illinois tourism website

<http://pbs.org/americanprophet/joseph-smith.html> - PBS - Joseph Smith

Lorado Taft

1. List three reasons why Lorado Taft is remembered.

Lorado Taft is remembered for helping advance women as sculptors, his own sculpting, and his writing of the *History of American Sculpture*.

2. Why do you think Lorado Taft placed his statue of Black Hawk overlooking the Rock River? **Answers will vary.**

3. Why would Lorado Taft place his statue of Alma Mater at University of Illinois? **He attended University of Illinois.**

4. Why should women sculptors be grateful to Lorado Taft?

He helped them to be taken seriously as sculptors.

5. What do you think would be the most difficult aspect of being a sculptor?

Answers will vary.

Recommended Resources:

<https://www.britannica.com/biography/Lorado-Taft> - Encyclopedia Britannica -

Lorado Taft

Lydia Moss Bradley

1. Create a timeline depicting the significant events of Lydia's youth and adulthood.

Timeline should include such events Lydia's birth in Indiana in 1816, marriage to Tobias Bradley, the deaths of their children and her husband, her founding of Bradley Polytechnic Institute, etc.

2. One of her first business transactions as a youth involved her horse. What did she do?

Lydia's father gave her a colt. She raised money for a saddle and bridle so she could ride around the countryside, and then exchanged the horse and tack for 40 acres of forested land. She cleared the land herself, sold the timber to saw mill owner Tobias Bradley (whom she later married).

3. What did Lydia do with the 680 acres of Manito Marsh which changed the value at the time from \$10 to more than \$140 and benefited other area farmers?
She drained the land, added fencing and buildings, and cultivated it for farming. When the crops did poorly she had the soil tested, which showed the soil lacked potash. Amending the soil improved the crops, benefitting the land itself, the farmers who worked it, and farmers nearby who followed her lead by amending the soil. This increased the land's value significantly.

4. Describe the events that lead to the creation of Illinois' Park districts.

Peoria citizens were the first to petition the Illinois General Assembly for official park status, which was approved in 1893. Lydia donated 135 acres in 1894 which started the Park District of Peoria.

5. How did Lydia feel about issues of the time such as slavery and the role of women in society?

She did not agree with slavery. It was reported that she was an agent on the Underground Railroad, assisting slaves escaping from the South. She was strong and independent, doing the typical work of women but also that of men. She earned the respect of business leaders and held leadership roles that were unheard of for women at that time.

Recommended Resources:

<https://www.bradley.edu/sites/lmb200/biography/> - Bradley University – Lydia Moss Bradley Biography

<https://www.womenofthehall.org/inductee/lydia-moss-bradley/> - National Women's Hall of Fame – Lydia Moss Bradley

<https://www.womenhistoryblog.com/2013/04/lydia-moss-bradley.html> - History of Women – Lydia Moss Bradley: Philanthropist and Founder of Bradley University

Priscilla and the Hollyhocks

1. What is the path of the Trail of Tears?

The path consists of several routes stretching over 5,000 miles from east to west over nine southeastern and Midwestern states.

2. The Cherokees crossed the Ohio River into Illinois at what town?
Golconda.
3. What was the 1830 Indian Removal Act?
It was an act signed into law by Andrew Jackson in 1830. It authorized the president to grant unsettled lands west of the Mississippi in exchange for Indian lands within existing state borders. Some tribes left their lands peacefully, but many resisted. In the fall and winter of 1838-1839, the U.S. government forced the Cherokees to leave their lands and move west. Approximately 4,000 Cherokees died on this forced march, which became known as the "Trail of Tears."
4. Imagine what it would be like to have your family uprooted, removed from your farm in the southeastern United States, placed in a stockade, and then forced to travel 800 miles to Oklahoma Territory, where the climate and land were very different. How would you live there? Describe your feelings and experiences.
Answers will vary.

Recommended Resources:

<https://www.nps.gov/trte/index.htm> - National Park Service – Trail of Tears, A Journey of Injustice

<https://www.britannica.com/event/Trail-of-Tears> - Encyclopedia Britannica - Trail of Tears

<http://illinoishistory.com/trailoftears.html> - Jon's Southern Illinois History Page

Ronald Reagan

1. Are there any historical sites one can visit in Illinois to learn more about Reagan's boyhood? What are they, and where are they located?
Yes, his birthplace and museum in Tampico; and boyhood home in Dixon.
2. Name three movies in which Ronald Reagan acted.
Some of his movies included *Sergeant Murphy*, *Brother Rat*, *Knute Rochne - All American*, *King's Row*, *That Hagen Girl*, *Nash Airflyte Theatre*, *Bedtime for Bonzo*, *The Winning Team*, *The Killers*.
3. What events led to Reagan's involvement in California politics?
During his presidency of the Screen Actors Guild, Reagan became active in politics. Upon delivering a nationally-televised speech in support of Barry Goldwater's bid for the presidency, Reagan's message that the nation had a "rendezvous with destiny" paved the way for his own political career.
4. To which political party did Reagan belong? How did his positions on significant political issues of the day reflect the basic principles of that party?
Republican; answers will vary.
5. What are some of the significant world events Ronald Reagan helped to shape?

Answers may include: release of American hostages in Iran, events that led to the fall of the Berlin Wall, reduction of the nuclear arsenal.

Recommended Resource:

<http://www.reaganlibrary.com> - Ronald Reagan Presidential Foundation & Institute

Sherb Noble

1. Sherb Noble was active in the Kankakee community for many years. Name a community activity in which he was involved.

He was one of the earliest sponsors of Little League baseball. In 1990, the Kankakee Chamber of Commerce named him Businessman of the Year.

2. How many Dairy Queen restaurants can be found in your county?

Answers will vary by county.

3. What single item on the Dairy Queen menu has the most total calories? Which has the least?

Answers will vary by location and current menu items.

4. What other dessert pioneers helped Dairy Queen get its start?

Ted Drew of St. Louis, Missouri; many other small ice cream shop owners.

5. How much has the price of an ice cream cone gone up since the first Dairy Queen opened?

Prices vary by location.

Recommended Resources:

<http://noblestores.com/OriginalDQ/about/history/> - The History of Noble Stores, LLC

<http://www.dairyqueen.com> - Dairy Queen website

Illinois Tidbits

Arsenal Island, Rock Island

1. Why did so many soldiers die at the Confederate prison camp on Arsenal Island?

They died from disease or exposure.

2. What is an arsenal?

An establishment for the construction, repair, storage and issue of weapons and ammunition.

3. What was the name of the fort that was built on the island in 1816? Why was it built?

Fort Armstrong was built as part of a system of forts in the Upper Mississippi Valley. The fort's most important role in keeping the peace was when it served as military headquarters during the Black Hawk War of 1832.

4. Arsenal Island still serves a valuable military purpose today. What is it?
It is an active manufacturer of military equipment and ordnance. They also provide logistics and base support for the Armed Forces.

Recommended Resources:

<https://www.army.mil/RIA> - US Army Rock Island Arsenal

http://en.wikipedia.org/wiki/Rock_Island_Arsenal - Rock Island Arsenal entry in Wikipedia

Darn Hot Peppers

1. In southern Illinois orchards, migrant workers make up most of the workforce. Where can they go to get training and language classes?
The Illinois Migrant Council has service centers in the following counties: Alexander, Franklin, Gallatin, Jackson, Jefferson, Johnson, Perry, Pulaski, Saline, Union, Williamson.
2. Cobden, Illinois' population is just over 1,000. What kinds of businesses would a town that size be able to support?
Answers will vary, but may include: auto dealership, restaurant, grocery store, convenience store, service businesses, etc.
3. Do you think there are any challenges migrant workers face, living and working in a small downstate Illinois town?
Answers will vary. Please accept any reasonable answer.
4. What kind of growing conditions (soil, climate, sunlight, rainfall) do chile peppers need to grow well? Does southern Illinois have all of the necessary conditions?
Peppers grow best in higher temperatures (evening temperatures over 55 degrees Fahrenheit) with moist, well-drained, fertilized soil. Yes, it does.
5. The Illinois Migrant Council operates a well-equipped technology center in Cobden. Look up the council and explain what it offers Illinois migrant workers.
For adults, English as a Second Language, GED prep, computer skills, interviewing skills and resume preparation. For youth in grades 1 – 6, “Beyond School.”

Recommended Resources:

<http://www.urbanext.uiuc.edu/veggies/peppers1.html> - University of Illinois web page on peppers

<http://www.illinoismigrant.org/> - Illinois Migrant Council website

Griggsville, Illinois – Purple Martin Capital of the Nation

1. Between what two rivers is Griggsville located?
The Illinois & Mississippi rivers.

2. Name three other “purple martin capitals.”

Answers will vary.

3. How many mosquitoes does Griggsville claim a purple martin will eat in a day?
2,000.

4. What two birds do purple martin enthusiasts need to discourage from using the purple martin housing, and why?

European Starlings and House Sparrows steal martin compartments to build their own nests, kill martins and their young, remove or eat their eggs, and chase them away. Just one House Sparrow pair can fill so many compartments with nesting material that they block martins from access.

5. How many “apartments” were in the first purple martin high rise in 1962?
562.

Recommended Resources:

<http://www.roadsideamerica.com/attract/ILGRIpurple.html> - Roadside America website

<http://purplemartin.org/> - Purple Martin Conservation Association

Lincoln’s New Salem State Historic Site

1. What other Lincoln sites could you visit in the towns around New Salem?

Answers may include the Lincoln Presidential Library and Museum, Lincoln Depot, Lincoln’s Home, and Lincoln’s Tomb in Springfield; Beardstown Courthouse in Beardstown; Long Nine Museum in Athens, and many others.

2. Lincoln was the only president to receive a patent. What did he invent and patent while he lived in New Salem?

On May 22, 1849, Abraham Lincoln received Patent No. 6469 for a device to lift boats over shoals, an invention which was never manufactured. He is the only U.S. president to have a patent.

3. Does it cost anything to visit New Salem?

It is free, but donations are suggested.

4. Visit the Lincoln’s New Salem web site at <http://www.lincolnsnewsalem.com> and take a virtual tour of the map on this card.

5. How many places did Lincoln live in his lifetime?

Answers may vary; there is much disagreement on this subject.

Morton, Illinois – Pumpkin Capital of the World

1. What happens to most of the pumpkins grown in the Morton area?

Most of the pumpkins in the Morton area become Libby’s canned pumpkin.

2. What is pumpkin chunkin’?

Pumpkin chunkin' is a contest to see whose homemade contraption can launch a pumpkin the farthest.

3. Which pumpkin variety is most widely grown in the Morton area?
Dickinson, which is known for its rich, golden color, creamy texture and pure pumpkin flavor.
4. Why are pumpkins orange?
The vivid orange color of pumpkin indicates a high content of carotene pigments such as lutein, alpha-carotene, and beta-carotene (the latter of which turns in to vitamin A in the body).
5. What other tourism opportunities are available in the area?
Answers will vary.

Recommended Resources:

<http://mortonchamber.org> - Morton Chamber of Commerce

<https://www.verybestbaking.com/libbys/we-are-pumpkin/> - Libby's We Are Pumpkin

Prairie Style Architecture

1. How did the prairie style of architecture change the layout of a home?
Prairie style architecture emphasized the use of interior light and open spaces in low, earth-hugging buildings.
2. What aspects of the prairie style architecture might you see in today's homes?
Carports and living rooms. Low-lying homes.
3. How do you think the job of an architect has changed over the years?
Computers are used in many facets of architecture today.
4. How old was Frank Lloyd Wright when he died?
1957 – 1867 = 90 years old (technically 89, because he died in April and was born in June, but some students may not take this into account).
5. Find the closest Frank Lloyd Wright building in your area. (Your city's historical society might be able to help you with this.)
Answers will vary; there are examples of his work throughout Illinois.

Recommended Resources:

<https://flwright.org/> - Frank Lloyd Wright Trust

Illinois from A to Z by Betty Carlson Kay

Route 66

1. How many miles long was the original Route 66?
2,448 miles.
2. How many states did Route 66 go through? Name them.

7: Illinois, Missouri, Kansas, Oklahoma, Texas, New Mexico, and California

3. How many time zones does Route 66 cross?
3 time zones.
4. What interstate road has replaced Route 66 in Illinois?
Interstate 55.
5. What are some of the nicknames for Route 66? Is there an interesting story to how the nickname came about?
 - **The Mother Road – John Steinbeck called it this in his 1939 novel “The Grapes of Wrath.”**
 - **Main Street of America – Route 66 linked remote and under-populated regions with Chicago and Los Angeles.**
 - **The Great Diagonal Way – Unlike other highways, a large section of Route 66 ran diagonally.**
 - **The Will Rogers Highway – This “official” name was created by the U.S. Highway 66 Association in 1952.**

Recommended Resources:

<http://www.route-66.com/history/index.htm> - Route 66 History

<https://www.illinoisroute66.org/> - Illinois Route 66 History

The Reversal of the Chicago River

1. How do you think Chicago’s history would have been changed if the Chicago River had not been reversed?
Answers should relate to sanitation; the reversal made the city safer by controlling disease.
2. Why is safe water so important to a city?
Without safe water, people would not want to live there; they would have to spend a lot of money obtaining safe water.
3. If you were to drink well water, how would you be sure that it was safe to drink?
It should be tested annually to be sure of its safety.
4. Do you think either typhoid or cholera is still a common disease in the United States? Why do you feel this way?
Answers may vary. Cholera or typhoid are not common in the United States at this time due to our sanitary practices. However, there may be outbreaks during disasters such as Hurricane Katrina.
5. Where does your water supply come from? If you aren’t sure, contact the city in which you live and find out.
Answers will vary depending upon where students live.

Recommended Resources:

<https://www.asce.org/project/reversal-of-the-chicago-river/> - American Society of Civil Engineers – Reversal of the Chicago River

<https://bit.ly/3dX3TjI> - WTTW - How Chicago Reversed Its River: An Animated History

Illinois from A to Z by Betty Carlson Kay

Sites to See

Allerton Park

1. What is 4-H and what do the 4 “H’s” stand for?
4-H is an organization sponsored by the USDA. It was first established to instruct youth in rural areas in farming methods and other useful skills like carpentry and home economics. Today, youth from both rural and urban areas join 4-H to gain skills from gardening and animal care to photography and rocketry. The 4 “H’s” stand for Head, Heart, Hands, and Health.
2. What are some things you can do while visiting Allerton Park?
Walk through the outdoor formal gardens containing over 100 sculptures and garden ornaments, hike the woodland trails, attend a program, concert or event, or visit the gift shop.
3. Is there an entry fee to go through the park?
No, it is free of charge.
4. Name some other public parks in Illinois.
Answers will vary.
5. What is your favorite park and why?
Answers will vary.

Recommended resources:

<https://allerton.illinois.edu/> - Allerton Park and Retreat Center

https://en.wikipedia.org/wiki/Robert_Allerton_Park - Wikipedia - Robert Allerton Park

Charles Mound

1. Charles Mound is located in a very hilly area of our state. Why is this area so hilly compared to other parts of the state?
This area did not undergo repeated glaciations affecting most of Illinois.
2. Locate Charles Mound on an Illinois roadmap. If you were describing its location to a friend who wanted to find it on his or her own map, what would you say?
Answers may include: map coordinates, located in Jo Daviess County, in northwestern Illinois.

3. Your family has decided to take a trip to see Charles Mound. You have agreed to map out the route and write directions for your mother, who will be driving. She wants to know which roads to take, and in order to plan for time and fuel, how many miles she will be driving. Using your Illinois roadmap, write out step-by-step directions and calculate mileage for the trip.

Answers will vary.

4. On the way back from Charles Mound, your family decides to stop halfway and spend the night. What town is located closest to the halfway point between Charles Mound and your home? Not all towns have hotels, however. Do a Google search to find out whether the town closest to the halfway point has lodging available. If not, locate the nearest town along your route that does have a hotel or motel.

Answers will vary.

Recommended resource:

<https://www.atlasobscura.com/places/charles-mound> - Atlas Obscura - Charles Mound

Dickson Mounds

1. Which excavation site would you most like to visit, and why?

Answers will vary.

2. What hours is the Dickson Mounds museum open?

Check the website for current hours.

3. Dickson Mounds is located nearest to which river?

The Illinois River

4. What Native American tribes lived in the area of Dickson Mounds?

The Hopewell.

5. What is the name of the mound close to Dickson Mounds? What town is it located in? What is the area used for now?

Rockwell Mound in Havana, Illinois is used for a park.

Recommended Resource:

<http://www.illinoisstatemuseum.org/content/welcome-dickson-mounds> - Dickson Mounds State Museum

Fermilab

1. What type of research is done at Fermilab?

Examining particles of the atom

2. Why did Dr. Betz feel Fermilab was a good place to reconstruct a prairie?

It used to be prairie and the land above the accelerator was lying fallow.

3. What would you like to see if you visited Fermilab?
Answers will vary.
4. If 55 farms made up the 6,800 acres of Fermilab, what was the average size of these farms?
6800 divided by 55 = 120.3 acres
5. What three parts of the atom were discovered at Fermilab?
The bottom quark, top quark and the tau neutrino

Recommended Resources:

<https://www.fnal.gov/> - Fermilab

Illinois from A to Z by Betty Carlson Kay

Goose Lake Prairie State Park

1. Near what town is Goose Lake Prairie located? Why do you think the town was given this name?
Coal City. Coal was mined in this area during the mid 1800s. Much of the coal was taken by rail to supply fuel for the city of Chicago.
2. The road to the visitor's center at Goose Lake Prairie is named "Jugtown Road." Why might it be named this?
Clay was taken from the drained Goose Lake to make pottery for frontier farms and households. The potters' settlement was called Jugtown.
3. Goose Lake Prairie is located where two rivers come together to form the Illinois River. What are the names of these rivers?
The Des Plaines and Kankakee Rivers.
4. The former Joliet Army Ammunition Plant is being restored to a tallgrass prairie and is located near Goose Lake Prairie. This restored site is part of the U.S. Forest Service's National Park System. What is the name of this site and where is it located?
Midwein National Tallgrass Prairie; it is located near Wilmington, Illinois.
5. What agency is responsible for taking care of Goose Lake Prairie?
Illinois Department of Natural Resources.

Recommended Resources:

<https://bit.ly/3e1WShi> - Wikipedia - Goose Lake Prairie State Natural Area

<https://bit.ly/2ZyvfH7> - Illinois Department of Natural Resources - Goose Lake Prairie State Natural Area.

Illinois Great River National Scenic Byway

1. Through what counties and/or major cities in Illinois does the Great River Road travel?

Counties: JoDaviess, Carroll, Whiteside, Rock Island, Mercer, Henderson, Hancock, Adams, Pike, Calhoun, Greene, Jersey, Madison, St. Clair, Monroe, Randolph, Jackson, Union, Alexander. Cities: Galena, Savanna, Fulton, Moline, Nauvoo, Quincy, Alton, Columbia, Chester, Cairo.

2. Where would be a good place to watch the eagles along the Great River Road? (Hint: It is in the Meeting of the Great Rivers Scenic Byway Area.)

Alton & Grafton; where the Mississippi, Illinois, and Missouri Rivers meet.

3. How did the flood of 1993 affect the Great River Road and areas nearby?

Answers will vary. The flood of 1993 greatly affected much of this area.

4. What county along the Great River Road is known for its peaches?

Calhoun County grows 1/3 of the peach crop in Illinois.

5. List some sights and places one could visit while traveling along the Great River Road in Illinois.

Answers will vary; may include nature sites such as Pere Marquette State Park, agricultural sites such as John Deere in Moline, wineries, historic sites such as Cahokia Mounds, locks & dams, and more.

Recommended Resources:

<http://greatriverroad-illinois.org/> - Great River Road in Illinois

<https://experiencemississippiriver.com/> - Great River Road national site

Morrow Plots, University of Illinois

1. Name three other Land Grant Universities.

Iowa State University, Michigan State University, University of Nebraska, Ohio State University, and others (each state has a Land Grant University).

2. Why are test plots like the Morrow Plots important?

They allow researchers to try ideas and scientific hypotheses—on a small scale—on how to help farmers with problems they might be facing. This is important because if a new idea fails, they haven't already encouraged farmers across the state to try it on their farms.

3. For whom are the Morrow Plots named?

George E. Morrow, who was to become the first dean of the College of Agriculture, and Manley Miles, a professor of agriculture

4. Name three subjects you would be able to study at the University of Illinois.

Answers will vary; may include Agriculture, Journalism, Engineering, and more.

5. Name four famous people who have attended the University of Illinois and give the reasons for which they are famous.

Answers will vary.

Shawnee National Forest

1. The state mineral is mined in the southeastern portion of the state. What is the mineral, where is it mined, and how much is mined on an annual basis?
Fluorite is the state mineral which was mined in Rosiclare and Cave-in-Rock areas of Southern Illinois until 1995. It is no longer mined in the U.S.
2. Illinois is divided into three major geographical divisions. The Shawnee National Forest is in the southern Illinois division (which is mainly south of U.S. Route 50). Describe the climate, mix of crops, topography, and mining of the area.
Southern Illinois is warmer, allowing for crops like cotton. The topography is hilly and rocky. Small oil deposits and coal can be found in the region.
3. Name at least one avulsion (sudden removal of land [soil] by a change in the course of a river, sometimes caused by flood) that can be found along the Ohio River border with Kentucky.
Cave in Rock and Tower Rock.
4. What are the main varieties of trees that are grown at the Union County State Nursery in Jonesboro?
White pine, oaks (white, red, black pin, burr), bald cypress, and dogwoods.
5. What is Stone Face and where is it located? How did it form?
Stone Face is a rock formation located in Saline County, in the Shawnee National Forest. It is part of a ridge in the ShawneeTown Fault system.

Recommended Resources:

<https://www.fs.usda.gov/shawnee> - USDA Forest Service – Shawnee National Forest

<https://www.enjoyillinois.com/explore/listing/shawnee-national-forest> - Enjoy Illinois - Shawnee National Forest

<https://www.nrs.fs.fed.us/rna/il/shawnee/stoneface/> - USDA Forest Service – Stoneface Research Natural Area