Super Heroes of IL Ag

Social Studies | Literacy

Grade Level
4-8

Length of Lesson
90 minutes

Objective
By the end of this lesson, students will have a better understanding of significant participants of Illinois' agricultural history.

Materials Needed
- Copies of the super heroes cards
- Copies of blank comic pages
- Ultra fine-tipped black markers (optional)
- Colored pencils

Standards
Common Core
CCSS.ELA-Literacy.RI.4.1-2; RI.4.4; RI.4.7; L.4.5; W.4.9

Social Studies
SS.H.1.4; SS.H.2.3; SS.CV.1.3; SS.CV.4.3; SS.CV.1.6-8LC; SS.CV.2.6-8.MdC

Lesson Summary
This lesson is designed to introduce students to significant people who played a role in the shaping of the Illinois agriculture industry. Students will create a visual representation in the form of a comic strip that shows the sequence of the important events in their "super hero's" lives.

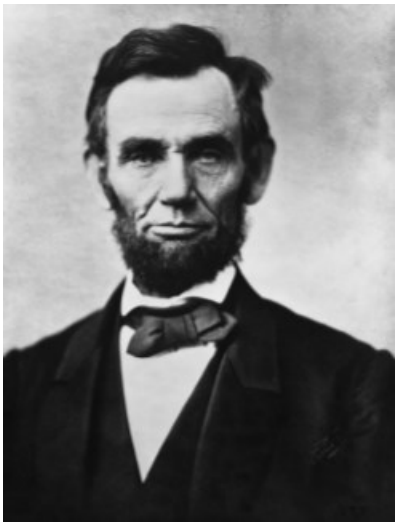
Suggested Sequence of Events:
1. Set Up: Print the super heroes cards and cut them in half. Laminate for multiple uses.
2. Read through the AITC Illinois History Ag Mag to learn more about the history of agriculture in Illinois.
3. Complete the activity following the procedures:
    - Explore the format of graphic novels and comic books and compare them to traditional prose.
        - Pay special attention to how graphic novels and comic strips use certain panels and words to portray the story, challenging the reader to fill in the gaps between the panels.
    - Give each student a blank comic strip sheet and one of the super hero cards.
        - Students can use 1-2 of any combination of the blank comic pages OR create their own panels on a blank sheet of computer paper.
    - Give students time to do a close read of their super hero. While they read, they should think about the more important points of their super hero's life that should be used in their comic strip.
    - Once students have decided what they want to include, have them draw, with pencil, the story on the blank comic strip page and then color it.
    - Optional: Have them use an ultra fine-tipped black marker to "ink" the lines of the comic before coloring to make it look more professional.
    - Have students share their super hero and display their work!
4. Whole class discussion and reflection of activity.

TEACHER RESOURCES

Extension Ideas:

- Here is a great resource to learn more about comic strips before teaching this lesson:
    - *Understanding Comics: The Invisible Art* by Scott McCloud
- Have students compare their super hero comic with another person who had the same super hero. What are the similarities and differences? Which aspects of their super hero did they each focus on and why?
- Create a large timeline and have students add important dates from their super hero's life to the timeline.
- Display their finished comics around the room and have student's view each other's work with a gallery walk. Have them ask 1 question about each comic strip as they complete the gallery walk.
- Have students conduct further research on their super hero and find more accomplishments.
- Have students complete the "Ag-Venture With Illinois History" worksheet as they read through the AITC Illinois History Ag Mag.
- Read through the following graphic novels to learn more about important people in the world of agriculture:
    - *George Washington Carver: Ingenious Inventor* by Nathan Olson
    - *Levi Strauss and Blue Jeans* by Nathan Olson
    - *Louis Pasteur and Pasteurization* by Jennifer Fandel
    - *The Great American Dust Bowl* by Don Brown
- Go to agintheclassroom.org to contact your County Literacy Coordinator for free classroom sets of our Ag Mags!

Abraham Lincoln



Abraham Lincoln, sixteenth president of the United States, is a much-studied figure in Illinois history. While his years spent in New Salem, his time serving in the Illinois legislature, his 1858 run for senator against Stephen Douglas, and his presidency are often mentioned, his impact on our nation's agriculture is rarely noted.

On May 15, 1862, President Lincoln signed into law an act of Congress establishing the United States Department of Agriculture (USDA). Lincoln's farm background on what was then the western frontier and his years as a country lawyer made Lincoln a representative of the frontier, the farmer, and small town democracy.

On July 2, also in 1862, President Lincoln signed into law what is generally referred to as the "Land Grant Act." This piece of legislation, introduced by U.S. Representative Justin Smith Morrill of Vermont, granted to each state 30,000 acres of public land for each senator and representative apportionment based on the 1860 census. Proceeds from the sale of these lands were to be invested in a perpetual endowment fund which would provide support for colleges of agriculture and mechanical arts in each of the states. The University of Illinois was established as a result of this legislation.

Although Lincoln's primary challenge during his Presidency was preserving the Union, the agricultural legislation that he signed transformed American farming.

May Berenbaum

May Roberta Berenbaum, born in 1953, is an American entomologist whose research focuses on the chemical interactions between herbivorous insects and their host-plants and how these interactions affect natural communities and the evolution of species. Berenbaum has produced hundreds of scientific publications and 35 book chapters.

A member of the National Academy of Sciences, Berenbaum has chaired two National Research Council committees, the Committee on the Future of Pesticides in U.S. Agriculture and the Committee on the Status of Pollinators in North America.

An academic who is devoted to teaching and fostering scientific literacy through formal and informal education, Berenbaum also has authored numerous magazine articles and six books about insects for the general public.

She also created the Insect Fear Film Festival, now in its 32nd year, on The University of Illinois campus. The festival engages and entertains hundreds of viewers each year.

Berenbaum was awarded the National Medal of Science, the nation's highest honor for achievement and leadership in advancing the fields of science and technology.

A. E. Staley

Augustus Eugene Staley was born in 1867 near Julian, California. He is generally regarded as the father of the soybean crushing industry. As a child, Staley had a chance encounter with an individual who brought Chinese soybeans to the U.S and shared them. Staley experienced success planting, weeding, and picking the soybeans.

Years later, Staley became concerned that the Midwest was being slowly "corned" to death by successive planting of corn. He recalled his successful childhood experience with soybeans and determined soybeans might be just the crop needed to rebuild the land through crop rotation. Staley conducted research at the University of Illinois and became convinced the soybean was a crop with great potential. Staley installed a soybean plant in Decatur, Illinois in 1922. Decatur began to call itself the "Soybean Capital of the World." While Staley's soybean business experienced a number of rises, falls, and changes after opening its doors, the company offered a full line of soybean products including defatted soy flour, grits, flakes, and soy protein concentrate by 1980. Staley was a true pioneer in the days when the soybean was little known.

Another of A.E. Staley's achievements was his role in the creation of the Chicago Bears and the creation of the National Football League. The Chicago Bears football team started as the Decatur Staleys in Decatur, Illinois. Staley said that big-time football needed big city crowds. They moved the team to Chicago and they started playing at Wrigley field and soon became the Chicago Bears.

Andrew J. Moyer

Andrew J. Moyer was an American microbiologist and researcher at the USDA Northern Regional Research Laboratory in Peoria, Illinois. His group was responsible for the development of techniques for the mass production of penicillin. By November of 1941, Moyer had succeeded in increasing the yield of penicillin by creating a better growth medium with the addition of corn steep liquor, an inexpensive byproduct of wet corn milling, and milk sugar. The team's development of deep vat techniques to grow the mold cultures, called deep fermentation, added the missing piece of the production puzzle.

Eight days after the bombing of Pearl Harbor, which happened on December 7,1941, lab representatives met with U.S. drug companies, which agreed to attempt large-scale production of penicillin using the new methods. The combined work of many researchers, including USDA scientists, resulted in making penicillin available in mass quantities by June 6, 1944, just in time to treat allied soldiers wounded on D-Day.

Cyrus McCormick

Cyrus McCormick was an American inventor and businessman who founded the McCormick Harvesting Machine Company, which later became part of the International Harvester Company in 1902.

In 1831, Cyrus McCormick took over his father's project of designing a mechanical reaper. McCormick implemented features of the machine that remain in use today: a divider, a reel, a straight reciprocating knife, a finger, a platform to catch the cut stalks, a main wheel and gearing, and a draft traction on the front. In 1834, in the face of competition from other inventors, McCormick took out a patent and, soon after, began manufacturing the reaper himself.

Before the reaper, the amount of grain that could be cut by hand during the short harvest season limited both food supply and farm sizes. McCormick's reaper would win international acclaim at the first world's fair in London's Crystal Palace, in 1851. It would also free farm laborers to work in factories in the expanding industrial revolution. In the late 1840s, McCormick moved to the young town of Chicago in America's western frontier and gambled that America's agricultural future was in the nation's prairie states: Illinois, Indiana, Iowa, Ohio, Wisconsin, and the territories that would become Nebraska, Kansas, and Minnesota. His venture would repay him with a fortune.

McCormick bought other agricultural patents and companies, expanding his empire to sell mowers, harvesters, and more. He established an extensive service organization, staffed with local agents who could befriend farmers, show them how to use the machines, and assess their creditworthiness. McCormick died in 1884, hard-driving to the end; his final words were, "Work, work, work." His company would combine with others to become the International Harvester Company two decades after his death.

Temple Grandin

Temple Grandin, born August 29, 1947, earned a doctoral degree in animal science from the University of Illinois at Urbana-Champaign. This accomplishment, along with others, came despite the fact Grandin has autism. Grandin was diagnosed with autism as a child. This condition was the source of speech delays, violent tantrums, and difficulties with social interactions.

Today, Dr. Temple Grandin is a brilliant scientist and professor of animal science at Colorado State University. Her world-changing career has revolutionized the livestock industry – each year, half the cattle in the United States are handled in cruelty-free facilities she has designed. She is also a passionate advocate for autism, using her experience to prove that people with the disorder can have great lives.

To achieve such unprecedented success, Temple used one of the strengths of autism: she thinks visually, the same way animals do. Because she thinks in pictures, she can see the world how a cow, a dog, or a pig might see it. She has used this insight to advocate for respectful treatment of animals raised for food.

Lydia Moss Bradley

“If you turned an estate worth half a million dollars into a fortune of over two million dollars you would be prosperous. If you were the director of the board of a national bank for twenty-five years you would be a leader. If you donated a city park and endowed a private college, and if you gave money and land to many community projects, you would be a great philanthropist. If you accomplished all of this as a woman, you would be astonishing, and, if you achieved all of this as a woman between the years of 1816 and 1908, you would be Lydia Moss Bradley.”

Born in Vevay, Indiana July 31, 1816, Lydia grew up on the family farm alongside the Ohio river. She learned all the typical chores expected of her as well as common sense and business skills which served her well throughout her life. Bradley was a pioneer in many fields who experienced success and tragedy. Lydia’s father had a strong distaste for slavery which made a strong impact on her. She chose to move to Illinois, a non-slave state.

Her accomplishments include being a leader in land development and agriculture, becoming the first female member of an American national bank board, establishing Bradley University in Peoria, Illinois, providing the estate on which St. Francis Medical Center stands, building the Bradley Home for Aged Women, and encouraging the city of Peoria to establish the first park system in Illinois on land she donated for the purpose.

Lydia Moss Bradley was inducted into the National Women’s Hall of Fame in 1998.

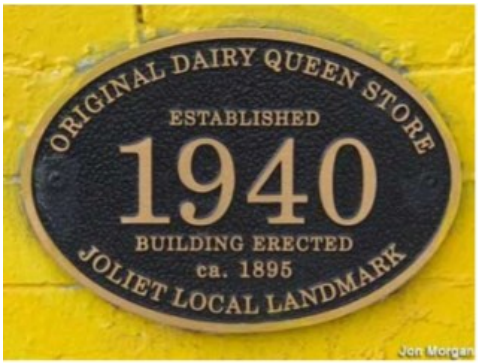
Jane Addams

Jane Addams was born on September 6, 1860, in Cedarville, Illinois. Jane Addams co-founded one of the first settlement houses in the United States, Hull House in Chicago, Illinois, in 1889. For these efforts, she was named a co-winner of the 1931 Nobel Peace Prize. Hull House in general served as a model home for the neighborhood, a household whose rooms and residents were clean and where nutritious meals were prepared and consumed. The Hull House provided services for the poor and ever-increasing number of immigrants that were immigrating to the United States.

The organization included child care, educational courses, public kitchens and other social programs. The Hull-House residents were especially concerned about the poor diets of their neighbors. They wanted to extend their own healthier eating habits to their neighbors through the cooking classes and establishment of a "diet kitchen" in a small house near the settlement. Started in the fall of 1891, the kitchen provided a place where the settlement could offer cooking classes and prepare meals for the sick.

Jane Addams died in 1935, in Chicago, and is remembered as a pioneer in the field of social work, an advocate for health care and proper nutrition, and as a pacifist.

Sherb Noble



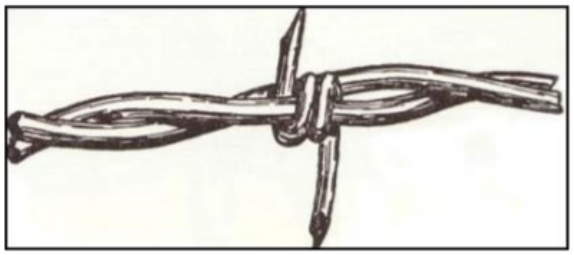
"Sherb's" was the name of a small ice cream store that opened in Kankakee, Illinois, August 4, 1938. A sign appeared in the window that said, "All you can eat for 10 cents!" This was a bargain during the Great Depression.

The owner of the store, thirty-year-old Sherwood Dick "Sherb" Noble, had been associated with dairy products from his teenage-years. What he offered his customers that day for 10 cents was a new semi-frozen, "soft-serve" ice cream. This new type of ice cream had been formulated by Sherb's new business partner J.F. McCullough.

The enthusiastic acceptance of the new soft-serve ice cream made history by launching a multi-million dollar business. Sherb soon opened the first store, named "Dairy Queen," in Joliet, Illinois. McCullough named the store "Dairy Queen" because he believed his soft serve was a "queen among dairy products, the epitome of freshness and wholesomeness." In time, Dairy Queen became internationally known and more than 5,000 Dairy Queen stores would open in the United States, Canada, and 14 other countries.

The substance used to adhere the paper wrappers onto the cones is not glue, but is simply corn syrup, which is completely safe if ingested.

Joseph Glidden



Illinois farmer Joseph F. Glidden is credited with the development of barbed wire. Before his invention in the 1870s, settlers on the treeless plains of the West had no easy way to fence livestock away from cropland. Ranchers had no method to prevent their herds from roaming far and wide. Glidden's barbed wire opened the plains to large scale farming and closed the open range, which brought the era of the cowboy and the round-up to an end.

Not everyone was happy with this new product. When livestock encountered barbed wire, it was usually a painful experience. The injuries provided enough reason for the public to protest its use. In fact, some religious groups demanded its removal and nicknamed the barbed wire, "The Devil's Rope."

The advent of Glidden's successful invention set off a frenzy that eventually produced over 570 barbed wire patents. It also set the stage for a three-year battle over the rights to these patents. When the legal battles were over, Joseph Glidden was declared the winner and the "Father of Barbed Wire." He established the Barb Fence Company in Dekalb, Illinois and became one of the wealthiest men in the nation.

Andrea Braundmeier-Fleming & Annie Newell Fugate

Annie Newell-Fugate Andrea Braundmeier-Fleming

Andrea, who was born, studied and still lives in Illinois is partnering and researching with Annie, also an Illinois student, to study the use of antibiotics in pigs. Their research was completed jointly at Southern Illinois University School of Medicine and Texas A&M University.

The treatment of pigs with antibiotics during their growth phase of life is done primarily to keep animals healthy and to maximize growth potential. Sick animals cannot build muscle and do not store fat well. However, the over use of antibiotics in humans and treatment of agricultural species used for meat consumption has caused great concern and debate. This has left farmers looking for solutions to keeping the herd healthy while still maximizing growth and keeping prices at a reasonable market level.

Together Dr. Fleming and Dr. Fugate researched swine health by substituting a portion of the fat source in the diet to a "healthy" fat. They tested a plant derived fat as a feed additive to improved piglet immune function and growth. Improved immune systems would lessen the need for antibiotics and the increased incidence of antibiotic resistant bacteria. This study explored the idea that if plant fats added to a pig's diet would alter the metabolism of the animal and produce a healthier pork product for consumers.

These two proud Illinois legacies published this research in 2020 and have been researchers for many other published and ongoing studies.

Jacob Holoch

Jacob is a 2018 graduate of LeRoy High School located in McLean County, Illinois, and a 2021 graduate of Illinois State University. He is now a Crop Insurance Claims Adjuster at County Financial along with being the owner of his own business in aerial photography.

Jacob developed a passion for aerial photography through a combined interest in technology and drones. His passion led to the establishment of Central Illinois Aerial Services, a business he owns and operates. The business provides aerial photography and related services. Farmers are one of Jacob's clients as aerial photography allows farmers to monitor crop health, increases profitability by way of higher yielding crops, and gives farmers high resolution images. Aerial imagery is a valuable tool used in agriculture, but also benefits businesses, law enforcement, among others.

Jacob possesses a remote pilot's license. This licensure allows him to operate a drone to take aerial pictures of what clients request. He markets himself using social media platforms, a company website, and business card circulation. He taught himself how to operate his drone along with varied software, which help show his clients his expertise.

Jacob notes that singlehandedly operating his own business, Central Illinois Aerial Services, requires a lot of work and came with a huge learning curve. Technology changes quickly and Jacob makes staying current on changes in drone and camera technology a priority to ensure his business runs efficiently.