Little White School MUSEUM

Welcome to Oswego

Overview:

Bridges (natural and man-made) helped make Oswego a place where people wanted to settle for hundreds of years. Now it's your turn to build a bridge and learn about Oswego's beginnings in this STEM-inspired activity.

Science Standards:

3-PS2-1: Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
5-PS2-1: Support an argument that the gravitational force exerted on objects is directed down.

3–5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3–5-ETS1-2: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3–5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Social Studies Standards:

SS.G.1.3: Locate major landforms and bodies of water on a map or other representation.
SS.G.2.3: Compare how people modify and adapt to the environment and culture in our community to other places.
SS.G.2.4: Analyze how the cultural and environmental characteristics of places in Illinois change over time.
SS.G.4.5: Compare the environmental characteristics of the United States to other world regions.

SS.H.1.3: Create and use a chronological sequence of events.
SS.H.2.3: Describe how significant people, events, and developments have shaped their own community and region.
SS.H.3.4: Explain probable causes and effects of events and developments in Illinois history.
SS.H.3.5: Explain probable causes and effects of events and developments in U.S. history

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Key Terms:

Bridge: A structure built to span a physical obstacle (such as a body of water, valley, road, or rail) without blocking the way underneath. It is constructed for the purpose of providing passage over the obstacle, which is usually something that is otherwise difficult or impossible to cross.

Ford: A shallow place with good footing where a river or stream may be crossed by wading. A ford may occur naturally or be constructed. It can transport much more weight than a bridge, but it may become impassable after heavy rain or during flood conditions. A ford is therefore normally only suitable for very minor roads.

Platt: To plan out or make a map of (an area of land, especially a proposed site for construction).

Transportation: the movement of goods and persons from place to place and the various means by which such movement is accomplished.

This arch truss iron bridge was built across the Fox River in 1867 and sat on native limestone piers built by Oswego contractor John W. Chapman.

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Early History of Oswego

In prehistoric times, several groups of Native Americans settled along the banks of the Waubonsie Creek. They favored the area because of its easy access to waterways (which provided drinking water and fishes) as well as access to local wildfire (used for leather and food). By the early 1800s, the Potowatomi, a Woodland tribe living throughout northern Illinois, had villages all along the Fox River from the mouth of the creek in Oswego to what is today the town of Batavia.

The local Potowatomi, led by Chief Waubonsee, relied heavily on farming for their food. Chief Waubonsee's village was moved from time to time as the soil in the cornfields wore out. In the late fall, the village would break up into smaller family groups and move to winter hunting camps nearby. Supposedly, the chief and his family had a favorite camping place near the mouth of Waubonsie Creek, which was named after him.

American settlers began arriving in the 1830s. Daniel Pearce and his wife, Sarah, were among the first settlers in Oswego. They, and Pearce's brother-in-law William Smith Wilson, moved their families here in 1833.

Then in 1835, two businessmen named Lewis B. Judson and Levi F. Arnold, **platted** a new village they called Hudson. But in 1837, when the U.S. Government approved a new post office for the small village, they named it Lodi. A meeting was held in town to clear up confusion and decide which name to use. However, the townspeople decided that neither name fit their new home, and Oswego was chosen instead. Oswego means "mouth of the stream," and was named after a town in New York where several early settlers had lived.

Why Settle in Oswego ?

Native Americans and settlers chose Oswego as their homes for the same reason: Its potential for easy **transportation**. Oswego is located just 50 miles west of Chicago where the Fox River and Waubonsie Creek meet. In the river, by the mouth of the Creek (by current-day Hudson Crossing Park), is a limestone shelf that makes a **ford** across the river. This natural ford was the easiest place for people and animals to cross the river, and used for hundreds of years.

In the 1800s, an inn was built in Oswego along the road that led directly to the ford, making it an ideal spot for weary travelers to stop and rest. Then, a general store and the post office were built, and so began Oswego's downtown business district. By 1838, 30 buildings stood to support residents and travelers who passed through Oswego.

Early settlers traveled along dirt roads and trails, which wasn't a problem when traveling on foot or horseback. However, as the population grew, more and more wagons headed for markets in Chicago. and better roads became a necessity. Roads were built and more fords were created up and down the Fox River. This encouraged more settlers to come to Oswego.

To help accommodate the population growth and popularity of Oswego, the fords in the river were finally replaced with wooden **bridges**, the first built around 1848. Though local newspapers boasted that “we have the most substantial bridges” (*Kendall County Courier* 1855), those early bridges needed to be repaired and replaced several times due to breaking down and falling apart.

In 1867, a new iron bridge was constructed, in hopes that it would not need to be repaired as often. That bridge, along with several others that were created since then, helped ensure the people of Oswego could stay connected to the outside world.

1906 Box Truss Bridge. Oswego, IL

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Paper Bridge Challenge

Adapted from "Bridge Building Challenge" in the Illinois 4-H At-Home STEM Challenge.

Grades: 3rd-5th
Time Required: 15-30 minutes

Intended Outcomes:
Participants will simulate the process of engineer design as they formulate, experiment, and ultimately design a bridge out of paper with the goal of holding 100 pennies (or equivalent weight). They will discover engineering takes both a scientific and creative approach to finding solutions to everyday problems.

Materials:
- One piece of 8 ½ x 11-inch paper
- Invisible tape (only for holding bridge shape, not for reinforcement of whole structure)
- 100 pennies per group
- A ruler
- Books or blocks that are the same height. These will be used for both ends of the bridge.

Instructions:
1. Space your books or blocks about 8 inches apart.
2. Grab your piece of paper and place it length-wise between the 2 books. Center it between the books as best you can.
3. Place 1 penny in the middle of your bridge. What happened? Did the bridge support the weight?
4. Now try folding the paper in half (hotdog style) and repeat the experiment. Did the folded paper hold more pennies this time?
5. Now try making a "u" shape with the paper. Fold the paper in half again lengthwise, then fold the sides up to form a channel. Use tape to help the bridge keep its shape, but remember not to tape the bridge to the books! Start loading it with weight. Record how many pennies the bridge held up.
6. Now get out new pieces of paper to try constructing your own bridge that can hold 100 pennies without collapsing. Get creative with your bridge and try out different designs until you achieve the goal.

Tips:
• Watch the Paper Bridge Challenge Video for guidance and inspiration: https://youtu.be/O0pnDBnOWTw
• When loading pennies, always start in the middle and then try to load them equally from side to side.

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Name: _____ Date: _____

Paper Bridge Challenge

1. **Paper with No Folds.** What happened when you put pennies in the middle of your bridge?

_____

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2. **Paper folded in half (hotdog style).** How many pennies could your bridge hold?

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_____

3. **Paper folded in U-shape.** How many pennies could your bridge hold?

_____

_____

4. **Create your own bridge.** Could your bridge hold 100 pennies? Why or why not?

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Draw a picture of your bridge