

For Students

Learning Through Places Engineering: West Cornwall Covered Bridge



West Cornwall Covered Bridge over the Housatonic River, from Cornwall to Sharon. Photo: Carol Highsmith, Library of Congress

What do you see in the photograph?

What is this structure? _____

What is its job? _____

Is it near the water? _____

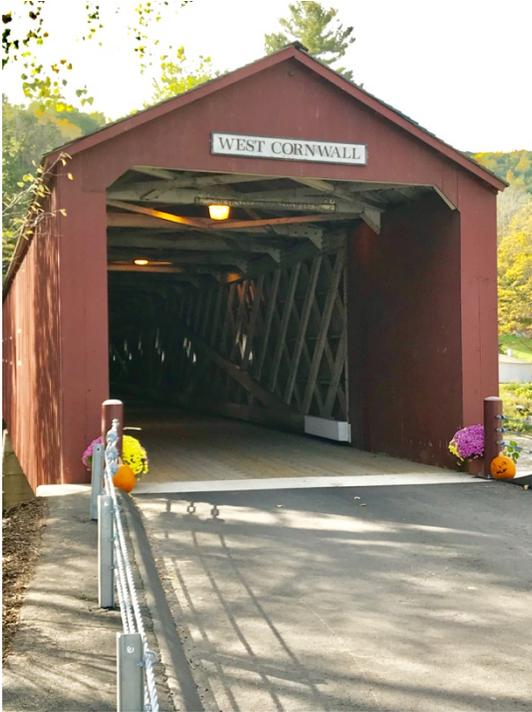
What is it made out of? _____

Does it look strong? _____

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Let's learn about this place!

Roadway onto the bridge. Photo: Mary Donohue, 2018



Do you drive over a bridge on the way to school? Or to go shopping or to visit your relatives? Most people drive over bridges everyday. They don't usually notice!

Connecticut has many rivers and streams. Without bridges, how would you get across? This is a picture of the West Cornwall Covered Bridge. It is one of only three covered bridges left in Connecticut. It is over 100 years old!

The West Cornwall Covered Bridge was built about 1864. It is made of wood. It's called a "covered" bridge because it has a roof and sides. The roof and sides help protect the wood from rain and snow. This helps the

bridge timbers to last longer. Wood that stays wet for a long time rots. Rotted wood isn't strong.

Covered bridges were built in Europe and Asia for hundreds of years. In the United States, there may have once been as many as 12,000 covered bridges. In 2018 there are fewer than 1,000 left.

Ithiel Town. The Cultural Landscape Foundation,
<https://tclf.org/ithiel-town>

Ithiel Town: Inventor of the Lattice Truss Bridge

Ithiel Town was an early Connecticut architect and engineer. He invented the way the West Cornwall bridge is constructed. It's called a lattice truss bridge.

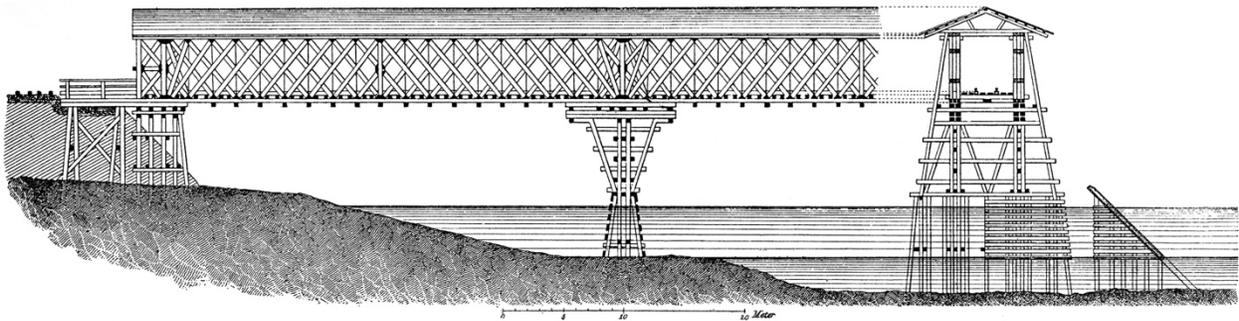


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Town was born in Thompson, Connecticut in 1784. He studied architecture with an important Boston architect named Asher Benjamin. In 1812 Town moved to New Haven and began his career as an architect.

Architect: a person who designs buildings and often supervises their construction.

Town studied the way bridges were constructed. They were built with heavy tree timbers. It took many skilled men to construct a bridge. Town came up with a better design. His design used light-weight planks. The Pine or Spruce boards were held together with wooden pins. This kind of bridge was easier to build. Bridges could be built cheaper and faster with his system. He patented his design. This meant that he was paid a small amount every time a Town's lattice truss bridge was built. Town's bridge design was so popular he became a wealthy man!



Lattice bridge, published in Frederick Converse Beach *Encyclopedia Americana* (New York, NY: Americana Company, 1903). Accessed at *ClipArtETC*, Florida Center for Instructional Technology, University of South Florida

This is a diagram of a lattice truss bridge viewed from the side (the part on the left) and as a “cross section” (the part on the right). A cross section is what something would look like if you took a slice out of the middle.

Town trusses, West Cornwall Covered bridge.
Photo: Mary Donohue, 2018

Lattice: a design that has diagonal pieces that crisscross each other.



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Saving the West Cornwall Covered Bridge

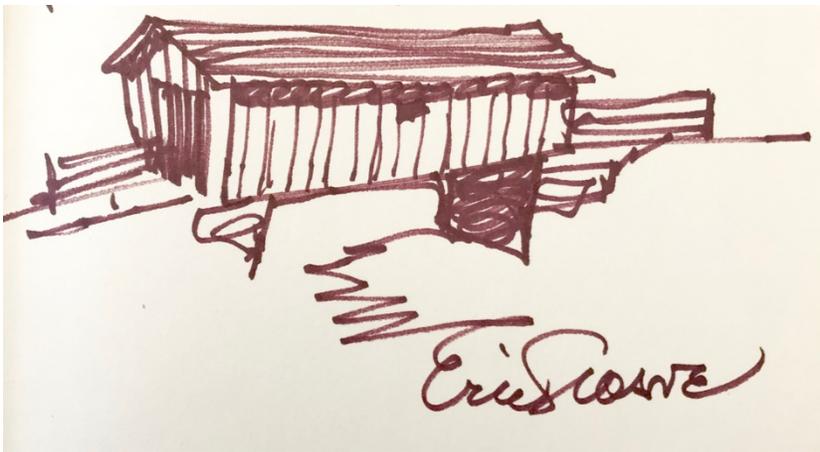
The State Department of Transportation is the department in charge of Connecticut's roads. It's often called the DOT for short. In 1968 the DOT was worried about the safety of Cornwall's covered bridge. DOT engineers were worried it couldn't carry the weight of modern cars and trucks. They thought that it should be demolished. They wanted to build a bridge made of steel and concrete.

A group of local citizens wanted to save the bridge. They worked hard to convince the state to save it. A clever plan was hatched. The bridge was raised slightly. Steel support beams were placed under the bridge. This made it safe for traffic and preserved a beautiful community landmark!



Cars travelling over the bridge. Photo: Mary Donohue, 2018

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Sketch of a covered bridge by Connecticut artist and author Eric Sloane. Covered bridges are often seen in paintings and photographs as landmarks in their communities and for their beauty. Photo: Mary Donohue

ACTIVITIES

1. Look on the Internet for examples of bridges such as Hartford's Bulkeley Bridge, the Brooklyn Bridge in New York City, or the Golden Gate Bridge in San Francisco. Print out photos and make a collage of different types of bridges that you discovered.
2. Interview your parents, grandparents or a neighbor about the bridges that they drive over. Do they ever drive over the Connecticut River from Hartford to East Hartford? What about the Arrigoni Bridge from Middletown to Portland? Why is it important to get them where they need to go? Find a photo of a bridge that you have been on or that your parents have driven over and write up a description of the bridge. What is it made of? Can you find out how old it is? Why do you think it was built there? Was it built for trains or cars or people? What river or stream does it go over? Look at the way it is constructed. How is it different or the same as West Cornwall's covered bridge? Can you make a statement about how bridge construction has changed over time?
3. Bridges are often shown in artwork. Look at the examples of paintings or drawings of bridges from these Connecticut museums. Choose one you really like. Make a drawing or painting of the West Cornwall bridge that is inspired by the artwork you chose.

Wadsworth Atheneum Museum of Art

"Main Street Bridge, Hartford" by Joseph Ropes

<https://connecticuthistoryillustrated.org/islandora/object/250002%3A28>

"Commerce Street Bridge, Hartford" by Joseph Ropes

<https://connecticuthistoryillustrated.org/islandora/object/250002%3A27>

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“Bridge in Park, Hartford” by Joseph Ropes

<https://connecticuthistoryillustrated.org/islandora/object/250002%3A38>

"Temporary Bridge, Connecticut River, Hartford" by James Goodwin McManus

<https://connecticuthistoryillustrated.org/islandora/object/250002%3A23>

Yale Art Gallery

“From the Bridge” by Ralston Crawford

<https://artgallery.yale.edu/collections/objects/119106>

“The Old Bridge” by Hubert Robert

<https://artgallery.yale.edu/collections/objects/51899>

“Brooklyn Bridge” by Richard Benson

<https://artgallery.yale.edu/collections/objects/74358>

“The Broad Bridge” by James McNeill Whistler

<https://artgallery.yale.edu/collections/objects/37620>

“The Brooklyn Bridge” by Joseph Stella

<https://artgallery.yale.edu/collections/objects/44306>

“The Bridge” by Yoshiro Soga

<https://artgallery.yale.edu/collections/objects/27613>

New Britain Museum of American Art

“Bridge” by Peter Waite

<https://connecticuthistoryillustrated.org/islandora/object/210002%3A38>

Florence Griswold Museum

“The Bow Bridge” by Robert Nisbet

<https://connecticuthistoryillustrated.org/islandora/object/270002%3A6>

Connecticut Historical Society

“Bridge at Norwich” by William Henry Bartlett

<https://connecticuthistoryillustrated.org/islandora/object/40002%3A12204>