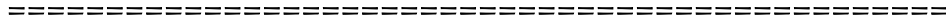


*LET'S CROSS THAT BRIDGE
WHEN WE COME TO IT*



*CURRICULUM MATERIALS for
SOCIAL STUDIES CLASSES*

LET'S CROSS THAT BRIDGE WHEN WE COME TO IT



CURRICULUM MATERIALS for SOCIAL STUDIES CLASSES

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This project was made possible through the Education Initiative -- a partnership of HistoryLink.org, the online encyclopedia of Washington state history and King County's 4Culture Heritage Cultural Education Program. Additional support was supplied by the Washington state Department of Transportation.



Additional copies of this guide may be downloaded from the HistoryLink.org Education Resource Page: <http://www.historylink.org/Index.cfm?DisplayPage=education/Edu-Curriculum.cfm>

On the Cover: Image of the Manette Bridge nearing completion, 1930. Courtesy Kitsap County Historical Society Museum. Other photographs in this curriculum courtesy Washington Department of Transportation and HistoryLink.org.

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ESSENTIAL QUESTIONS

- *What can you learn about the history of a region by studying the local bridges?*
- *How has the placement of a bridge in a specific location had influence on those who live or lived in the immediate area both before and after the bridge was built?*
- *How would people's lives be impacted if the bridge was closed or removed?*

Curriculum-at-a-Glance

- 1 Primary Objective:** Students will learn the historical significance of selected Washington state bridges to the social, cultural, and economic environment of the community where it is located. Students will gain an understanding of how bridges are constructed, why specific bridge sites were chosen, and how the bridge has influenced the lives of those who live or work in its vicinity.
- 2 Student Activities:** Students will view an inventory featuring Washington state bridges, including those that have been nominated to the National Registry of Historic Places/Washington State Historic Highway Bridges. Students will select a local bridge, research details, and complete a Basic Bridge Worksheet. Students will analyze consequences of bridge installations or demolitions by means of class discussions and classroom activities. Students will learn basics of HistoryLink.org research.
- 3 Materials included:** Basic Bridge Worksheet
- 4 Materials/equipment needed:** Copies of Basic Bridge Worksheets, computer and internet access
- 5 Grade/Subject Recommended:** Elementary grades 3-5; Middle School grades 7-8
- 6 Unit activities have been designed for whole class, small group, or individuals.**

PROJECT OBJECTIVES

Content Objectives:

Students will learn...

- 1 the historical significance of selected Washington state bridges to the social, cultural, and economic environment of the community where it is located;
- 2 how bridges are constructed and why specific bridge sites were chosen;
- 3 how the bridge influences the lives of those who have lived or worked in its vicinity.

Performance Objectives:

Students will...

- 1 view online inventories featuring Washington state bridges, including those that have been nominated to Historic Bridges: HistoryLink.org Essay 8860 -- Washington Bridges: A Slideshow Primer of Technology Through Time and the Washington DOT Historic Bridges inventory: (<http://www.wsdot.wa.gov/Environment/CulRes/bridges.htm>)
- 2 select a local bridge, research details, and complete a Basic Bridge Worksheet.
- 3 analyze consequences of bridge installations or demolitions by means of class discussions and classroom activities.

TIME MANAGEMENT

Elementary School: Six 45 minute classes

Middle School: Six 45 minute classes

KEY TERMS

Bridge Types -- refer to Basic Bridge Information Section (pp. 10-11) for definitions and examples.

- Arch Bridge
- Beam Bridge
- Cantilever Bridge
- Floating Bridge
- Suspension Bridge
- Trestle Bridge
- Truss Bridge

Bridge Parts

Abutment: the ground-end support of a bridge

Beam: the horizontal structural element of a bridge

Bents: vertical supports found on a trestle bridge

Deck: the roadway

Girder: a supporting beam

Pier: the vertical supporting structures of many kinds of bridges

Struts: the straight pieces of a truss bridge

Truss: supporting structure of a bridge formed when struts are riveted together

Other

Dead Load: the weight of the bridge itself

Live Load: the traffic crossing the bridge

The information for this KEY WORDS section was adapted from HistoryLink.org essay, Bridges of Washington state: A Slideshow Primer of Technology Through Time written by Priscilla Long. View the slideshow HistoryLink Essay 8860 for more complete information.

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| <p>WASHINGTON STATE EALRS</p> <p>(Essential Learning Requirements) ALIGNMENT</p> |
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The activities in this project have been designed to complement the following Essential Academic Learning Requirements (EALRs) for Washington state Social Studies.

Elementary School

| Civics | | | | Economics | | | | Geography | | | History | | | | Social Studies Skills | | | |
|---------|---------|---------|---------|-----------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|-----------------------|---------|---------|---------|
| 1. 1 | 1. 2 | 1. 3 | 1. 4 | 2. 1 | 2. 2 | 2. 3 | 2. 4 | 3. 1 | 3. 2 | 3. 3 | 4. 1 | 4. 2 | 4. 3 | 4. 4 | 5. 1 | 5. 2 | 5. 3 | 5. 4 |
| | | | | | | | X | X | X | | | X | X | X | | X | X | X |

Middle School

| Civics | | | | Economics | | | | Geography | | | History | | | | Social Studies Skills | | | |
|---------|---------|---------|---------|-----------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|-----------------------|---------|---------|---------|
| 1. 1 | 1. 2 | 1. 3 | 1. 4 | 2. 1 | 2. 2 | 2. 3 | 2. 4 | 3. 1 | 3. 2 | 3. 3 | 4. 1 | 4. 2 | 4. 3 | 4. 4 | 5. 1 | 5. 2 | 5. 3 | 5. 4 |
| | | | | | | | | X | X | | X | X | X | X | X | X | X | X |

| |
|---|
| <p>CBA (Classroom-Based Assessments) ALIGNMENT</p> |
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The activities in this curriculum have been designed to provide the resources and to build the skills needed to implement the following Classroom Based Assessments (CBAs):

Elementary School:

- 1 **You Decide** (5th grade): Citizens in a democracy have the right and responsibility to make informed decisions. Students are asked to make an informed decision on a public issue after researching and discussing different perspectives on the issue. In a paper or presentation, students state their position on the issue and consider the interaction between individual rights and the common good.
- 2 **What's the Big Idea?** (5th grade): Ideas and technology have enormous impact on the values, beliefs, and/or attitudes. Students are asked to write an essay or develop a presentation in which they explain how an idea or technology has affected the way people live.
- 3 **People on the Move** (4th grade): The movement of people has played a large role in shaping our world. Students are asked to write an essay or prepare a presentation describing how economic reasons and geography caused a selected group to move to or from a certain area. Students will also create a map that illustrates their movement.
- 4 **Humans and the Environment** (3rd grade): It is important to understand how the environment affects our lives and how we affect the environment. Students are asked to write an essay or prepare a presentation analyzing the interaction between a group of people and their environment. In their project, students will analyze similarities and differences related to the economic and geographic factors affecting the move.

Middle School:

1. **Why History** (6th grade): Studying history can be useful in understanding current issues. Students are asked to develop a position that examines how history helps us understand a current issue by analyzing historical events related to that issue --and then write a paper or prepare a presentation outlining results.
2. **People on the Move** (6th grade): The movement of people has played a large role in shaping our world. Students are asked to write an essay or prepare a presentation describing how economic reasons and geography caused a selected group to move to or from a certain area. Students will also create a map that illustrates their movement.

TEACHER SUGGESTIONS for Instructional Activities

Day #1: Pre-Class (Lesson) Preparation = 60 minutes

- (40 minutes) Read curriculum materials, teaching suggestions, and background information in *Let's Cross That Bridge When We Come To It*.
- 15 minutes) Plan individual classroom approaches to *Bridge* lessons.
- (5 minutes) Arrange for students to use computer lab for the project if needed.

Day #1: Suggested Teaching Procedure =45 minutes

- (15 minutes) Discuss what bridges are used for and why they are needed in specific areas. How were the lives of this region's early settlers different before bridges were erected? After? Did a bridge change the diversity of the people who lived in that area?
- (15 minutes) Relate history of Manette Bridge to students and lead a discussion on why was it built?, is it still fulfilling original purpose?, should it be replaced? Who would be impacted by its closure?
- (10 minutes) Relate history of South Park Bridge to students and lead a discussion on why was it built?, is it still fulfilling original purpose?, should it be replaced? Who would be impacted by its closure?
- (5minutes) Compare and contrast the impacts made by the closures of these bridges.

Day #2 Pre-Class (Lesson) Preparation = 30minutes

- (10 minutes) review classroom lessons for the day
- 10 minutes) Organize computer/projector access to WSDOT bridge inventory (<http://www.wsdot.wa.gov/Environment/CulRes/bridges.htm>)
- (10 minutes) review HistoryLink.org How to Use Power Point

Day #2: Suggested Teaching Procedure= 45 minutes

- (5 minutes) Discuss the different basic bridges designs.
- (20 minutes) View the WSDOT inventory of Washington state historic bridges and identify each by bridge design type or HistoryLink.org essay 8860 Bridges of Washington State: *A Slideshow Primer of Technology Through Time*. Discuss who might have benefited from the building of each bridge.
- (20 minutes) Introduce HistoryLink.org as resource for research and view HistoryLink.org How-to Power Point ([http://historylink.org/_content/education/downloads/How to Use HistoryLink.ppt](http://historylink.org/_content/education/downloads/How_to_Use_HistoryLink.ppt))

Day #3: Pre-Class (Lesson) Preparation = 25 minutes

- (15 minutes) Determine if you wish to have individual or small group approach to presenting research – or both. Individual projects = papers or small group projects = town-hall type discussion. Use ideas in How To Share Your Findings (p. 19) as a starting point.
- (10 minutes) Run off copies of Basic Bridge Research Worksheet (pp. 16-19) and project ideas (p. 20) for each student.

Day#3 Suggested Teaching Procedure= 45 minutes

- (15 minutes) Describe class project that you have selected or allow students to select from either option. Handout Basic Bridge Worksheet and describe how to select and research a Washington State Bridge using HistoryLink.org, WSDOT, and other online resources, including newspaper articles.
- (10 minutes) Divide students into small groups (5-6 students) if that is the project that you have decided for your class. Help to assign the role of each individual in groups as to their relationship with the bridge.
- (20 minutes) Research begins.

Day #4: Pre-Class (Lesson) Preparation = 0 minutes

Day#4: Suggested Teaching Procedure= 45 minutes

- (5 minutes) Answer class questions about research and project expectations.
- (40 minutes) Individual research and small group discussions continue.

Day #5: Pre-Class (Lesson) Preparation = 0 minutes

Day#5: Suggested Teaching Procedure= 45 minutes

- (5 minutes) Answer class questions about research and project expectations.
- (40 minutes) Students use class to write papers or practice small group town-hall presentation.

Day #6: Pre-Class (Lesson) Preparation = 0 minutes

Day#6: Suggested Teaching Procedure= 45 minutes

- (40 minutes) Small groups present town-hall discussion regarding closure of the bridge that they have selected. Students present findings of paper projects.
- (5 minutes) Summarize what has been learned in this classroom activity.

BASIC BRIDGE BACKGROUND

As of August 4, 2010, there are over 9,400 bridges in Washington state. Some have been built for people or animals to more conveniently cross obstacles and some were constructed specifically for trains. Most of these bridges have been built to allow car, truck, and bus traffic to move efficiently and safely across this state's unique geographic features, including lakes, rivers, mountains, and valleys.

There are several basic types of designs that are used to build bridges -- in many cases, some of these designs have been used for thousands of years. From the earliest of bridge builders to the most current and up-to-date engineers, many things needed to be carefully considered before deciding which type bridge is the best choice for a specific location. In addition to many other important decisions, they needed to determine where specifically to locate the bridge, how long the span would be, what materials were available, what type of weather the bridge would need to withstand, and what type of traffic would be using this bridge. These are the basic designs that are using when constructing a bridge:

- **ARCH BRIDGE:** The arch bridge has great natural strength. Thousands of years ago, Romans built arches out of stone. Today, most arch bridges are made of steel or concrete. An example of this type of bridge in Washington state is the Fred Redmon Bridge in Yakima County.
- **BASCULE BRIDGE:** This is another name for a drawbridge. An example of a bascule bridge in Washington state is the Wishkah River Bridge in Grays Harbor County.
- **BEAM BRIDGE:** The beam bridge consists of a horizontal beam supported at each end by piers. The weight of the beam pushes straight down on the piers. The farther apart its piers, the weaker the beam becomes. This is why beam bridges rarely span more than 250 feet. The first beam bridges were simply logs placed across a span. An example of this type of bridge in Washington state is the Patton Bridge in King County.
- **CANTILEVER BRIDGE:** The center span of this type of bridge is suspended like a clothesline between two anchor spans that are themselves supported by piers. This bridge has rigid arms extending from both sides of a base, the inner ones supporting a central span. An example of a cantilever bridge is the Columbia River Bridge in Cowlitz County.

- **FLOATING BRIDGE:** A floating bridge is also called a pontoon bridge, named for the hollow concrete pontoons (rather like a floating balloon) that support the bridge deck. An example of a floating bridge in Washington state is the Lake Washington Floating Bridge. Original floating bridges may have been canoes tied together to reach across a river.
- **SUSPENSION BRIDGE:** The suspension bridge can span distances farther than any other type of bridge -- from 2,000 to 7,000 feet. Suspension bridges are suspended from steel ropes that hang from huge cables that are strung over towers. They also have a truss system underneath the deck as a support to resist bending and twisting. Examples of this type of bridge in Washington state are the two Tacoma Narrows bridges in Pierce County.
- **TRESTLE BRIDGE:** A trestle bridge has spans that are held up by individual towers. The towers are composed of two or more bents (vertical supports), which are braced together by cross pieces. Most early trestle bridges were made of wood and many were constructed as railroad bridges. A good example of a trestle bridge is the Timber Trestle Bridge in King County.
- **TRUSS BRIDGE:** The truss bridge consists of an assembly of triangles. Truss bridges are commonly made from a series of straight, steel bars riveted together to look like a tinkertoys. Original trusses were made of wood but now they are made of steel. A truss can be a "deck truss" in which the supporting truss is under the roadway like the Aurora Bridge in Seattle. A truss can be a "through truss" in which you drive through and under the truss as you cross the bridge. The Red Bridge in Snohomish County is an example of this type. And the truss can be a "pony truss" which rises on both sides of the roadway. The Barstow Bridge in Stevens County has a pony truss. Many truss bridges have more than one kind of truss. The Manette Bridge has a "deck truss" and a "through truss."

Bridges provide an important link between two destinations. When the Washington Territory was being settled, many bridges were constructed to allow pioneers to move across the region in search of land for homes, businesses, and towns. Sites to construct bridges were selected both out of simple necessity and also to access the most desirable natural resources and home sites. For many of Washington early inhabitants, a safe and reliable bridge was very important when identifying and planning the most practical and economic business and political communities. Whether in Washington's early days or today, when a bridge is damaged or closed down, there can be serious repercussions for those living on either side of the bridge.

Recently, the Manette Bridge in Bremerton and the South Park Bridge in Seattle have been closed. The Manette Bridge will be replaced by next year but the South Park Bridge's future remains in jeopardy because it has been deemed in need of updates and repairs. that are too costly for current city, county, and state Department of Transportation budgets. The decision on whether or not to replace these bridges directly impact the lives and livelihoods of thousands of people -- and students will be challenged to think about why the bridge was built historically, if it is still fulfilling its original function, and why it should or should not be replaced.

Students will participate in class discussions about the impact of these bridges closures. (For an additional assignment, ask students to research available newspaper articles and blogs about the closures of the Manette and South Park Bridges and find testimonials from those who live or work near the bridge and share with the class. If possible, have students interview residents or business owners for first-person accounts of bridge impact.) Next students will select a bridge in Washington state that is represented by an essay on the HistoryLink.org website, complete the Bridge Research Form, and develop a position statement that supports or objects to the potential closing of that bridge.

Some information for this Basic Bridge section was adapted from HistoryLink.org essay 8860 written by Priscilla Long. Watch the slide show for more complete information.



Vintage postcard of Lewiston-Clarkston Bridge, 1910s

BRIEF HISTORY OF MANETTE BRIDGE

The Manette Bridge was constructed in 1929-1930 to connect the city of Bremerton (in Kitsap County) with Manette, a town located across the Port Washington Narrows.

The early settlement of the Kitsap Peninsula was driven by the wide availability of virgin timber and the presence of numerous safe harbors. These features attracted the attention of the U.S. government, which was interested in establishing a naval shipyard in the region. A naval commission was established in 1888 to conduct a study, and it chose Point Turner as the site of the proposed shipyard. A town was developed adjacent to the site of the naval shipyard after the shipyard was established in 1891.

The town was incorporated in 1901 as Bremerton. The shipyard developed rapidly and eventually became the Puget Sound Naval Shipyard, the largest single employer in Kitsap County, one that especially boomed during times of war. In 1918, Bremerton annexed the community of Manette, located nearby but separated by the channel of Port Washington Narrows. Edmund S. Meany, early cataloger of Washington place names, states that the word Manette came from the name of the first steamer that stopped at the town wharf shortly after it was built.

The population of both communities expanded rapidly due to employment offered by Puget Sound Naval Shipyard. To reach the shipyard, workers from Manette had to either commute by boat or travel by automobile 16 1/2 miles out of their way around Dyes Inlet. For years a bridge across the Narrows was contemplated, but in the post-World War I economy, financing was a major problem.

It was becoming clear that the bridging of the Port Washington Narrows would be in the best economic interests of the two communities, which were joined through annexation but only loosely with regard to transportation. But construction of the bridge would be the biggest engineering feat ever attempted in Kitsap County, and few thought that the resources could be found to complete such an achievement, especially during the economic downturn that followed World War I.

A meeting was called at the Bremerton city hall on January 6, 1929, to discuss the bridge project. At this meeting a course of action was outlined that would address raising the money necessary to build the bridge. Fundraising was initiated immediately and on March 23, 1929, the executive committee announced that it had reached the \$100,000 goal. This opened the way for other funding sources to contribute another \$75,000, and the project became a viable proposition.



The Union Bridge Company was chosen to design and build the Manette Bridge, which faced specific construction challenges as do most bridge projects. The original bridge was a truss span design that was made up of a wooden deck, truss supports under the roadway, and concrete pier supports. Onsite direction was managed by Charles Wheaton - whose 10-year-old daughter, Elsie, became the first girl to walk across

the entire length of the Manette Bridge, when it became possible to do so. The location of the bridge was selected after taking depth soundings and sending divers to examine ground surfaces beneath the waves. The materials used in the construction of the Manette Bridge came from various sources, mostly local to Puget Sound. Work commenced on November 15, 1929, and by the middle of April 1930, 75 men were employed in construction of the 1,573 foot bridge. A gala opening was held on June 30, 1930, which included a beauty contest, games of strength and skill, and speeches and appearances by local dignitaries.

By 1949, wear and tear on the structure and the increased commuter traffic volume led to needed improvements. But, since the bridge could not be widened, a second bridge -- the Warren Avenue Bridge -- was constructed about a mile north of the Manette Bridge. After recent reviews, it was determined that the 80-year-old two-lane Manette Bridge must be removed and replaced with a modern, wider structure. The new bridge is slated for completion in 2011.

The information for this brief history of the Manette Bridge was adapted from HistoryLink.org essay 9477: Manette Bridge (Kitsap County) written by Stephen Emerson. Other related articles by Emerson include essays 9509, 9510 ,and 9506, which is a Slide Show of the history and technology of the Manette Bridge.

Image of Manette Bridge under construction, ca.1930. Courtesy Kitsap County Historical Society Museum.

BRIEF HISTORY OF SOUTH PARK BRIDGE

Early settlers were drawn to South Park by the excellent farm land. By the turn of the century, Italian and Japanese farmers cultivated most of the land and many sold their produce at the Pike Place Market in downtown Seattle. Since South Park was located on the west side of the Duwamish Waterway, there was an ever increasing need for neighborhood residents to get across the river.

A major transformation was visited upon the neighborhood in 1913 when the straightening out of the Duwamish River began. This work was in progress on August 7, 1914, when the King County Board of Commissioners resolved to get permission from the United States government (via the War Department) to build the bridge. This permission was obligatory since the U.S. Army Corps of Engineers was responsible for the dredging and rechanneling of the river. The War Department granted permission on October 21, 1914.

The first South Park Bridge, a wooden truss swing bridge spanning the Duwamish River, opened on September 3, 1915. The 443 foot-long bridge, known as the 14th Avenue South Bridge, was owned by King County. The bridge opened by swiveling its swing span on a center pier allowing tugs, log booms, and various boats to pass. Structural problems and design issues plagued the bridge from almost the beginning and in 1931, the old timber bridge was replaced by a new South Park Bridge, located about 100 feet farther south.



The new bridge, which opened on March 21, 1931, was designed to allow more clearance for shipping, to provide safe pedestrian walkways, and to provide critical access to the Boeing plant directly across the river. The bridge costs were reported to be \$1.1 million.

The bridge served the community and the industrial areas of the Duwamish Waterway for nearly 80 years -- an average of 20,000 vehicles crossed the span each day. In 2010 its deteriorating and dangerous condition prompted King County to make the decision to close it, despite the fact that sufficient funds had yet to be raised for a replacement bridge. The leaves are opened permanently to prevent road traffic from passing over the Duwamish River and to allow river traffic to travel between the raised leaves. Funds for a replacement bridge are currently being raised and negotiated because the bridge is a vital lifeline to the community and to the many small businesses that operate there.

The information for this brief history of the South Park Bridge was adapted from HistoryLink.org essays 9469, 9470, and 9471 written by Priscilla Long. Read essays for complete information. Image South Park Bridge, ca. 1932. Courtesy King County Archives.

BASIC BRIDGE RESEARCH FORM

Student Name- Class

Date

Name of the bridge:

Why was this bridge constructed?

Why was this bridge site selected?

Name of the body of water or land formation that the bridge spans:

Name of the communities or towns that are linked by the bridge:

If you used a map in the previous question, which map did you use?

Primary reason for this bridge to be built:

Year the bridge was opened:

How many years passed from the time the bridge was planned until it was opened?

How much did the bridge cost to build?

How much would the same bridge cost to build today?

Were there any problems in planning or constructing the bridge?

Is there specific weather or atmospheric condition that were considered when determining how this bridge would be built?

Physical description of the bridge:

Type:

Length:

Width:

Materials used:

Is the bridge still operating?

If not, why?

Are there any issues with the Native People from this area either now or when it was being built?

If yes, describe.

Describe the opening ceremony (include special guests, ceremonial aspects, etc.)

Think deeper:

Were there any cultural or ethnic groups that were positively or negatively impacted by the building of this bridge?

If yes, explain.

Who would be the most impacted by the potential closure of this bridge:

HOW TO SHARE YOUR FINDINGS

Select one of the following ways to support a position for the closing or rebuilding of your bridge: Either 1) an individual position paper – or 2) a town -hall type discussion meeting in which specific roles are assigned to the students: Examples include:

- 1) support a position in which you describe how your business will be seriously impacted by the closing of the bridge - and why you feel it should be repaired or rebuilt.
- 2) support a position in which you describe how you use the bridge to either visit family, go to school, or work on the other side of the bridge and how that would impact your life.
- 3) support a position in which you represent the government and describe why you feel that repairing or rebuilding this bridge is not an economically sound decision.
- 4) support a position in which you represent an ethnic community whose culture or way of life would be impacted by the closing or rebuilding of the bridge.

MORE:

The position statement and discussion of either a paper or presentation project should fulfill the expectations that are outlined in the selected Classroom Based Assessment (CBA).

Paper projects should include all necessary research and image credits.

- **Citation of HistoryLink Content**

With a few exceptions, HistoryLink essays are fully sourced, bylined, and dated to provide authoritative references for legal, journalistic, and scholastic use. Different stylebooks, mainly the *Chicago Manual of Style*, the *MLA Style Manual*, and the *Associated Press Stylebook*, have different citation styles. For most purposes, we recommend using the following format (shown with a sample essay) to cite HistoryLink.org: *Formal name of the encyclopedia*, "Name of the essay" (author's name), link to encyclopedia (date accessed).

Example:

HistoryLink.org Online Encyclopedia of Washington State History, "President Franklin Roosevelt tours the Olympic Peninsula on October 1, 1937" (by Kit Oldham), <http://www.historylink.org/> (accessed November 3, 2004).

RESOURCES

HistoryLink.org is the online encyclopedia of Washington state history. There are many essays about Washington state bridges. A link to the suite of bridge essays on HistoryLink.org can be found on the front page on the right hand column, under "Special Suites" -- Bridges. <http://historylink.org/index.cfm>. For Tips on how to use HistoryLink.org see <http://historylink.org/Index.cfm?DisplayPage=education/Edu-Tips-Teachers.cfm>

Additional Links:

- Bridgehunter.com is a database of historic or notable bridges in the United States, past and present. <http://www.bridgehunter.com/wa/>
- Richard Doody's website features his collections of photographs including Washington state bridges. http://www.pbase.com/rpdoody/washington_state_bridges
http://www.pbase.com/rpdoody/washington_state_bridges
- Washington State Department of Transportation Cultural Resources Compliance general overview. Section 106 of the National Historic Preservation Act requires that federal agencies take into account the effects of their activities on historic properties and requires consultation with Native American tribes, the State Historic Preservation Officer, the Advisory Council on Historic Preservation, and local governments.
<http://www.wsdot.wa.gov/Environment/CulRes/Compliance.htm>
- Washington State Department of Transportation Cultural Resources Stewardship Information: <http://www.wsdot.wa.gov/Environment/CulRes/default.htm#discovery>
- Washington State Department of Transportation Tacoma Narrows Bridge Curriculum: *Connections: Crossing the Narrows: Idea & Dream, ... to 1937*
<http://www.wsdot.wa.gov/TNBhistory/Connections/connections1.htm#1>

JUST FOR FUN

Thinking about Bridges:

There are several very common idioms, clichés, and phrases that use a bridge as the main theme: Choose one of the following commonly used phrases and interpret what it means.

1. That's Water Under the Bridge
2. Let's Cross that Bridge When We Come to It
3. Don't Burn Your Bridges Behind You
4. Bridge the Gap
5. A Bridge Over Troubled Waters

Did you know?

The singing game "London Bridges Falling Down" is played when two players clasp hands and raise them up to make an arch while others pass underneath in single file. When the song ends, the connected arms come down to trap the last one underneath. Then the teams of those who have been caught have a tug of war to determine final victory. The rhyming playground game has been played for many many years.

But did you know that London Bridge never fell down -- it did need constant repair through the years. It was first built in 1176, and for hundreds of years it was the only way to get across the Thames River. Although the original was replaced in 1825, by 1896, it was estimated that the bridge was the busiest point in London, with 8,000 people crossing the bridge by foot and 900 crossing in vehicles every hour. It was also discovered that it was sinking and needed to be replaced. It was not until 1968 when the bridge was put up for sale and American entrepreneur Robert P. McCulloch of McCulloch Oil bought it for \$2,460,000. London Bridge was dismantled and re-assembled in Arizona where it is now the second-biggest tourist attraction in the state, after the Grand Canyon.