



Bridges

In Pittsburgh:

- * the “Three Sisters” or the “Trinity of Bridges”
 - the only three identical side-by-side bridges in the world
 - constructed with large steel eyebar suspension systems
 - the 6th Street Bridge = The Roberto Clemente Bridge
 - * the “Most Beautiful Steel Bridge of 1928”, as named by the American Institute of Steel Construction
 - the 7th Street Bridge = The Andy Warhol Bridge
 - the 9th Street Bridge = The Rachel Carson Bridge
- * MacFarren Avenue Bridge over Duck Hollow
 - first all-steel self-cleaning bridge
 - 1886: superstructure was completely replaced with steel girders
 - 1936: the St. Patrick’s Day flood washed away the wooden deck; the roadway and sidewalks were replaced with open steel grating

In West Virginia:

- * New River Gorge Bridge
 - built by the American Bridge Corporation, a division of U.S. Steel
 - opened in 1977
 - in Fayetteville, West Virginia
 - 3,000 feet long with a 1,700-foot arch span
 - was the longest steel arch bridge in the world (until Feb. 2003: Lupu Bridge, Shanghai, China)

In Missouri:

- * The Eads Bridge
 - across the Mississippi River at St. Louis, Missouri
 - built by the Keystone Bridge Company of Pittsburgh, 1867-1874
 - constructed with three arches:
 - * center arch = 520 feet long
 - * two other arches = 502 feet long each
 - consists of steel arched ribs and several parallel series of steel tubes
 - first use of steel as a structural material

In New York:

- * The Brooklyn Bridge
 - completed and opened in 1883
 - main span = 1,595 feet; total length of bridge = 5,989 feet
 - wire cables made of steel produced by the Carbon Steel Company, Pittsburgh, PA
 - steel cables made by the acid open-hearth process of steelmaking

Choose one of the bridges. Use a variety of resources to research the bridge:

- * identify who designed the bridge and who constructed it;
- * locate the bridge on a map and identify the waterway it crosses;
- * explain the use of steel in the construction of the bridge;
- * explain the importance of the bridge in transportation;
- * find more interesting facts about the bridge.

Choose two of the bridges. Compare and contrast their construction. Show the similarities in the construction, and the differences between them. Research the reasons for building a certain style of bridge for a particular purpose.

Compare the 6th, 7th, and 9th Street Bridges in Pittsburgh. They are supposed to be identical. Try to find any differences among the bridge construction. Find differences among the outward appearance of the three bridges.

Create a visual display of a bridge you have researched:

- * draw a poster of the bridge, labeling the important parts of the bridge and the surrounding region;
- * create a timeline of the building of the bridge, including the important steps in the process, with labels to identify the important parts;
- * create a mural to show the building of the bridge and everything that contributed to the bridge;
- * make a model of the bridge; use any type of material to build the bridge (clay, sticks, building blocks, Play-Doh, other materials); label the parts of the bridge;
- * create any type of visual display of the bridge.