LEVELED BOOK • I

Building a Bridge

Written by Ned Jensen • Illustrated by Fred Volke

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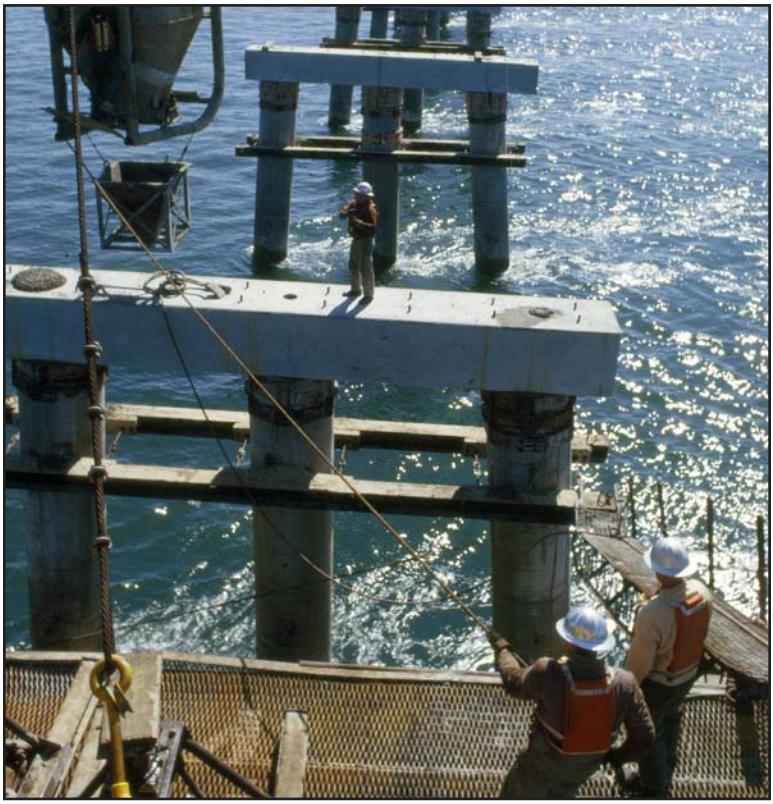
Building a Bridge



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Golden Gate Bridge, San Francisco, California

Bridges go over rivers and lakes.
They go over bays and swamps.
They go over highways and railroads.
Some even float.

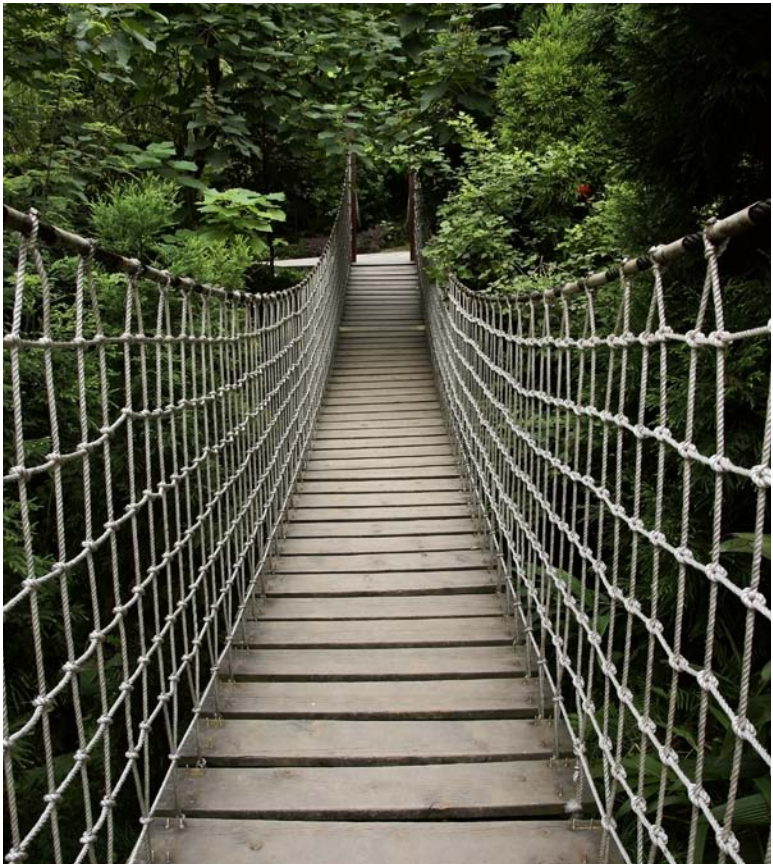
Glen Canyon Dam Bridge, Arizona

Bridges are long and short.
They can be high above the water.
They can be near the water.
They can carry cars, trucks,
trains, and buses.
Some carry people.
Some carry water or oil.

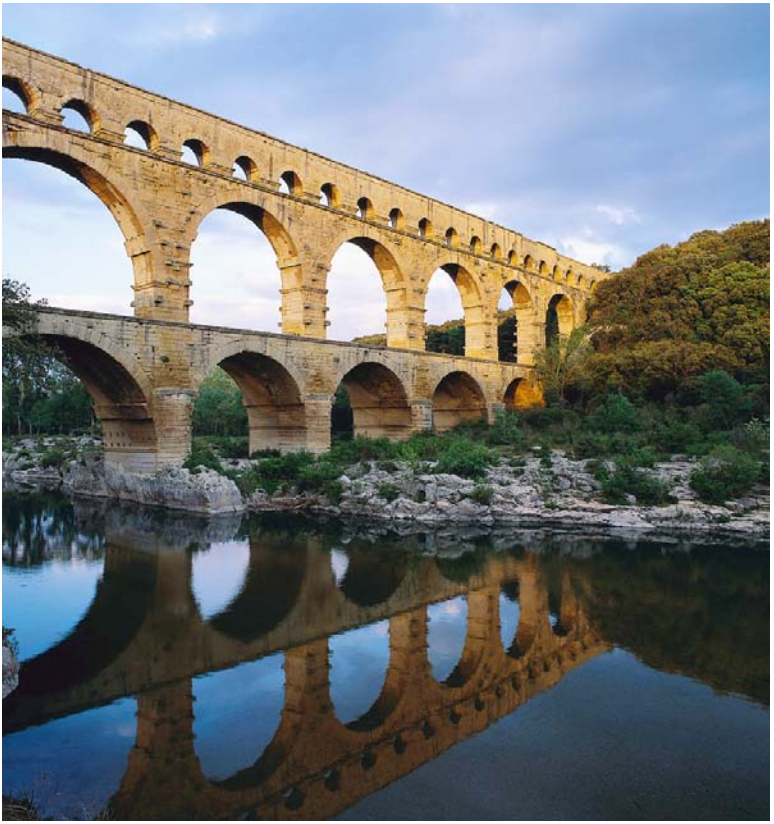
The first bridges were made out of wood, rope, or stone. Today, most bridges are made of steel and concrete.

Sydney Harbor Bridge, Sydney, Australia

The first bridges were simple.
Some were just logs placed
across a stream.
Some were ropes stretched
across a river.



Rope bridge

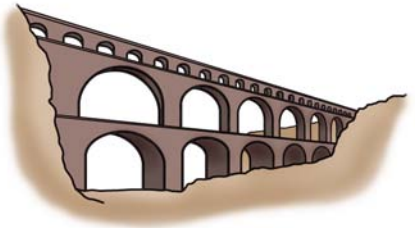


Pont du Gard Aqueduct near Nimes, France

Later, stones were used to build stronger and longer bridges. In time, people were building bridges like the ones we see today. These are made of concrete and steel. They go across longer distances.

There are names for different types of bridges.

This table shows some of the types.

OVERPASS A bridge over a road or railroad	
AQUEDUCT A bridge over land used to carry water	
VIADUCT A low bridge over dry land or a long valley	
CAUSEWAY A long, low bridge over a swamp or shallow body of water	

The Clark Bridge over the Mississippi River at Alton, Illinois.

Building bridges is a big job.
It can take many years.
It can cost millions of dollars.
It can take many workers to build a bridge.
Let's look at a bridge being built over a river.

Steel tubes being hammered into the river bottom

First, workers must build supports
under the water.
They hammer large steel tubes
into the river bottom.
The tubes, called *piles*,
are filled with concrete.

Next, workers put supports across the piles.

The supports are built under water using a special dam.

A dam holds the water back.

The workers can work where it is dry.

Inside a dam

Installing bridge piers

Next, workers build piers.

They are like the legs on a table.

They will hold up the bridge.

Then caps are put on the tops of the piers.
Concrete pieces, called *girders*, are put between two piers.
The girders hold up the roadway.

Cap being put into place

Workers pour concrete over the steel bars.

Steel bars are placed
between the girders.
The steel bars make
the concrete stronger.
Concrete is poured over the steel bars.
The concrete gets hard.
Finally, the new bridge is ready
for traffic.

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Correlation

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