PROJECT!

SIMPLE BRIDGES FROM ANCIENT TIMES

Bridges are not easy to construct. With all of the different types of support, it is important to pick the correct one for the area. Let's start with some paper models to get an idea of which bridge is the strongest.

SUPPLIES

- 2 large blocks or bricks
- ruler
- pieces of construction paper
- several coins
- engineering journal and pencil

1 Place one block or brick on each side. Each side should be the same height.

2 Measure the distance between the blocks. Make sure that this distance stays the same for each type of bridge.

3 Place a piece of construction paper across the two blocks. The idea is to make a bridge across the two blocks. This is a beam bridge.

MEET A CIVIL ENGINEER!

JOHN SMEATON

British engineer John Smeaton (1724-1792) is widely known as the "Father of Civil Engineering." A civil engineer is an engineer who designs the built environment, such as roads, bridges, and buildings. Smeaton spent his time studying materials, construction, and scientific instruments. His first project was to build a lighthouse in Plymouth, England, but he then went on to construct more than 60 bridges, canals, and lumber mills in his career.

PROJECT!

4 How many coins will this bridge support? Stack coins on the paper until it collapses. How many coins could the bridge hold? Record the answer in your journal.

5 Take the construction paper and fold it up on the sides. This is a walled bridge. Repeat step 4.

6 Create an arch with a second piece of paper rounded under the horizontal piece. This is an arched bridge. Repeat step 4.

7 Fold a separate piece of paper like an accordion. Place it on top of the horizontal paper. This is a truss bridge. Repeat step 4.

THINK ABOUT IT: Which type of bridge can hold the most weight? What is it about this structure that makes it stronger than the others?