Grade 3 Understanding Structures and Mechanisms -Strong and Stable Structures

BUILDING BRIDGES

The Four Main Bridge Designs



Beam Bridges

Beam bridges are simple to build and great for crossing short distances. For longer distances and heavier loads, however, supports such as pillars must be added below the bridge to improve its strength.



Truss Bridges

Truss bridges are stronger than beam bridges since the strength of their frames can support more weight. In order to maximize their strength, triangles are used in their frame designs.



Arch Bridges

Arch bridges are also stronger than beam bridges. However, instead of using triangles, a semi-circular design is used under the bridges to give additional support.



Suspension Bridges

Suspension bridges rely on two towers. Two main cables are hung over the two towers and are anchored on both ends. Smaller cables are hung from the main cables to hold up the bridge.