Da Vinci Series

Da Vinci

Arch Bridge

ACADEMY

HOBBY MODEL KITS

18153

- Model of the arch bridge designed by Leonardo da Vinci
- The design uses a self-supporting arch concept to distribute weight through the full curve of the arch
- The kit is a replica of the oldest known arch bridge design

※ The look of the actual product may vary slightly from the pictures shown on this box.

*Leonardo da Vinci : Italian scientist and artist, born during the Renaissance era, widely regarded as the most talented industrial inventor and designer including many aspects of modern science and technology.

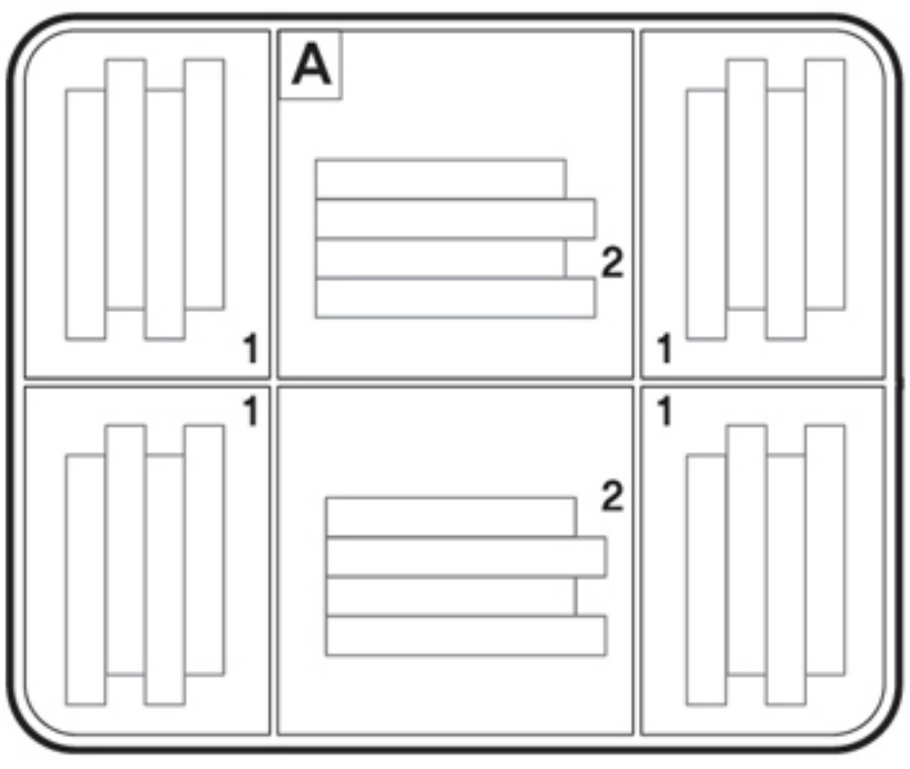
Arch Bridge by Leonardo da Vinci

The more weight the bridge carries, the stronger it becomes. On the other hand, if one key component is removed, the bridge will fall.

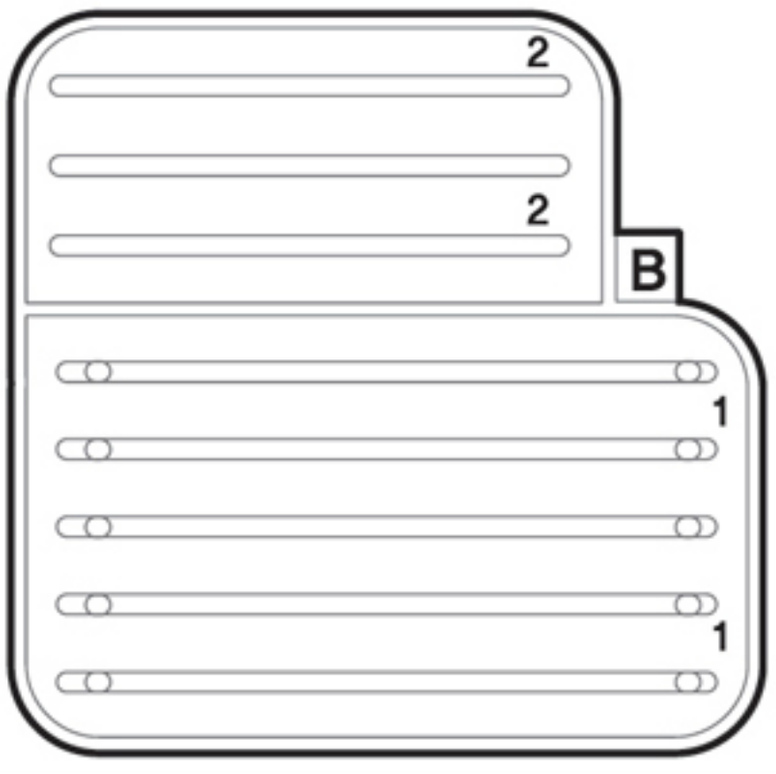
It was originally intended as a quick-build, wood bridge for use by the military. Removing a single piece of wood while the enemy was crossing could cause the bridge to collapse drowning enemy forces.

parts location diagram

A



B x2

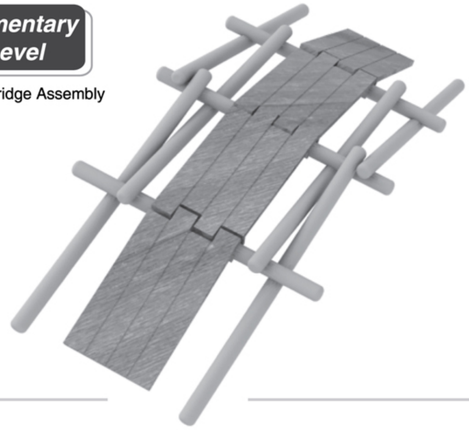


Base plate support for leg x2

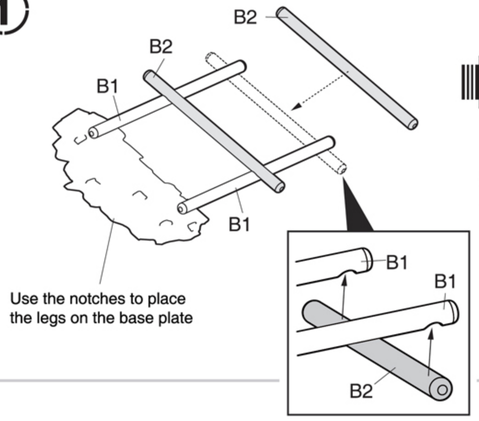
Parts storage box

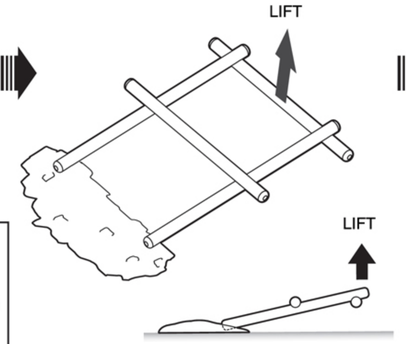
Elementary Level

Arch Bridge Assembly

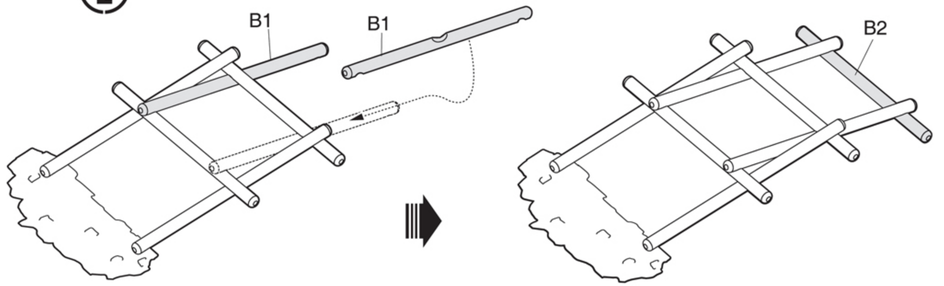


1

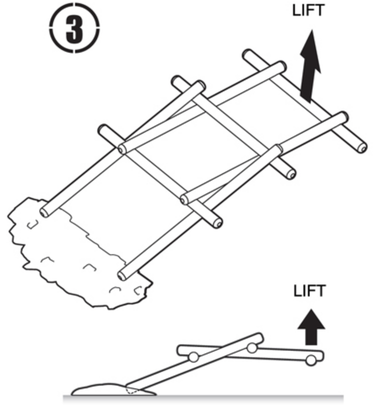


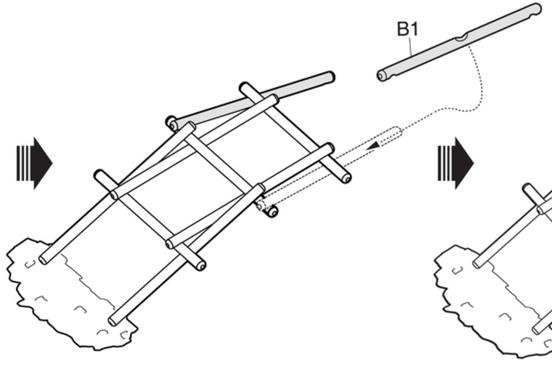


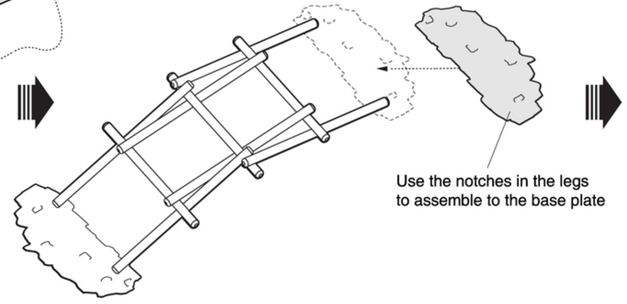
2



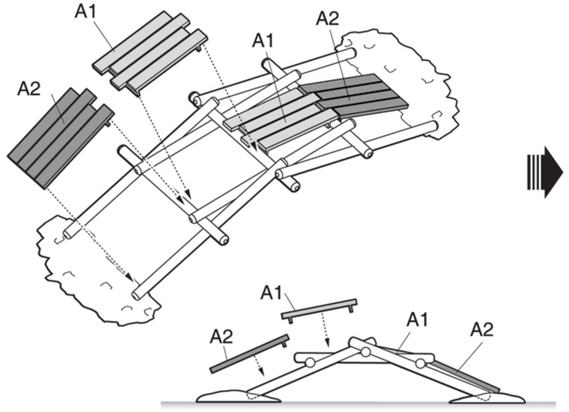
3



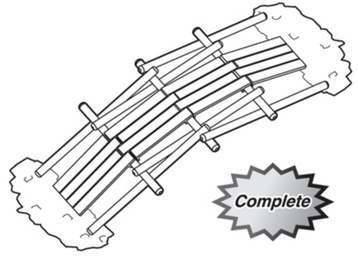




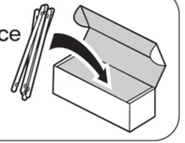
4



5

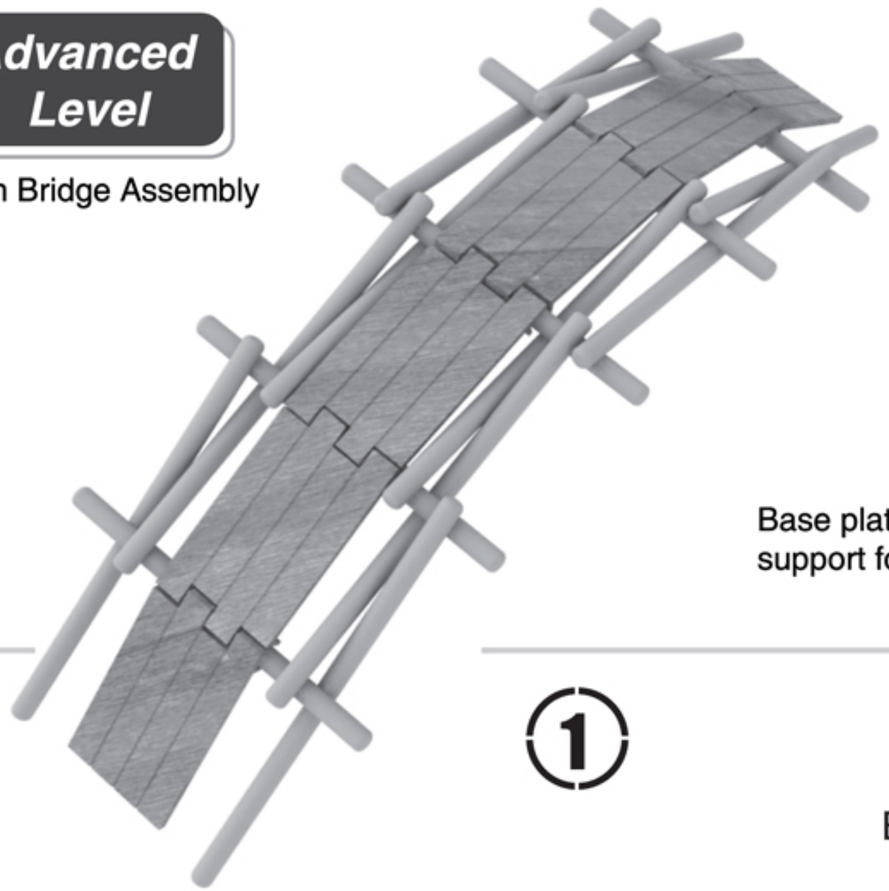


When done, place the bridge parts in the box.

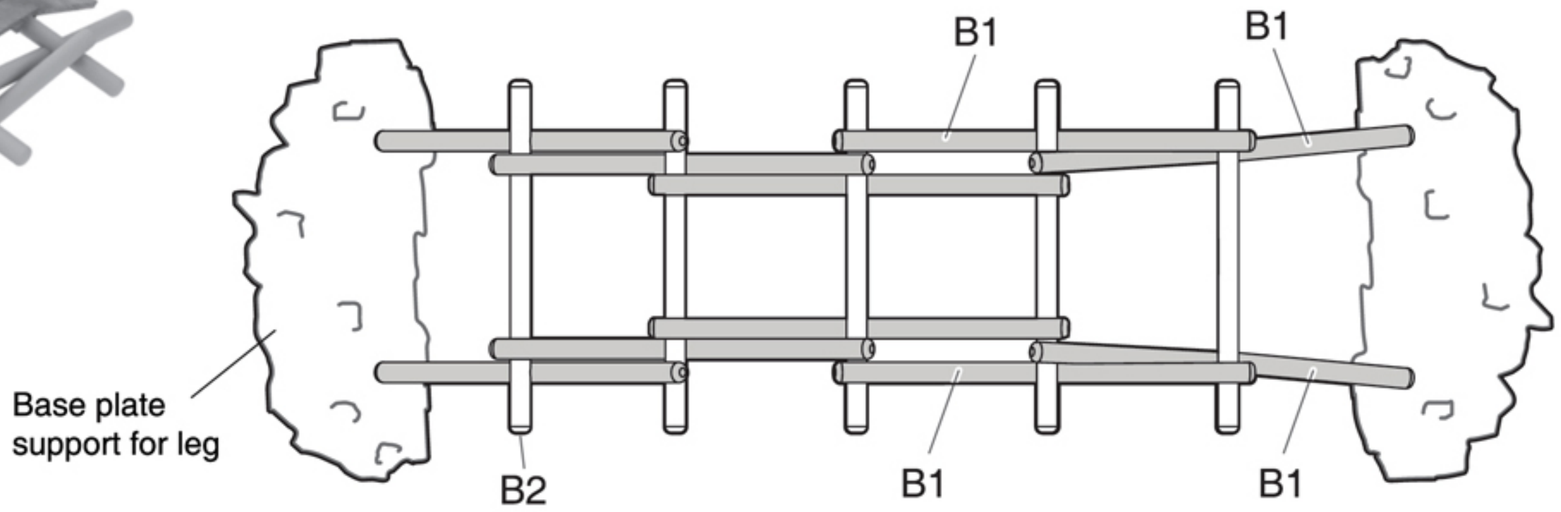


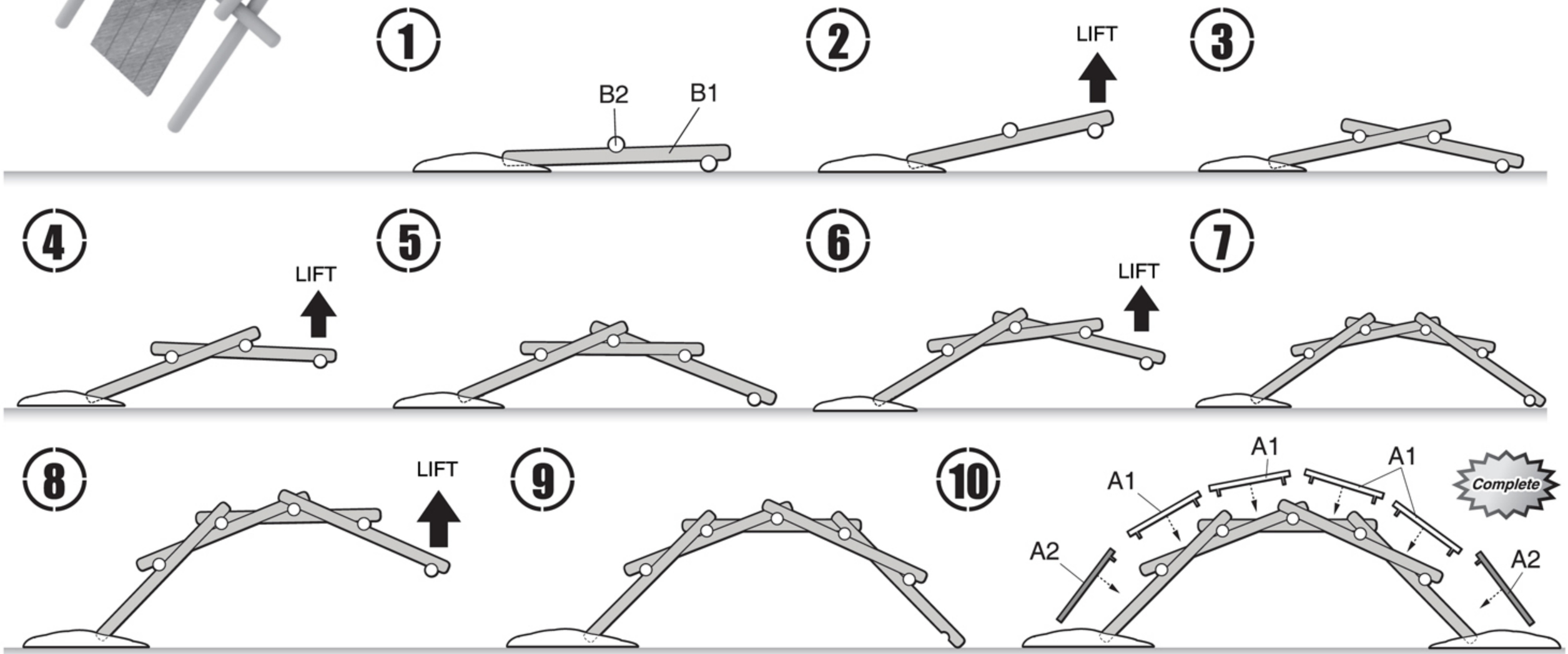
Advanced Level

Arch Bridge Assembly



※ Follow the diagram as shown in B1 and B2 when assembling the upper level of the bridge.





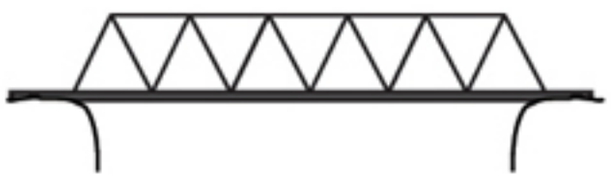
Types of Bridges

Simple Bridge

A simple bridge design uses beams to support the upper roadway.

Arch Bridge

An arch bridge uses its semi-circular “arch” shape to distribute the force of compression by spreading the weight outward.



Truss Bridge

A truss bridge uses the strength of the triangle to transfer load from a single point to a wider area. Truss design is often used in rail bridges.

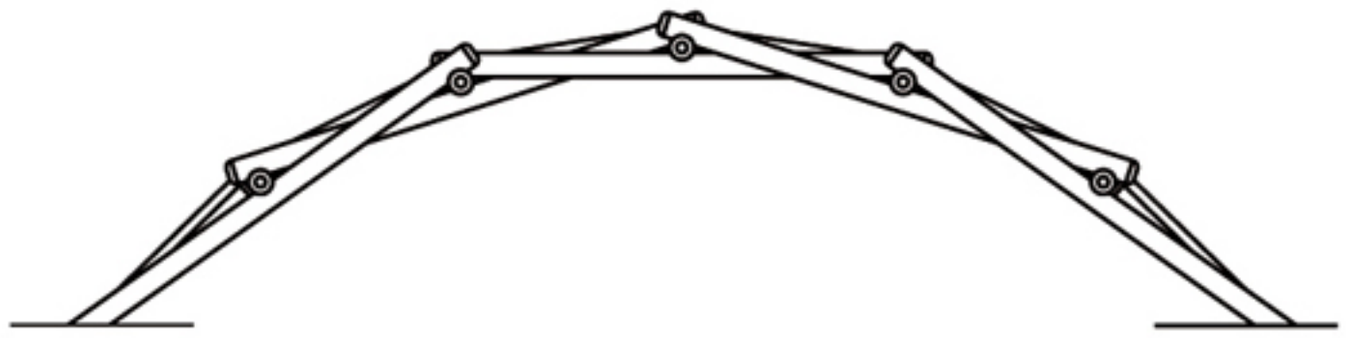
Suspension Bridge

A suspension bridge suspends the deck by cables hung from towers. Compression tension is transferred from the cables to the towers to the ground.

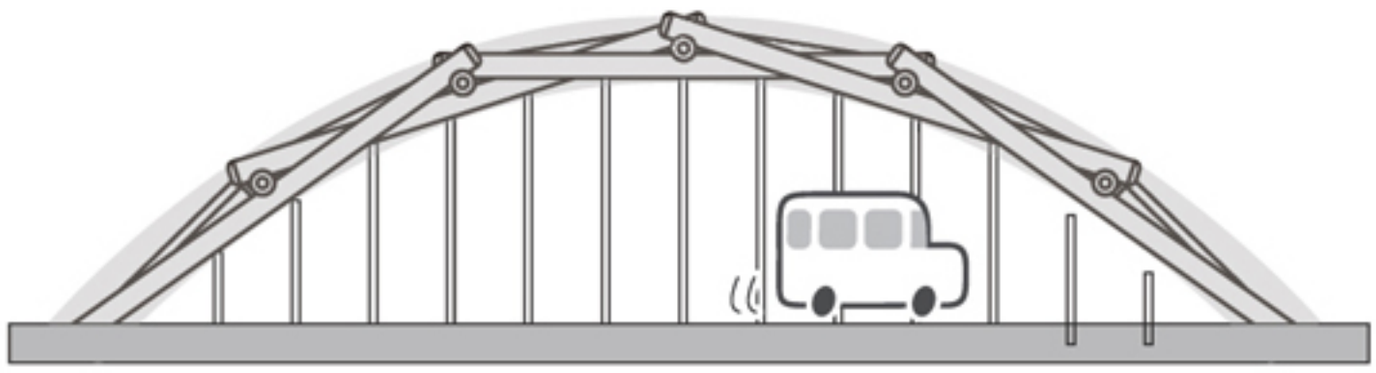
The Principles of da Vinci’s Arch Bridge Design

Arch Design Concept: The arch design uses a bow shape to transfer the weight of the bridge throughout the entire curvature of the arch.

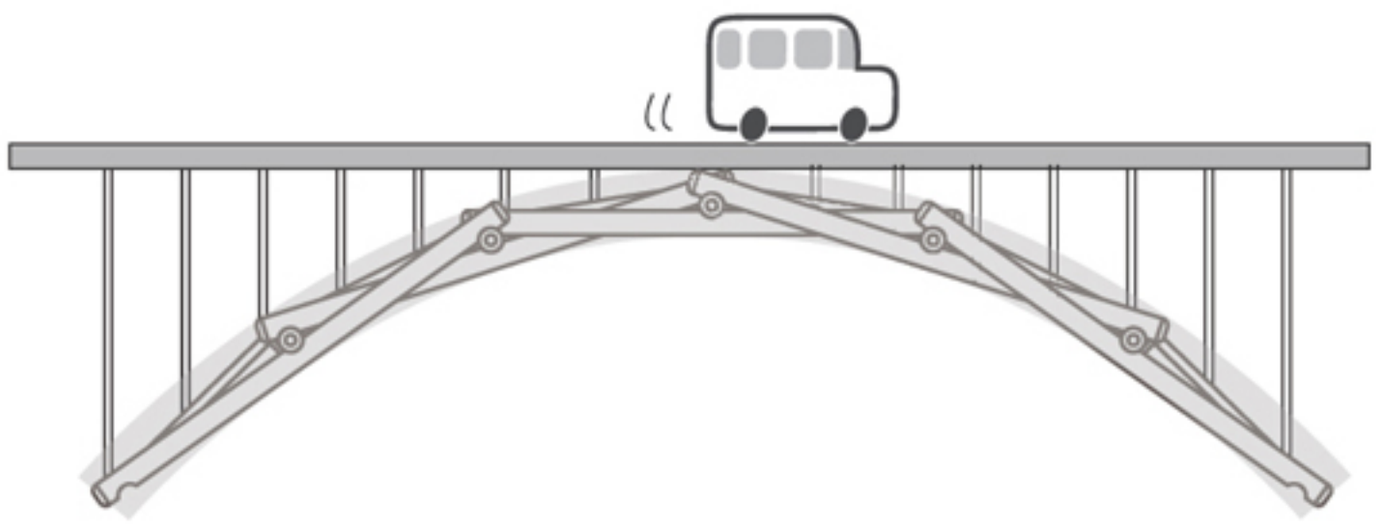
- Da Vinci’s Arch Bridge (Self Supporting Bridge)



- Example of a Modern Arch Bridge Design (applying da Vinci’s arch bridge design)



- Another Type of Modern Arch Bridge Design (applying da Vinci’s arch bridge design)



ACADEMY
HOBBY MODEL KITS

ACADEMY
ACADEMY PLASTIC MODEL CO., LTD.
521-1, Yonghyeon-dong, Uijeongbu-si, Gyeonggi-do, Korea

Copyright 2015 Academy plastic Model Co.,Ltd.