

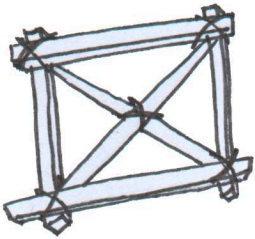
FAKE IT TILL YOU MAKE IT BASIC STRUCTURAL ENGINEERING

MATERIALS: String/thread
Posicle sticks or small/similar long pieces of wood or sticks

THEORY: By applying geometry we can engineer structures which lift themselves off of the ground, can withstand force and support mass.

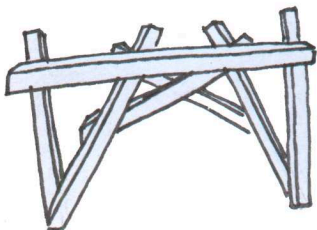
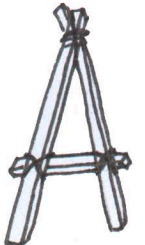
* as a special FITYMI challenge, try combining the different kinds of frames below to assemble 1 or 2 structure(s) which you can stand on and are atleast 6cm (or 2.5 inches) tall.

- Remember to wear thick soled shoes when you test your stucture.

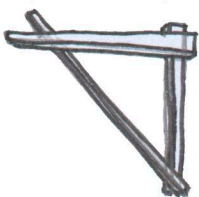


(Cross Beams) By assembling a X in the center of a square you equalize the distances between the opposite corners, creating a ridged shape which is able to transfer force/mass to the opposite side of the structure

(A-Frame) By transferring force/mass from a single point above, diagonally to the ground, an A-Frame is able to provide a wider stance, for balance, while the horizontal beam is used for keeping those diagonals at a stationary distance.



(Arch) By creating an arched structure, it's possible to displace weight over a distance by transferring the force of mass in the center of the arch down the curvature and into the columns.



(V-Truss) Similar to an A-Frame, but upside down, a V-Truss focuses weight from a large area to a singular point on the ground; a V-Truss would be unstable if used on it's own but when used in combination with additional V-Trusses and other structural elements, it is able to support plenty of mass.

