

Arch



A curved shape that reaches across an opening, like a doorway or a bridge. The curve is super strong because it takes the heavy weight from the top and pushes it down the sides into the ground.

Act it Out

Stand facing a partner, step back a little, reach your arms up, and press your hands together high in the air to build a curved bridge.



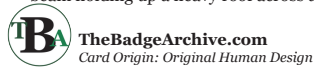
Beam



A long, straight, flat piece of wood or steel that goes across an open space to hold up the ceiling or floor above it.

Act it Out

Stand straight and stretch both arms straight out to your sides as stiff as a board. Imagine you are a strong beam holding up a heavy roof across a wide room.



Cantilever



A long beam or board that sticks out sideways into the air, but is only attached and held down on one end. Think of a diving board at a swimming pool.

Act it Out

Stand firmly on one leg. Stick your other leg straight out behind you, and reach your arms straight out in front of you. You are a beam supported on only one side.



Column



A tall, straight pillar that holds up a heavy roof, just like the strong legs of a table hold up the top.

Act it Out

Stand perfectly straight with your feet together and your arms reaching straight up high in the air. See how still and strong you can stand without wobbling



Dome



An arch spun all the way around in a circle to make a shape like half of a ball or an upside-down bowl. It creates a big, open roof with no columns needed in the middle.

Act it Out

Sit cross-legged on the floor, curve both of your arms up over your head, and touch your fingertips together to make a round roof over yourself.



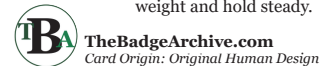
Flying Buttress



A special, slanted support on the outside of a very tall building. It leans against the wall from the outside to push back and keep the heavy stone walls from falling outward.

Act it Out

Find a wall. Stand a step away, lean toward it, and press your hands against the wall to support your weight and hold steady.



Foundation



The super strong, flat base buried in the ground at the very bottom of a building. It stops the heavy building from sinking into the dirt!

Act it Out

Stomp your feet flat and wide on the floor, bend your knees just a little, and freeze. You are a strong, heavy foundation rooted in the ground, ready to hold up a giant skyscraper.



Truss



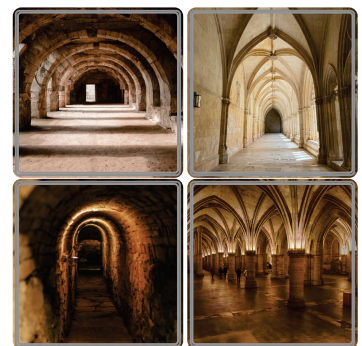
A strong frame made by joining pieces together into triangle shapes. Triangles are the strongest shape for building. They do not bend or squish easily when heavy weight pushes on them.

Act it Out

Stand with your feet wide apart and touch your fingertips together high over your head to make a big, strong triangle with your whole body.



Vault



An arch that is stretched out really long to make a tunnel or a long curved ceiling.

Act it Out

Reach both arms straight forward and curve your hands down to make a long tunnel shape. (With friends, stand in a line and have everyone make an arch. It becomes a curved tunnel!)

