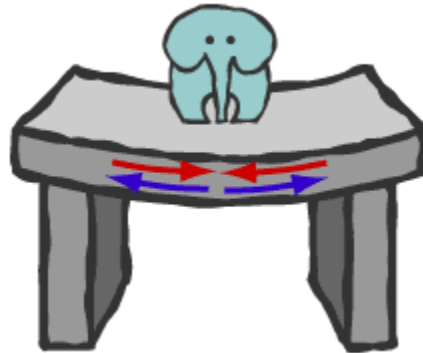
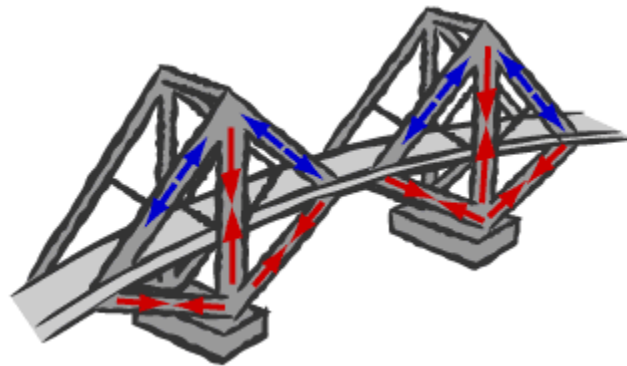


Forces acting on different types of bridges



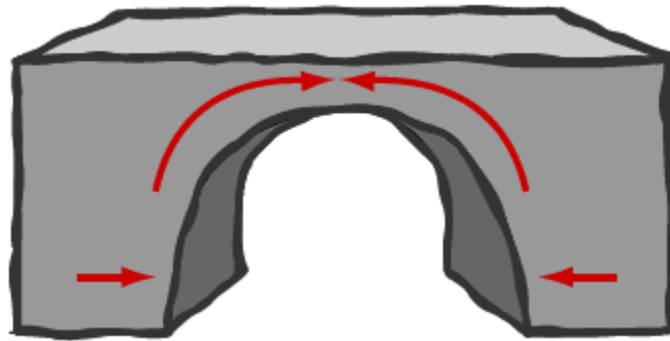
Beam Bridge: Forces

When something pushes down on the beam, the beam bends. Its top edge is pushed together (called compression), and its bottom edge is pulled apart (called tension).



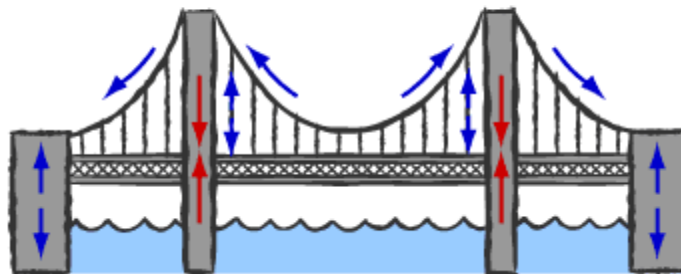
Truss Bridge: Forces

Every bar in this cantilever bridge experiences either a pushing (compression) or pulling (tension) force. The bars rarely bend. This is why cantilever bridges can span farther than beam bridges.



Arch Bridge: Forces

The arch is squeezed together, and this squeezing force is carried outward along the curve to the supports at each end. The supports, called abutments, push back on the arch and prevent the ends of the arch from spreading apart.



Suspension Bridge: Forces

In all suspension bridges, the roadway hangs from massive steel cables, which are draped over two towers and secured into solid concrete blocks, called anchorages, on both ends of the bridge. The cars push down on the roadway, but because the roadway is suspended, the cables transfer the load into compression in the two towers. The two towers support most of the bridge's weight.