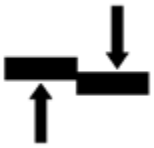
Here are the five forces that designers need to consider when building an engineered structure.

Compression is when the load is applied to the top of a structure.

Tension is load applied along the structure in a pulling action.

Bending is like a bookshelf loaded down with heavy books.

Shear is when forces are exerted on the same plane but opposite.



Torsion describes forces that try to twist the structure apart.

Refresher lab on Forces, Loads, and Shapes

http://www.pbs.org/wgbh/buildingbig/lab/forces.html