

## Air Pressure and Pneumatic

Pronounced  
new-mat-tics

-Air is a fluid that exerts pressure on everything that it surrounds.

Pneumatic - is the study of pressure in gas.

The pressure of the Earth's atmosphere is so well balanced by our body, both inside and out, that we hardly ever notice air pressure.

-Air pressure changes with altitude (This is why your ears may pop in a plane or while driving up a mountain. Your ear drums are adjusting to air pressure)

As you increase in altitude, fewer air particles press against you on the outside of your body. BUT the air pressure inside your body does not change as quickly. Thus, the number of particles pressing from the inside out is still the same as when you were at ground level. Your eardrum is a thin membrane that can be moved by this pressure causing a pop sound.



Imploding Can Crusher - TB#1



<https://www.youtube.com/watch?v=FRG46OPj6Z8&t=511s>



When you drink a juice box, the straw makes a tight seal that as you draw juice up the straw and reduce the air pressure inside, the juice box will buckle. The air pressure outside pushes the walls of the box together.

Thus if the air pressure inside a container is not balanced with the air pressure outside a container then it will cave in. (Unbalanced forces)