

ATMOSPHERE

Part 2: Air Pressure

Atmosphere Has Weight

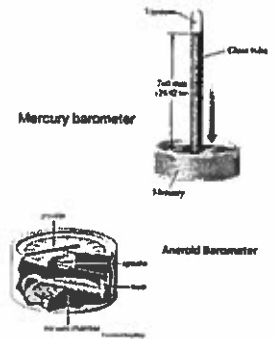
- The weight of the atmosphere is _____ pressing on your body
- Air has mass because it is composed of _____ and _____
- Because air has mass, it also has other properties, including density and pressure
- Density— the amount of mass in a given volume
 - (Density = mass/volume)
 - More _____ in a given volume, the density is _____

Pressure

- The _____ pushing on an area or surface is known as pressure
- Air pressure is the weight of all the air directly above you pressing down on you.
 - THINK: when you dive in a pool, the weight of the water above you is water pressure. Simply standing on the surface, the weight of the air is above you
 - Average air pressure = same weight of a _____
 - Denser air exerts _____ pressure than less dense air.

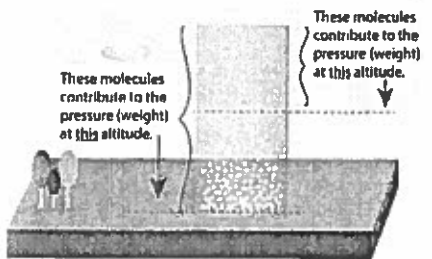
Barometer

- Instrument that measures air pressure
 - Mercury Barometer: air presses down on a dish of mercury and pushes it up into a tube. How high into the tube it goes indicates the air pressure
 - Aneroid barometer: air-tight metal chamber with a known air pressure detects whether the walls are being pushed in or if the inside is pushing out.
- Units:
 - Inches of Mercury
 - Millibars



Altitude and air pressure

- The higher the altitude, the lower the air pressure



Altitude and air density

The higher the altitude, the lower the air density
 Example: less air per breath when hiking in the mountains

