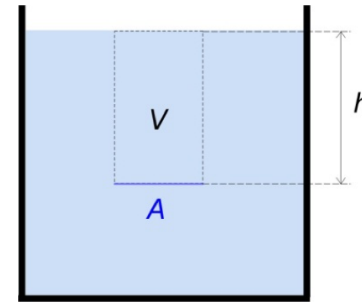
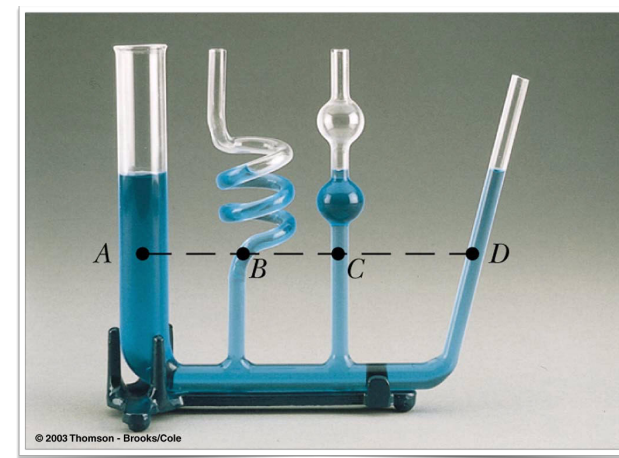


Fluid mechanics

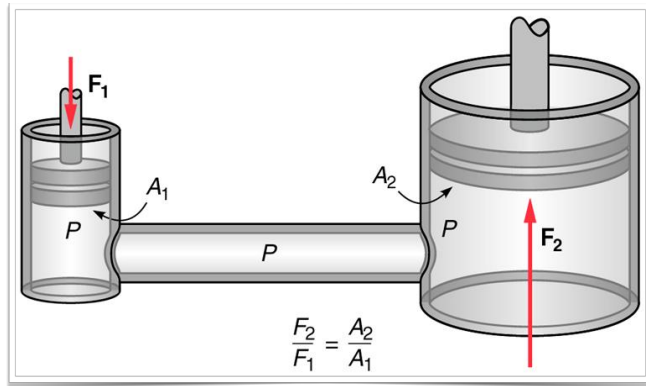
The hydrostatic pressure



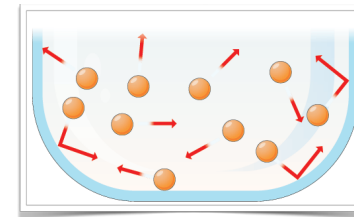
The hydrostatic paradox



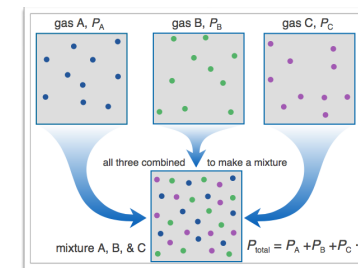
The hydraulic jack (Pascal's principle)



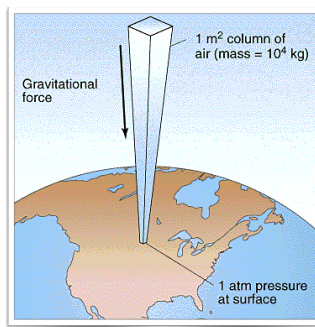
Pressure of gasses



Partial pressure



Atmospheric pressure

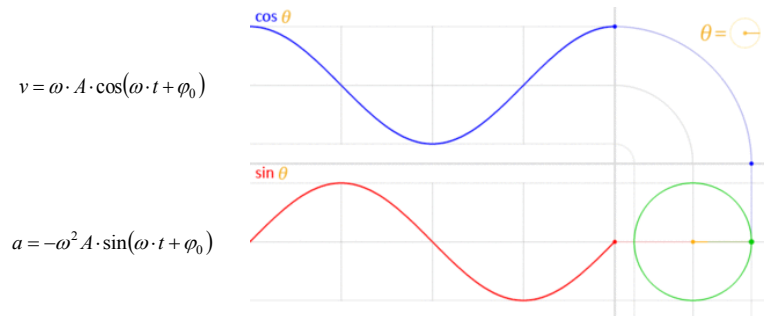
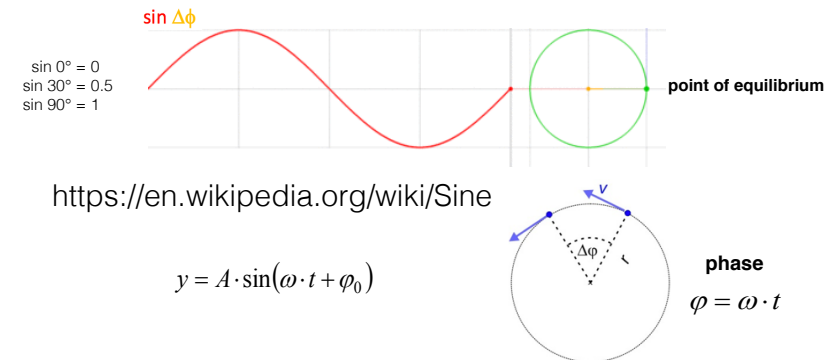


mercury sphygmomanometer mmHg as a unit of pressure



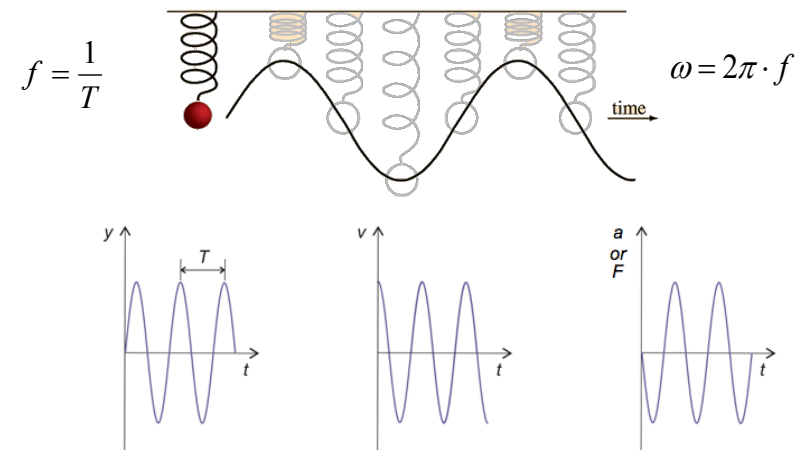
Oscillations

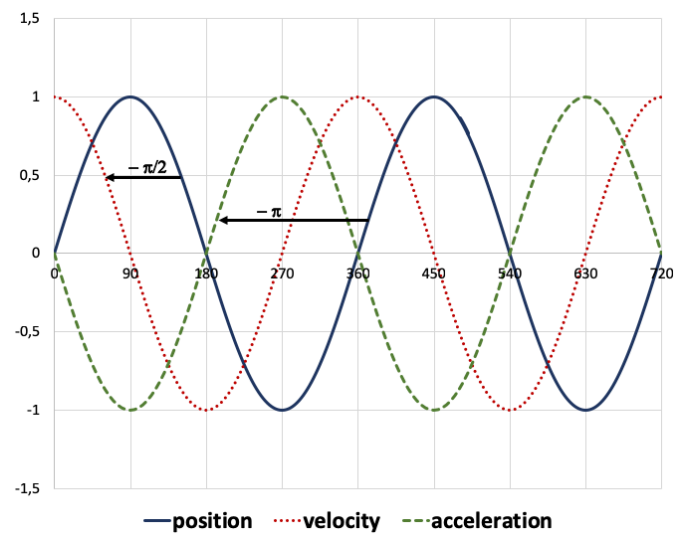
OSCILLATION : Another perspective of circular motion



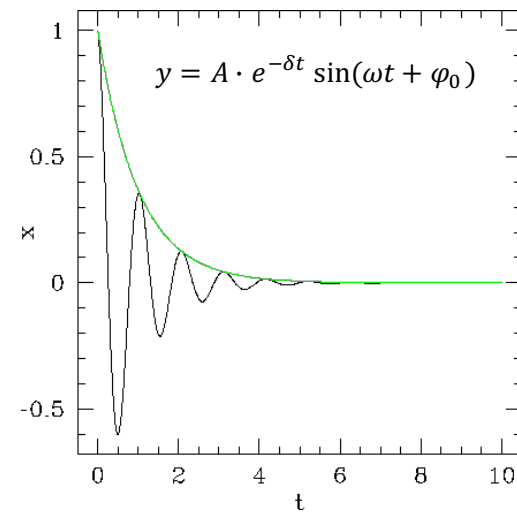
Harmonic oscillation

The restoring force is proportional to displacement





Damped Oscillation



$$F = ma = -m\omega^2 A \cdot \sin(\omega \cdot t + \varphi_0) = -m\omega^2 y$$

$$F = -k \cdot s$$

$$k = m \cdot \omega^2$$

$$f = \frac{\omega}{2\pi} = \frac{1}{2\pi} \sqrt{\frac{k}{m}}$$

Resonance curve

