



PRESSURE

The word ‘pressure’ takes on lots of meanings in today’s language. The physical definition of pressure states how much push, or gravitational force, is being exerted by all the matter around or nearby. Solids, liquids, or gasses can experience or exert pressure.

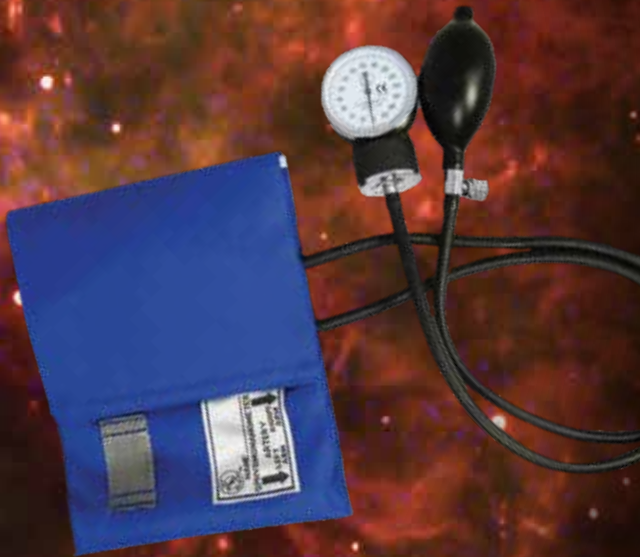
DEFINITION: force over a particular area

UNITS: many different units used depending on field of science: pounds per square inch (psi), millibars, etc. Below we use Pascals (Newton/meter²) which is about 0.000145 pounds per square inch

COSMIC EXAMPLE

Central pressure of a neutron star:
10,000,000,000,000,000,000,000,000,000,000,000,000,000,000 or 10 decillion or 10×10^{33} Pascals

Within the blue-green cloud is a neutron star, an object so compact and dense that the pressure in its center is 10×10^{33} Pascals, far greater than anything found on Earth.



EVERYDAY EXAMPLE

Human blood pressure
(15,000 Pascals)

OLYMPIC EXAMPLE

Pressure exerted by ice skate depends on weight of skater and area of blade.

About 1,000,000 pascals
(80 kg person on 30 cm x 0.55 mm blade)

