FORCE P11 AND PRESSURE

FORCE = SPRING CONSTANT × EXTENSION.

F / k x

'k' (N/m)

obeys Hookes' law (?)

SPRINGS, (WOULDN'T FIT ON P10!)

extension.

R.P

STIFFER HIGHER 'k'

FORCE

see sep sheet

x

F

(?) H.L.

read off graph for $k = \frac{F}{x}$

WEIGHT.

AREA

FOOT.

LOW P (LARGE AREA)

HIGH P SMALL (AREA)

PRESSURE = FORCE / AREA

N/m2 (or Pascals Pa)

SNOW wide tyres

SCISSORS staples

LIQUID.

less deep less P.

P in all directions.

density ρ

h.

Area A

← Deeper more pressure.

pressure = h × ρ × g

* Given in exam.

DAM WATER

($P = h\rho g$)

Atmosphere

lower P

100km.

P

altitude (h)

H tier.

UPTHRUST.

U

LOW P.

HIGH P.

(CAUSE)

N.

Floats. (less dense)

U

W

W = U.

FLOATS.

SINKS.

Upthrust < weight.

(OR RISES IF U > W)