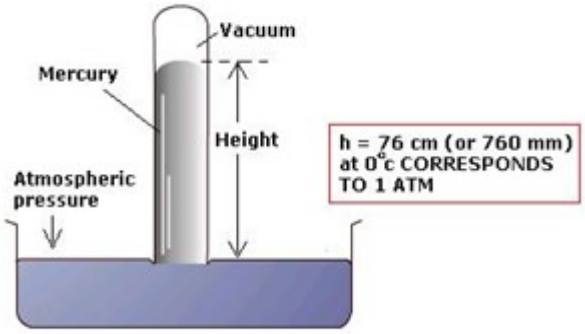
Measuring Pressure
SPH4C

For any point in a static fluid, the height of the column above that point is called the _____.

A dam must be _____ at greater depths to withstand the increased pressure. The formula for the pressure exerted is:

where *D* is the _____ of the fluid, *h* is the _____, and *g* = _____.

In mercury barometers, it is the static pressure head that indicates the _____ pressure. The higher the atmospheric pressure, the _____ the static pressure head.

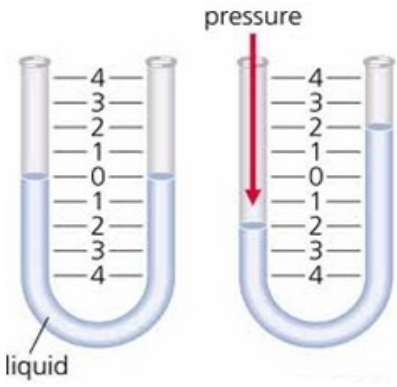


Liquid in _____ containers exposed to the _____ will be at the _____. (The shape and orientation of the containers makes no difference to the height.)

This is often phrased as "water seeks its _____," and is why water will even flow _____ in a _____ if it can reach a _____ of the siphon. (Note that the siphon needs to be full of liquid to connect the two containers.)

Manometers can be used to measure _____ in pressure.

When more pressure is applied to the left side of the tube, there will be a difference in the _____ of the liquid. This variation in pressure from atmospheric pressure is called the _____ pressure.



Formula for gauge pressure:

Example: Pressure is applied to one end of a water manometer so that the difference between the two heights is 10 cm.

(a) What is the gauge pressure applied?

(b) What is the absolute pressure applied?

More Practice

1. If the height of a column of fluid is increased, it will exert _____ pressure.

   A. more B. less C. the same

2. If the width of a column of fluid is increased, it will exert _____ pressure.

   A. more B. less C. the same

3. In a mercury barometer, the higher the atmospheric pressure, the _____ the static pressure head.

   A. higher B. lower C. static pressure head will not change

4. A siphon can be used to move a fluid to a _____ point.

   A. higher B. lower C. either A or B

5. If the atmospheric pressure is 100 kPa and the gauge pressure in a tire is 300 kPa, the absolute pressure in the tire is:

   A. 200 kPa B. 300 kPa C. 400 kPa