

WKS –Chem H
Introduction to Pressure

Name _____
Date _____ Period _____

Read Textbook, *10-2 Pressure*, pg. 308-312.

- 1) Define Pressure. What two properties can we change to change pressure?

- 2) What causes pressure in a container of a gas?

- 3) What causes atmospheric pressure?

- 4) What units are used to express pressure measurements?

- 5) Convert the following pressures to pressure in standard atmospheres:
Equivalents: 1 atm = 760 mm Hg = 760 torr = 101.325 kPa
 - a) 151.98 kPa
 - b) 456 torr
 - c) 912 mm Hg

- 6) What is the pressure exerted by a 180 lb man wearing loafers with surface area 25 in²? What pressure is exerted by a 120 lb woman wearing high heels with surface area 0.25 in²?

- 7) What is the value of atmospheric pressure at sea level, in newtons per square centimeter?
Definition: 1 Pa = 1 N/m²

- 8) What is the device used to measure atmospheric pressure? What must be true about the weight of the liquid inside the device? Why does the height of the liquid not depend on the diameter of the tube?
- 9) As we saw in class, the height of the liquid in a barometer is inversely proportional to the density of the liquid (at constant pressure). If the atmosphere can support a column of mercury 760 mm high at sea level, what height (in mm) of each of the following could be supported, given the relative density values cited? $D_{\text{Hg}} = 13.6 \text{ g/mL}$
- a) Water, whose density is 1.00 g/mL.
- b) A hypothetical liquid with a density 1.40 times that of mercury.