

1. The theory that explains the behavior of gases at the molecular level is called the \_\_\_\_\_ which is based on assumptions about a theoretical gas often referred to as an \_\_\_\_\_ - \_\_\_\_\_.
2. Gases deviate most from ideal gas behavior under conditions of very low \_\_\_\_\_ and very high \_\_\_\_\_.
  - The molecules of an ideal gas display no \_\_\_\_\_ or \_\_\_\_\_ for one another.
  - Under ordinary conditions, an ideal gas consists chiefly of \_\_\_\_\_ space, which explains why gases are so easily compressed.
  - Ideal gas particles travel in \_\_\_\_\_ lines until they collide with each other or with the walls of their container.
  - The collisions between the molecules of an ideal gas are completely \_\_\_\_\_.
  - The average kinetic energy of the molecules of an ideal gas is \_\_\_\_\_ proportional to the \_\_\_\_\_ temperature of the gas.
3. A gas exerts pressure on the walls of its container because gas molecules \_\_\_\_\_ with the walls of the container. So, the pressure exerted by a gas depends on two factors:
  - a)
  - b)
4. To measure gas pressure an instrument called a \_\_\_\_\_ is used.
5. The earth's atmosphere has weight, which creates \_\_\_\_\_.
6. The instrument used to measure atmospheric pressure is the \_\_\_\_\_.

7. Standard Temperature and Pressure (or \_\_\_\_\_ ) is:

\_\_\_\_\_ K                      \_\_\_\_\_ kPa                      \_\_\_\_\_ atm

\_\_\_\_\_ °C                      \_\_\_\_\_ mm Hg                      \_\_\_\_\_ torr

8. At 1 atm, the height of the \_\_\_\_\_ in a barometer is 760 mm.

9. A block of wood with a weight of 18 Newtons rests on a table top. How much pressure is the block of wood exerting on the surface of the table directly beneath it if the block is 3 cm long and 2 cm wide?

10. Use the kinetic theory to explain why a helium filled balloon "shrinks" when it is taken from a warm room to the outside on a cold day.

11. Use the kinetic theory to explain why bubble wrap pops when it is squeezed.

12. Use the kinetic theory to explain why tire pressure increases when more air is added to a tire.