

PROPERTIES OF GASES

1. COMPRESSED - quantity of air can be reduced when pressure is applied pressure applied - small volume quantity
2. EXPAND - less force of pressure applied, air expands to fill container uniformly less force or pressure applied - air expands to fill greater volume
3. LOW DENSITY - density of air is about 0.0012g/cm^3 . Water is 770X greater
Iron is 6000X greater
4. MAY BE MIXED - "always room for more". Add the same or different gas to the gas with fixed volume in rigid container. Exception: chemical reaction.
5. CONFINED - exerts constant pressure on wall of container uniformly in all directions

KINETIC MOLECULAR THEORY

1. CONSTANT, RANDOM MOTION - gases consist of particles moving at any given instant in straight lines.
2. NEGLIGIBLE VOLUME - the actual volume of molecules is negligible compared to the space they occupy.
3. NEGLIGIBLE ELECTROSTATIC FORCES - gas molecules behave as independent particles; attractive (electrostatic) forces between them are negligible.
4. ELASTIC COLLISIONS - when they collide, they don't lose kinetic energy.
KE CONSTANT
5. VERY WIDELY SPACED - KE PROPORTIONAL T or $\frac{KE}{T} = \text{CONSTANT}$