Gasses

1. Gasses
   1. Form because of relatively low intermolecular forces compared to the amount of energy in a system.
   2. Properties
      1. Constant Random motion.
      2. Low density.
      3. Expand to fill entire container.
      4. Exert Pressure in all directions (what is pressure?)
2. Pressure
   1. How strong & often gas particles hit a wall.
   2. Defn -- Force divided by area
   3. SI Unit: Pa (Pascal)
      1. Derived: 1 Pa = 1 N/m^2
   4. Newton? – Unit for force
      1. Derived: 1 N = 1 kg\*m/s^2 (all 3 base units)
      2. How much about 0.1 kg pushes down
   5. How much is 1 Pa?
      1. 0.1 kg pushing down spread over a square meter (not very much)
   6. Another unit (think feet vs m) is “atm”
      1. 1 atm = 101,325 Pa = 101.325 kPa (what does “k” mean?)
         1. Notice: conversion rate!
      2. Other units on pg 420, but these are 2 main ones.
      3. Example problem: Critical Pressure of CO2 is 72.7 atm. What is this in Pa?
      4. Ex: Vapor pressure of water at 50.0 deg C is 12.33 kPa. What is this in atm?
      5. 1 atm is the air pressure at sea level
         1. That’s a lot—but we don’t feel it because we’re used to it!

HW: pg 422, #4, 5, 8, 12