

Noteset 7A (Part 3) - In Class Noteset

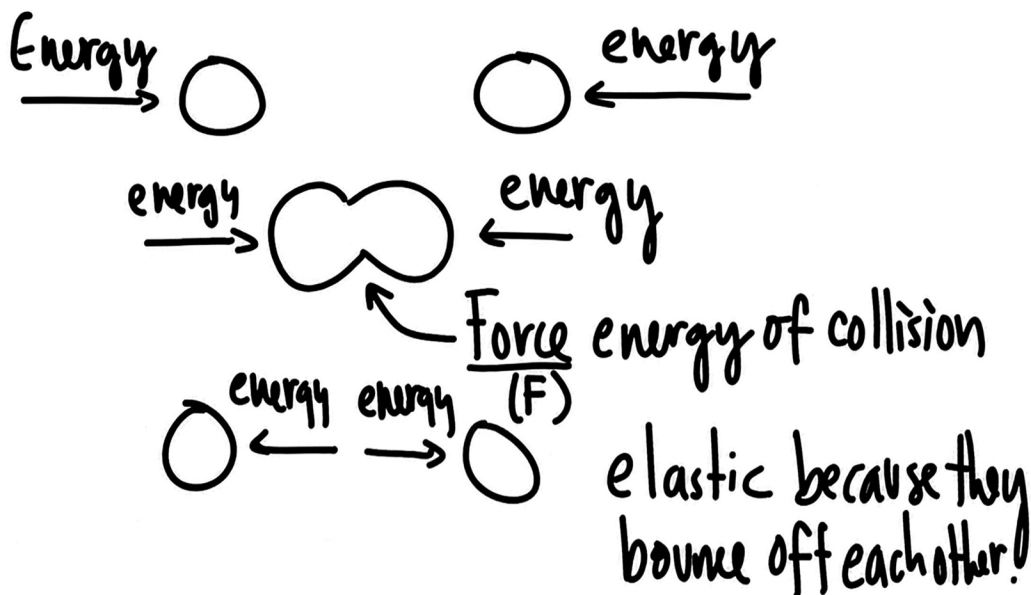
Properties of Gas - Pressure and Temperature

Properties of a gas : Pressure (P)

Pressure (P)

The number of particle interactions (collisions) between atoms/molecules in a gas (or liquid).

Collisions (elastic)



low Pressure

○ ← less collisions
○ ←

○ ← slower speed
○ ←

High Pressure

○ ← more collisions
○ ←
○ ←
○ ←
○ ←

○ ← faster speed
○ ←

Properties of a gas : Pressure (P)

Pressure (P)

The number of particle interactions (collisions) between atoms/molecules in a gas (or liquid).

Measuring Pressure

atm (atmospheres)

mmHg and inHg (weather pressure)

torr (torr)

Pa and kPa (Pascal)

psi

(pounds per square inch, US unit)

Pressure Conversions

$$\begin{aligned} 1 \text{ atm} &= 760 \text{ mmHg} = 760 \text{ torr} \\ &= 101.3 \text{ kPa} = 101300 \text{ Pa} = 14.7 \text{ psi} \end{aligned}$$

1 atm : Pressure at sealevel and room temp (25°C)