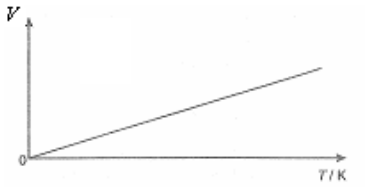
4.4.2 Charles' Law

For a gas of fixed mass, the **volume** is directly proportional to its **absolute temperature** if the pressure is constant.

$$\frac{V}{T} = k$$

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$



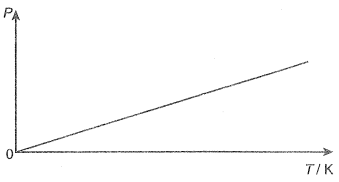
where V = volume of the gas [m^3]
T = absolute temperature of the gas [K]

4.4.3 Pressure Law

For a gas of fixed mass, the **pressure** is directly proportional to its **absolute temperature** if the volume is constant.

$$\frac{P}{T} = k$$

$$\frac{P_1}{T_1} = \frac{P_2}{T_2}$$



where V = volume of the gas [m^3]
T = absolute temperature of the gas [K]

4.4.4 Universal Gas Law

Combining all three gas laws:

$$\frac{PV}{T} = k$$

$$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$$

END OF CHAPTER