$$\text{density } n \quad = \quad \frac{\text{particles}}{\text{meter}^3}$$

$$\text{cross section } A \quad = \quad \text{area of particle } (\text{meter}^2)$$

$$\text{velocity } v \quad = \quad \frac{\text{meter}}{\text{second}}$$

$$\text{mean free path } L \quad = \quad \frac{1}{n \times A}$$

$$\text{time between collisions } t \quad = \quad \frac{L}{v}$$