Required formulas for IGCSE Physics (not given)

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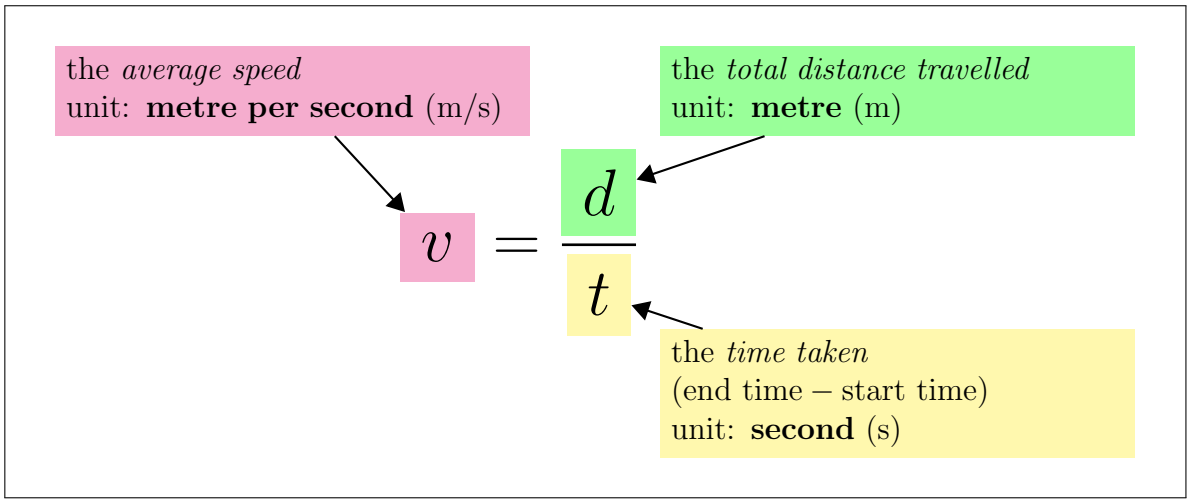
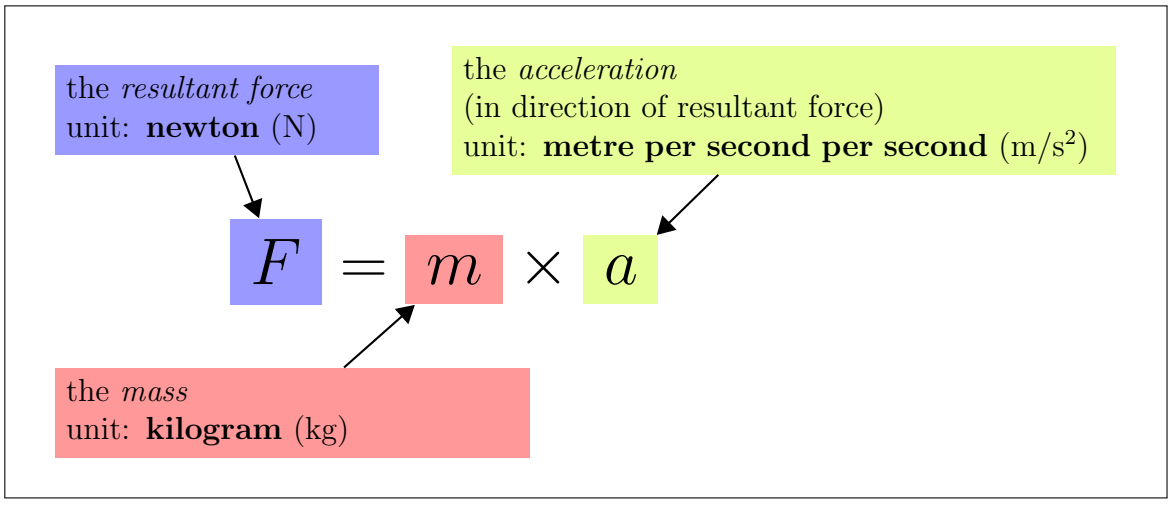
1. the relationship between average speed, distance and time:

$$\text{average speed} = \frac{\text{distance}}{\text{time}}$$

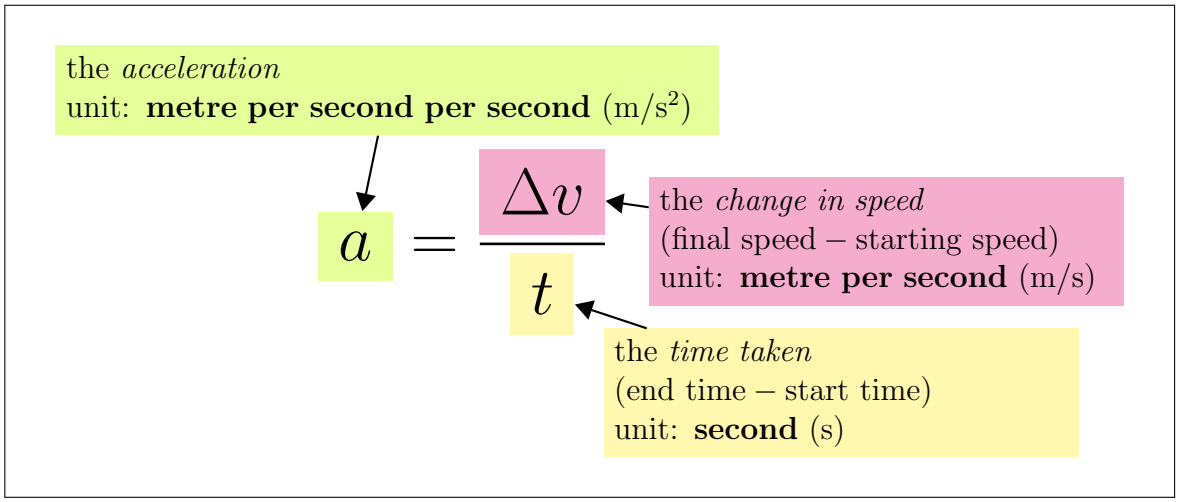


2. the relationship between average force, mass and acceleration:

$$\text{force} = \text{mass} \times \text{acceleration}$$

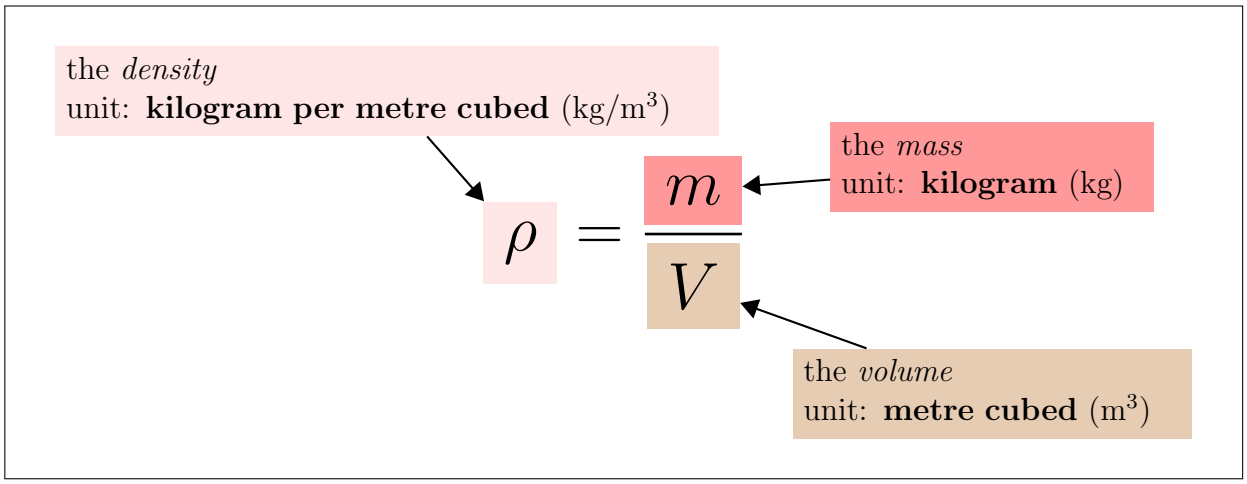


$$\text{acceleration} = \frac{\text{change in velocity}}{\text{time}}$$



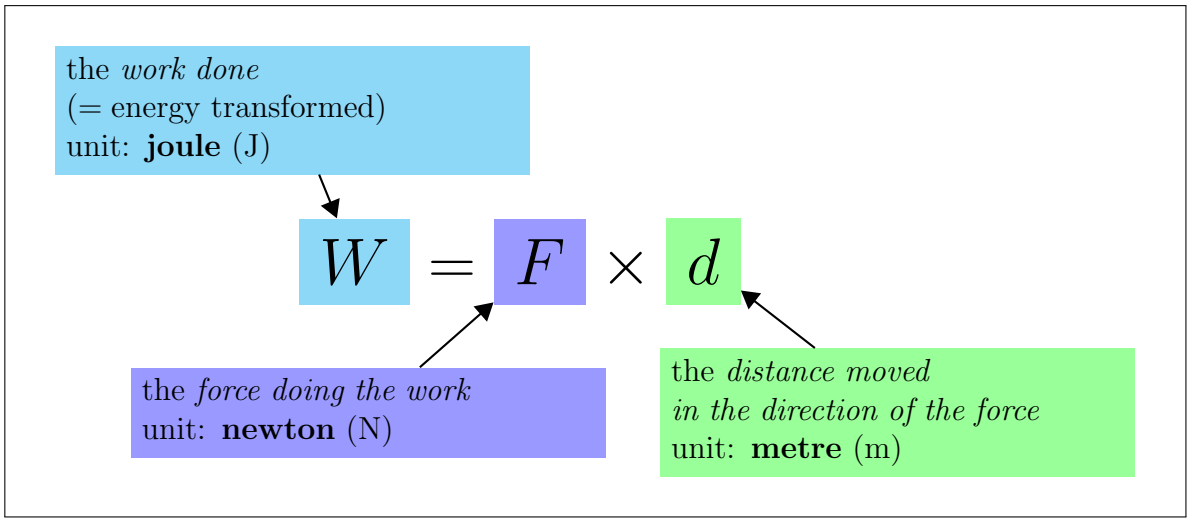
3. the relationship between average density, mass and volume:

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$



4. the relationship between force, distance and work:

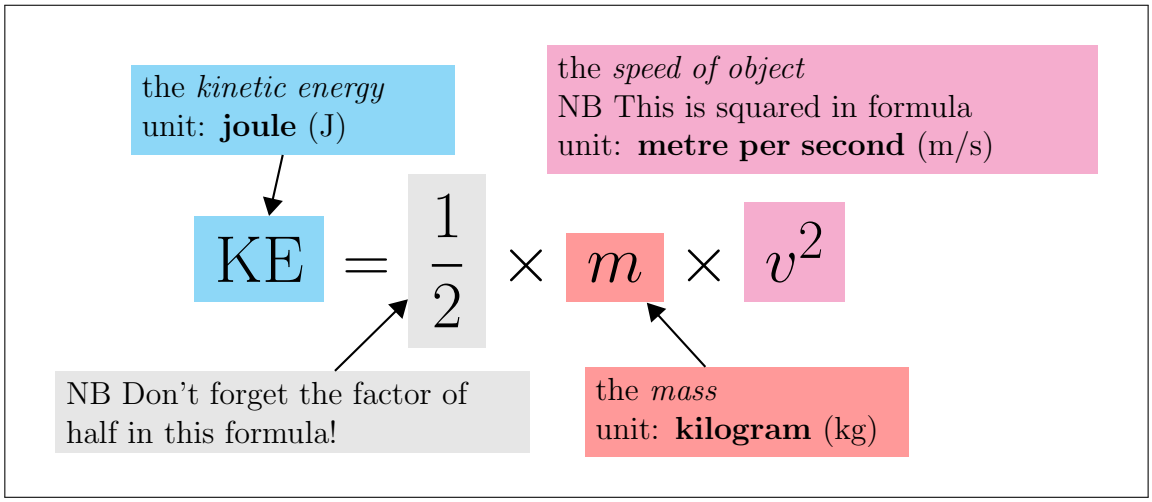
$$\text{work} = \text{force} \times \text{distance moved}$$



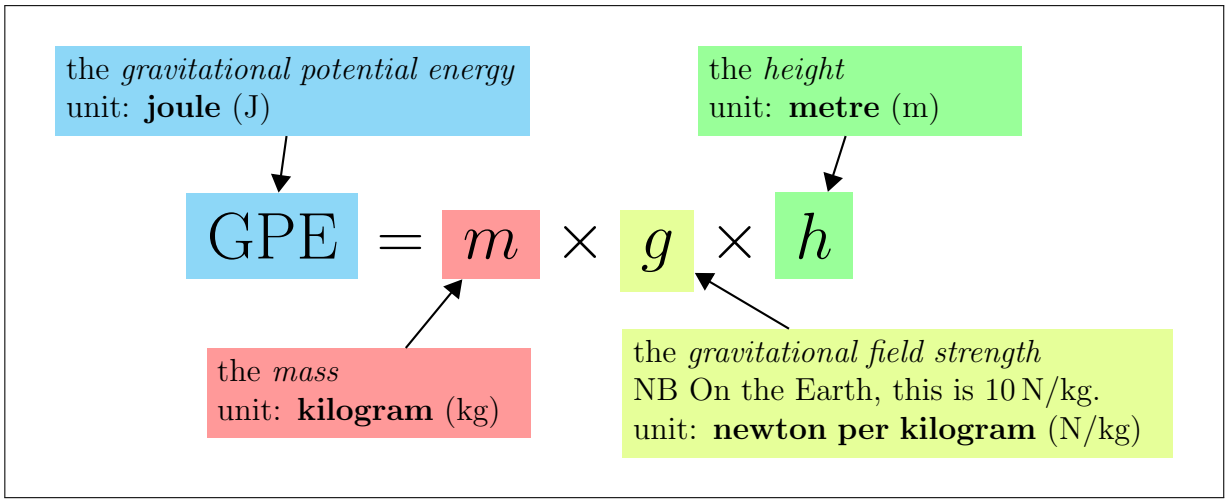
5. the energy relationships:

$$\text{energy transferred} = \text{work done}$$

$$\text{kinetic energy} = \frac{1}{2} \times \text{mass} \times \text{speed}^2$$

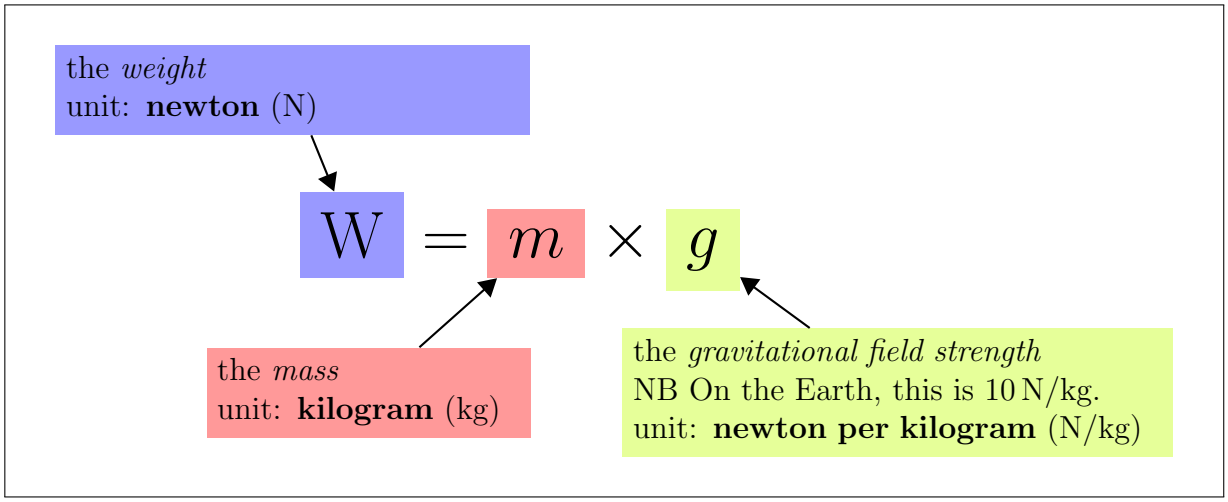


$$\text{gravitational energy} = \text{mass} \times g \times \text{height}$$



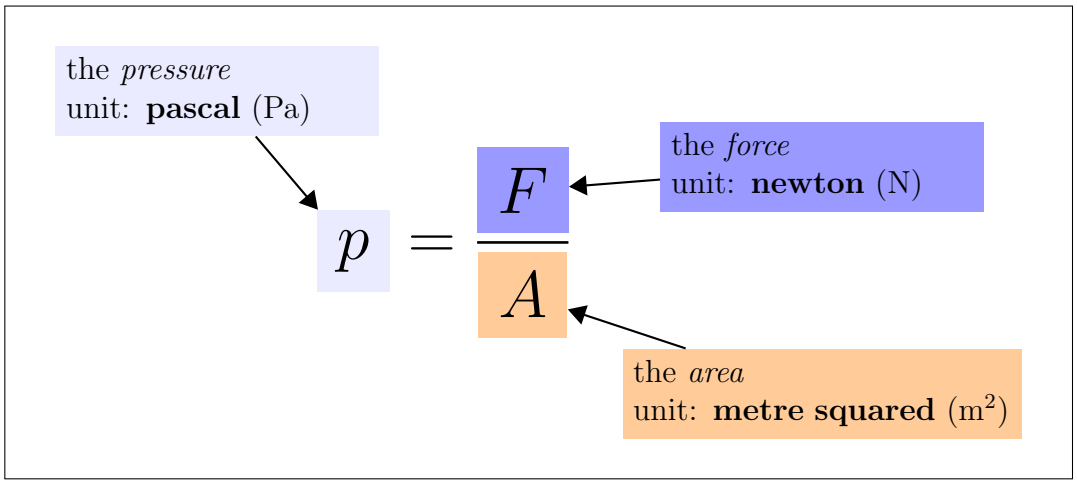
6. the relationship between mass, weight and gravitational field strength:

$$\text{weight} = \text{mass} \times \text{gravitational field strength}$$



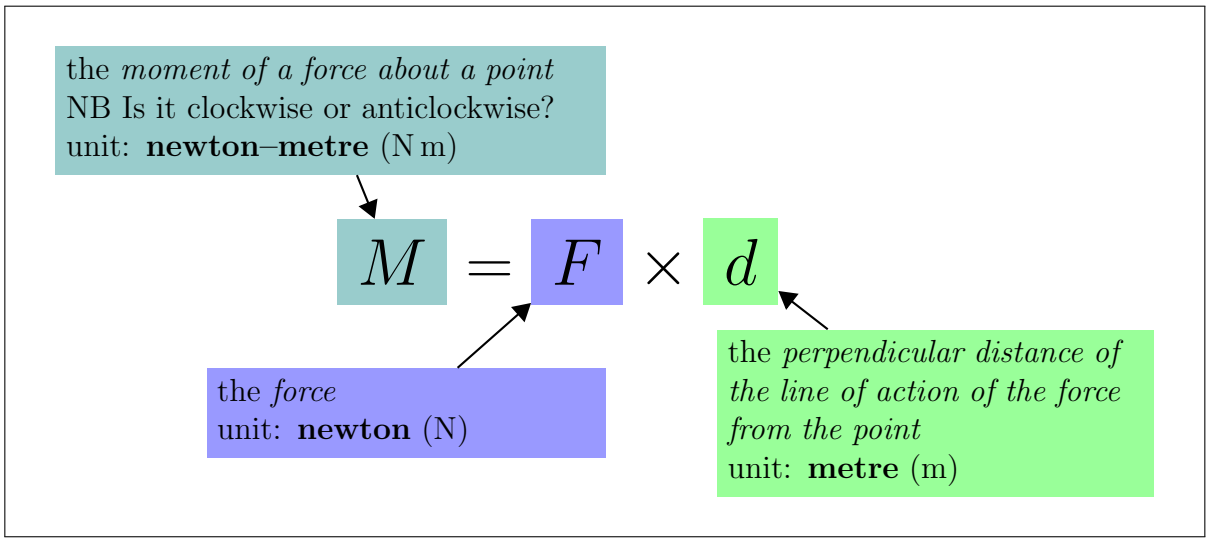
7. the relationship between an applied force, the area over which it acts and the resulting pressure:

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



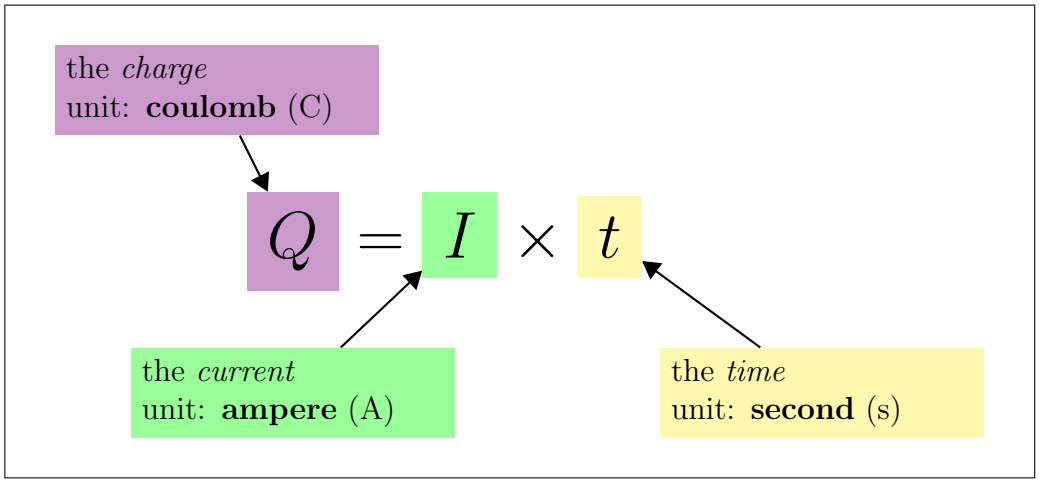
8. the relationship between the moment of a force and its distance from the pivot:

$$\text{moment} = \text{force} \times \text{perpendicular from the pivot}$$

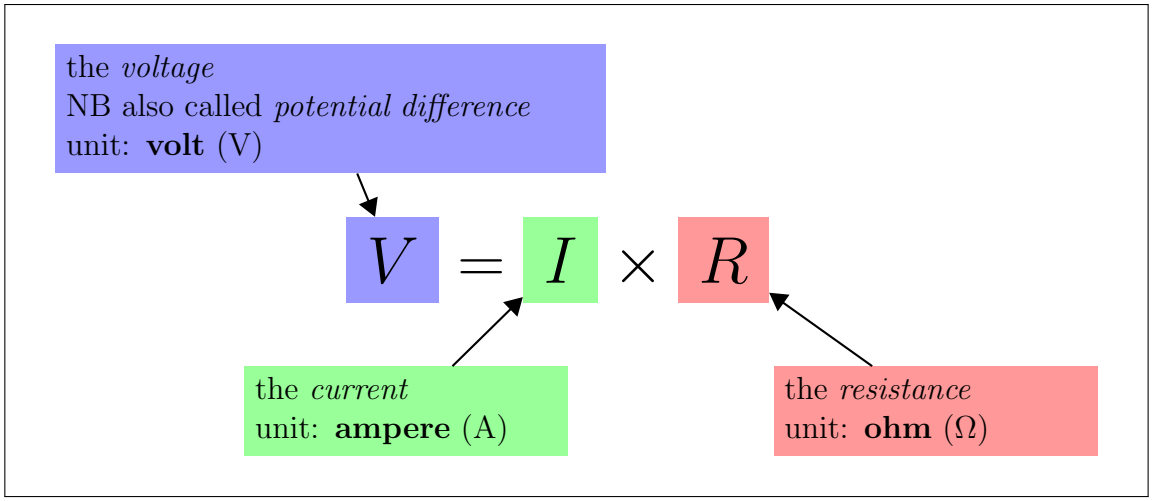


9. the relationships between charge, current, voltage, resistance and electrical power:

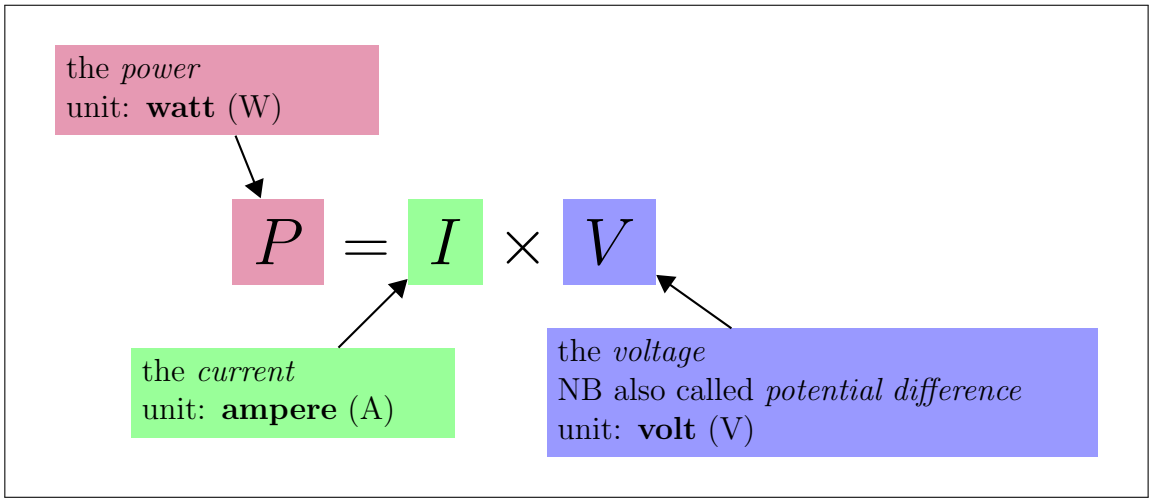
$$\text{charge} = \text{current} \times \text{time}$$



voltage = current × resistance

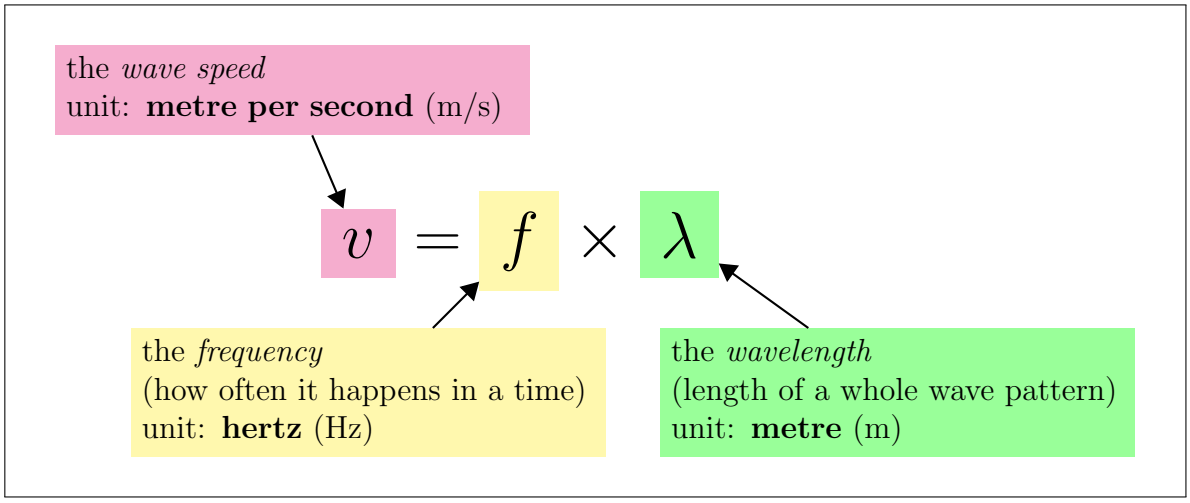


electrical power = voltage × current



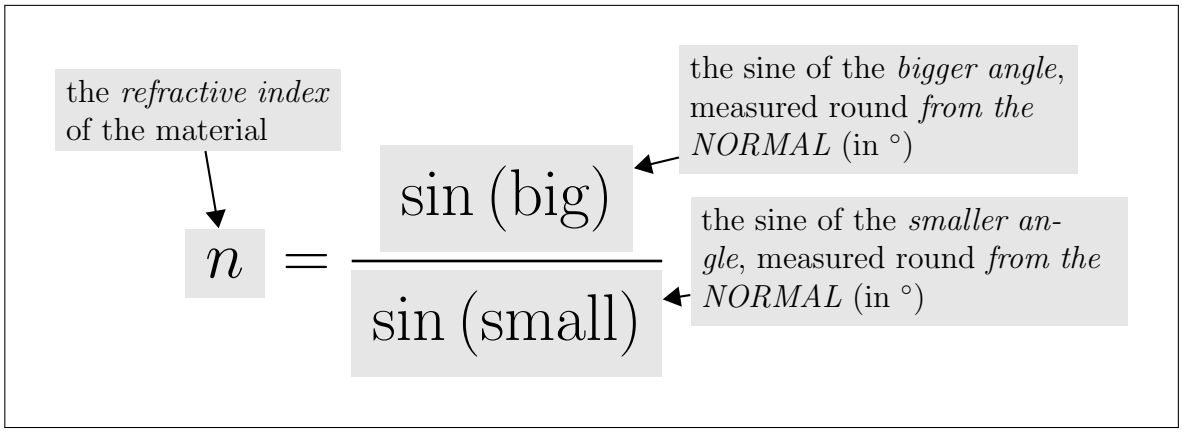
10. the relationship between speed, frequency and wavelength:

wave speed = frequency × wavelength



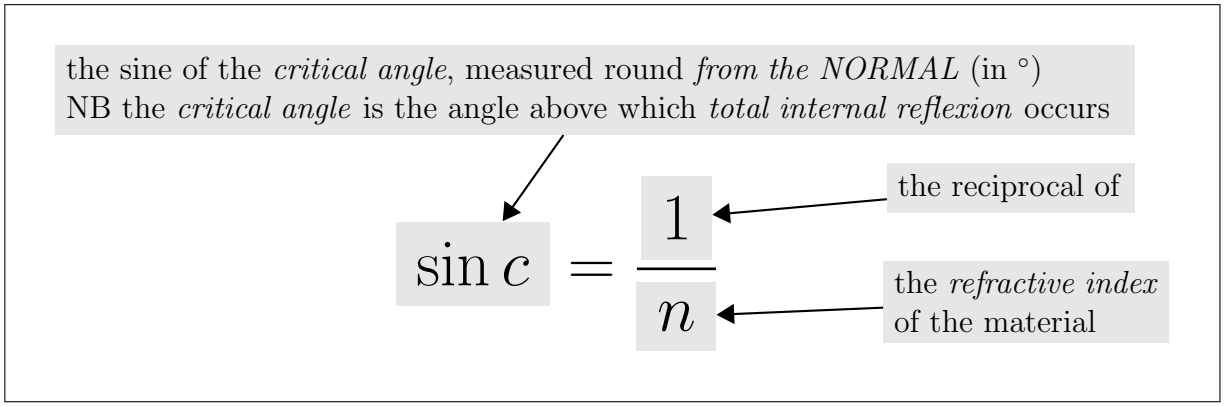
11. the relationship between refractive index, angle of incidence and angle of refraction:

$$n = \frac{\sin i}{\sin r}$$



12. the relationship between refractive index and critical angle:

$$\sin c = \frac{1}{n}$$



13. the relationship for pressure difference:

$$\text{pressure difference} = \text{height} \times \text{density} \times g$$

$$p = h \times \rho \times g$$