Science Year 8 Fireworks

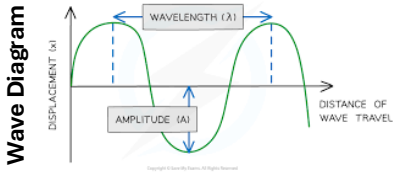
Key term	Definition
Amplitude	The height of a wave
Wavelength	The distance between wave peaks
Frequency	How often waves pass a certain point
Reflection	Light bouncing off a surface
Refraction	Bending of light or sound
Opaque	No light passes through
Translucent	Some light passes through
Transparent	All light passes through
Ultrasound	Sound above the range of human hearing
Spectrum	Range of colours or waves

QR Code/link to revision website

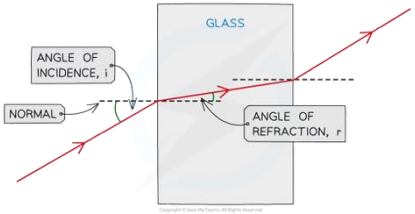
Revision

Greater Depth

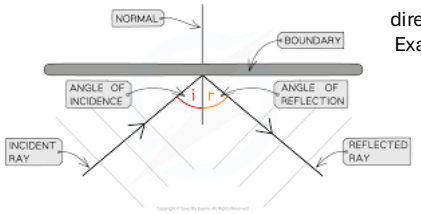
Wave Diagram

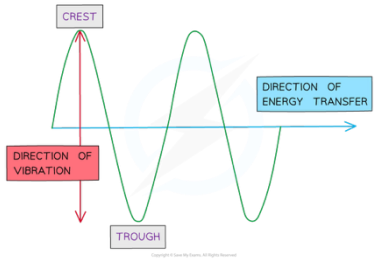


Refraction:
The bending of waves when they pass between different mediums (e.g., air to water).

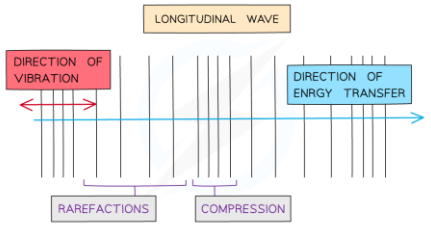


Reflection:
When waves bounce off a surface.
Angle of incidence = angle of reflection.

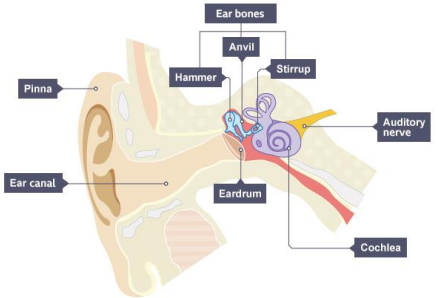


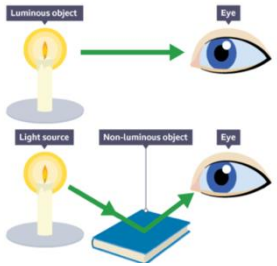


Transverse Waves: Oscillations are perpendicular to the direction of energy transfer.
Examples: Light waves, water waves, electromagnetic waves.



Longitudinal Waves: Oscillations are parallel to the direction of energy transfer.
Examples: Sound waves, seismic P-waves.

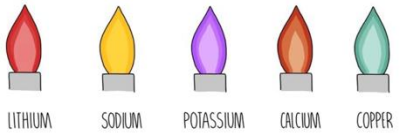




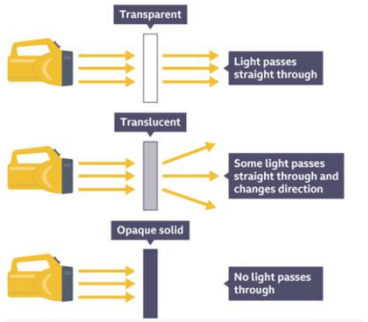
How do we hear?

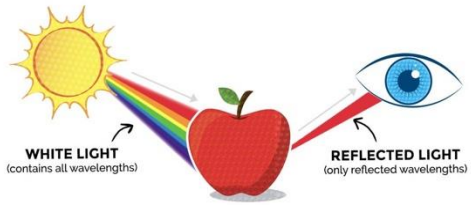
- Sound waves travel through the air and enter the outer ear.
- The sound waves cause the eardrum to vibrate, and these vibrations are passed to the tiny bones .
- The bones amplify the vibrations and send them into the cochlea in the inner ear, which is filled with fluid.
- Hair cells inside the cochlea convert the vibrations into electrical signals, which are sent to the brain via the auditory nerve. The brain interprets these signals as sound.

Flame tests



- **Lithium**, Li^+ burns with a **red/crimson** flame
- **Sodium**, Na^+ burns with a **yellow-orange** flame
- **Potassium**, K^+ burns with a **lilac** flame
- **Calcium**, Ca^{2+} burns with an **orange-red** flame
- **Copper**, Cu^{2+} burns with a **green** flame

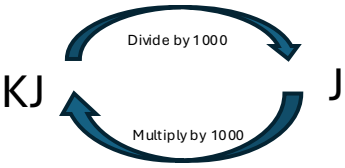




Uses of Ultrasound

- Imaging of babies in the uterus
- Inspecting parts for damage

Converting J to KJ



Knowledge Organisers

1. **Vocabulary:** Key words and definitions (up to 10) to the left (the ones that you will teach explicitly, and expect students to use)

2. **Legible:** Font – clear, Sans Serif. One sided, A4. visual - diagrams, models, etc., where appropriate, key terms/concepts in bold. No distraction.

3. **Keep it core:** Prioritise the core, crucial, powerful knowledge

4. **Co-construct** with colleagues: To build consistency and shared expert knowledge