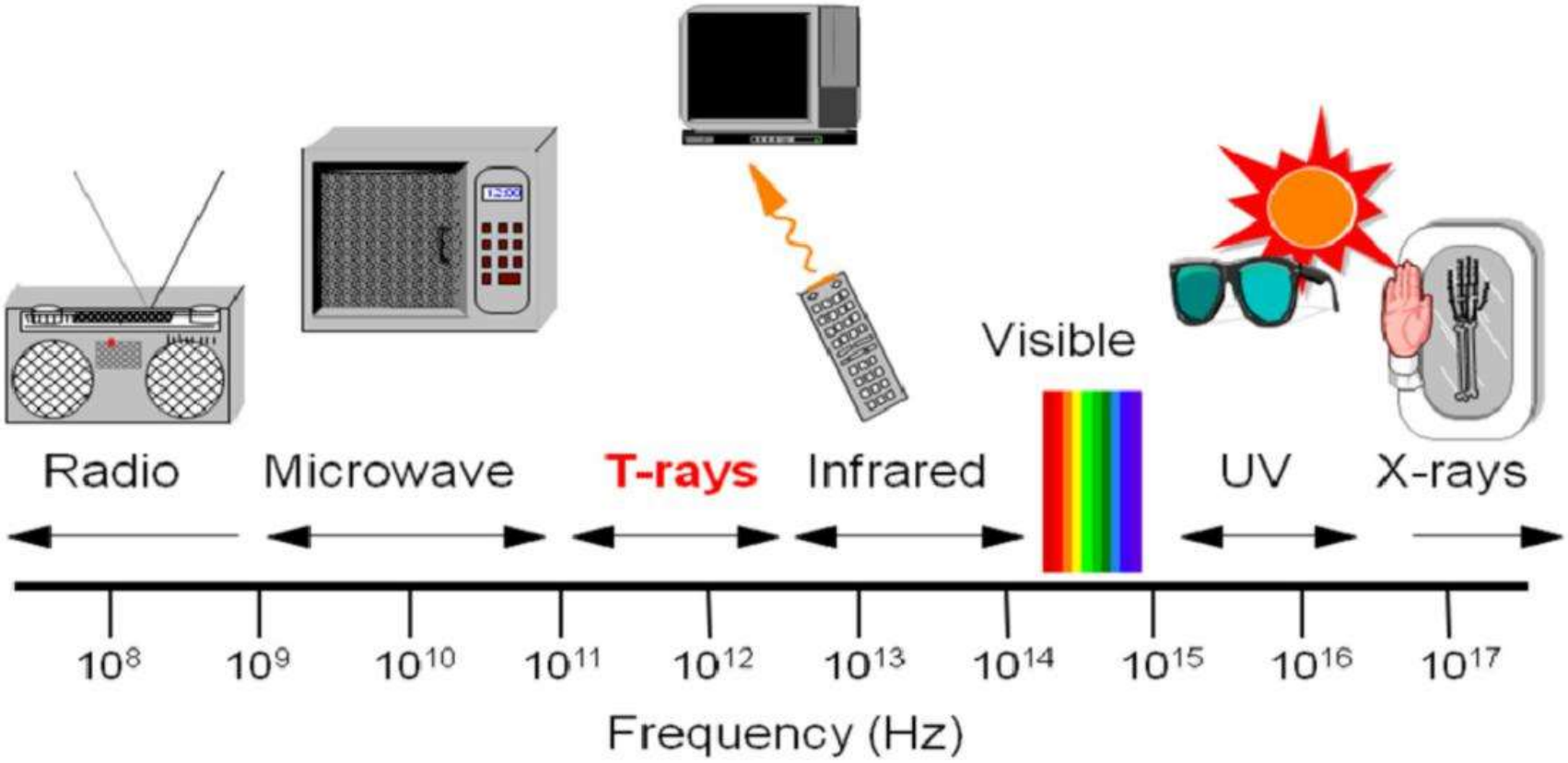
Electromagnetic Waves

Mr. Skirbst

Electromagnetic Waves



Waves

traveling disturbance that carries energy from place to place

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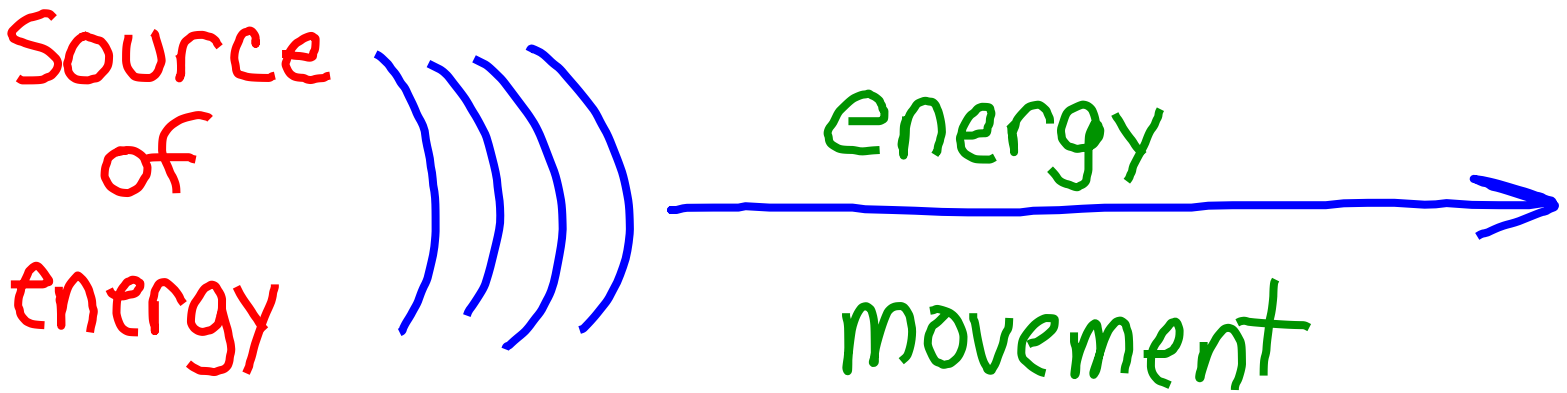

Characteristics

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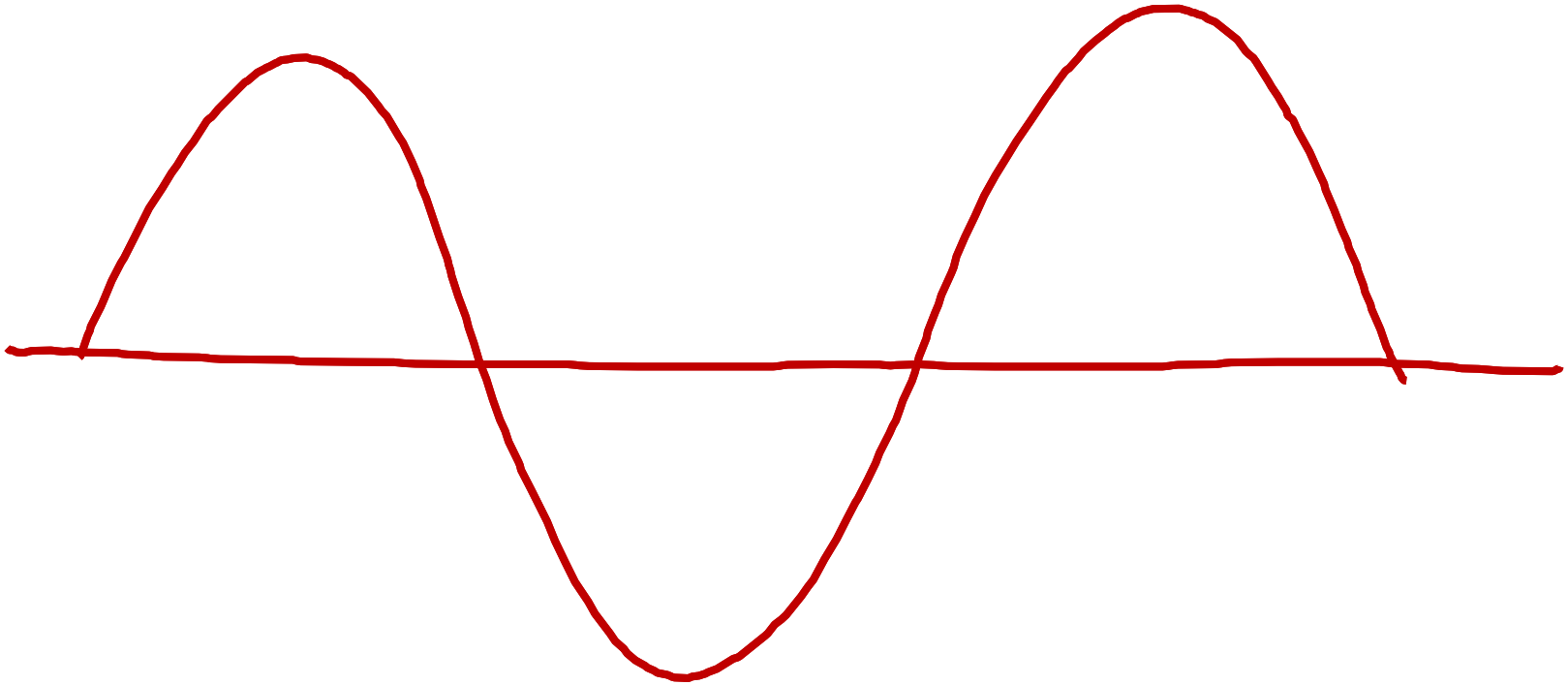

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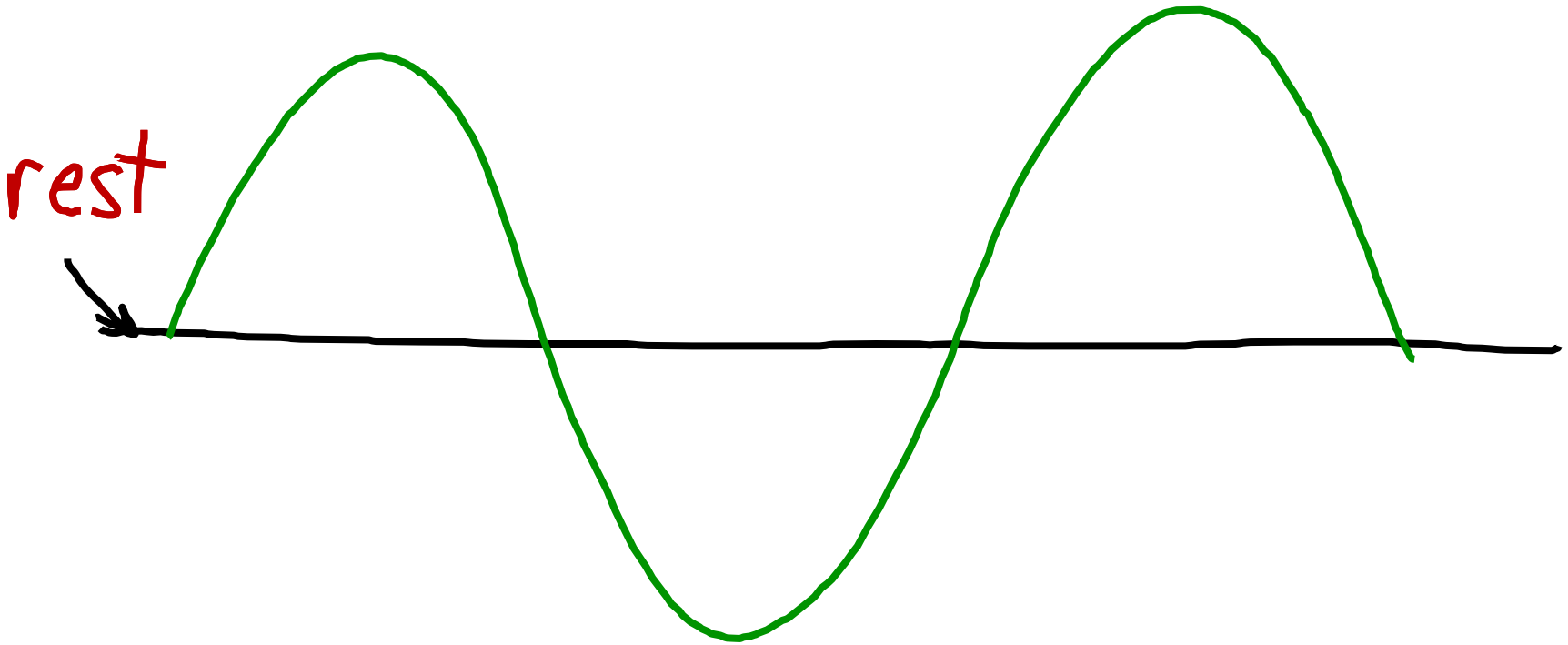

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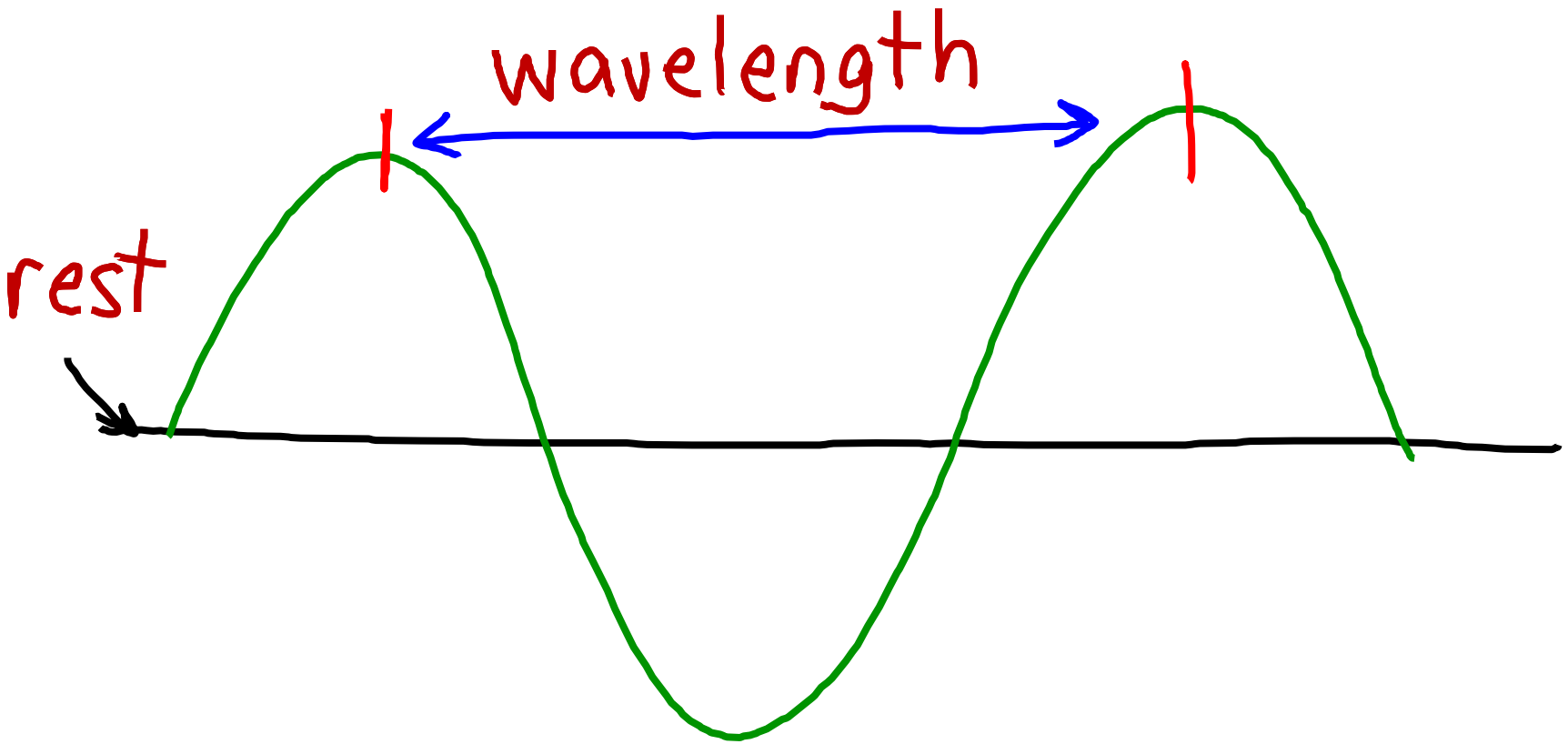

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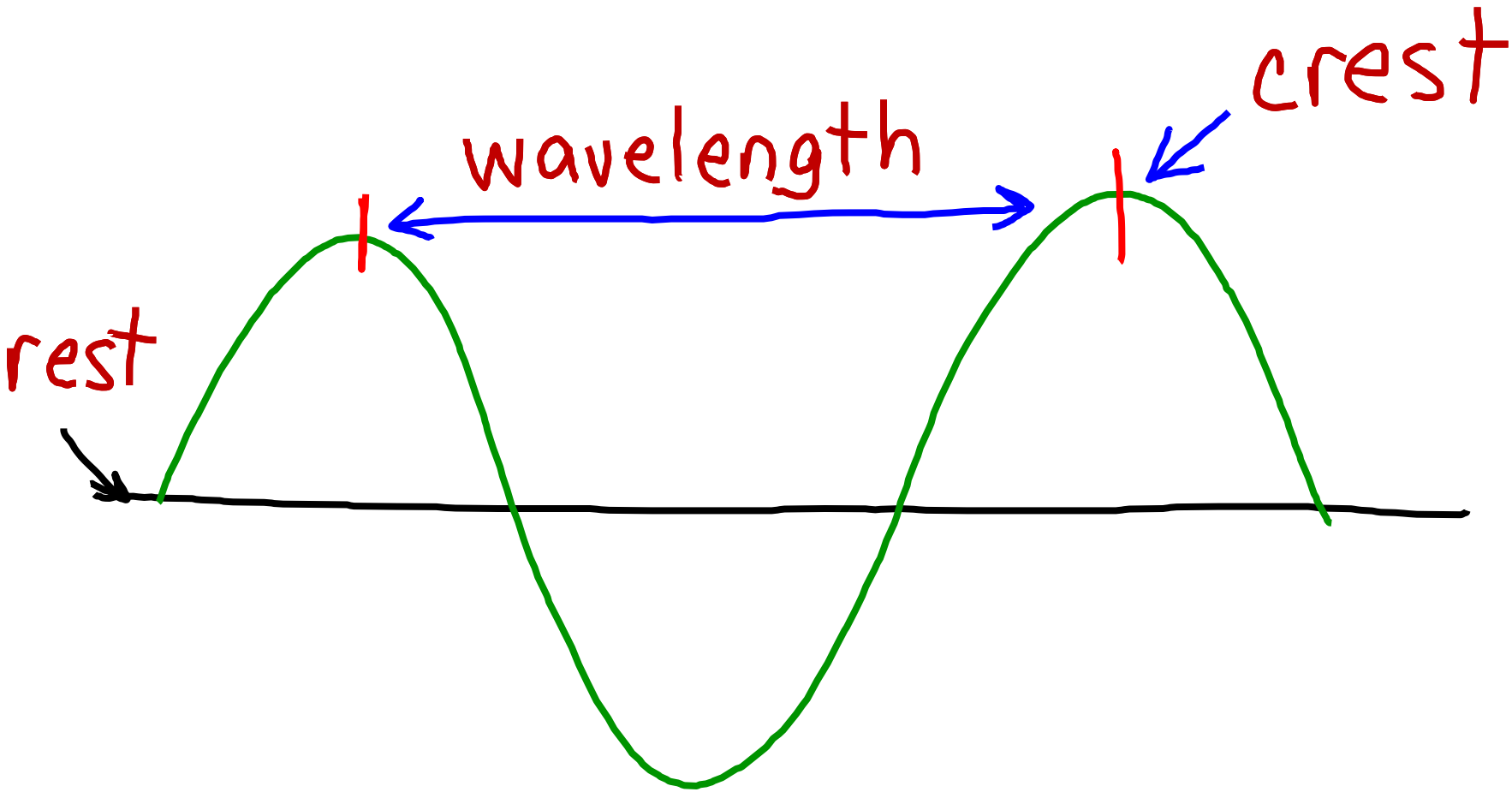

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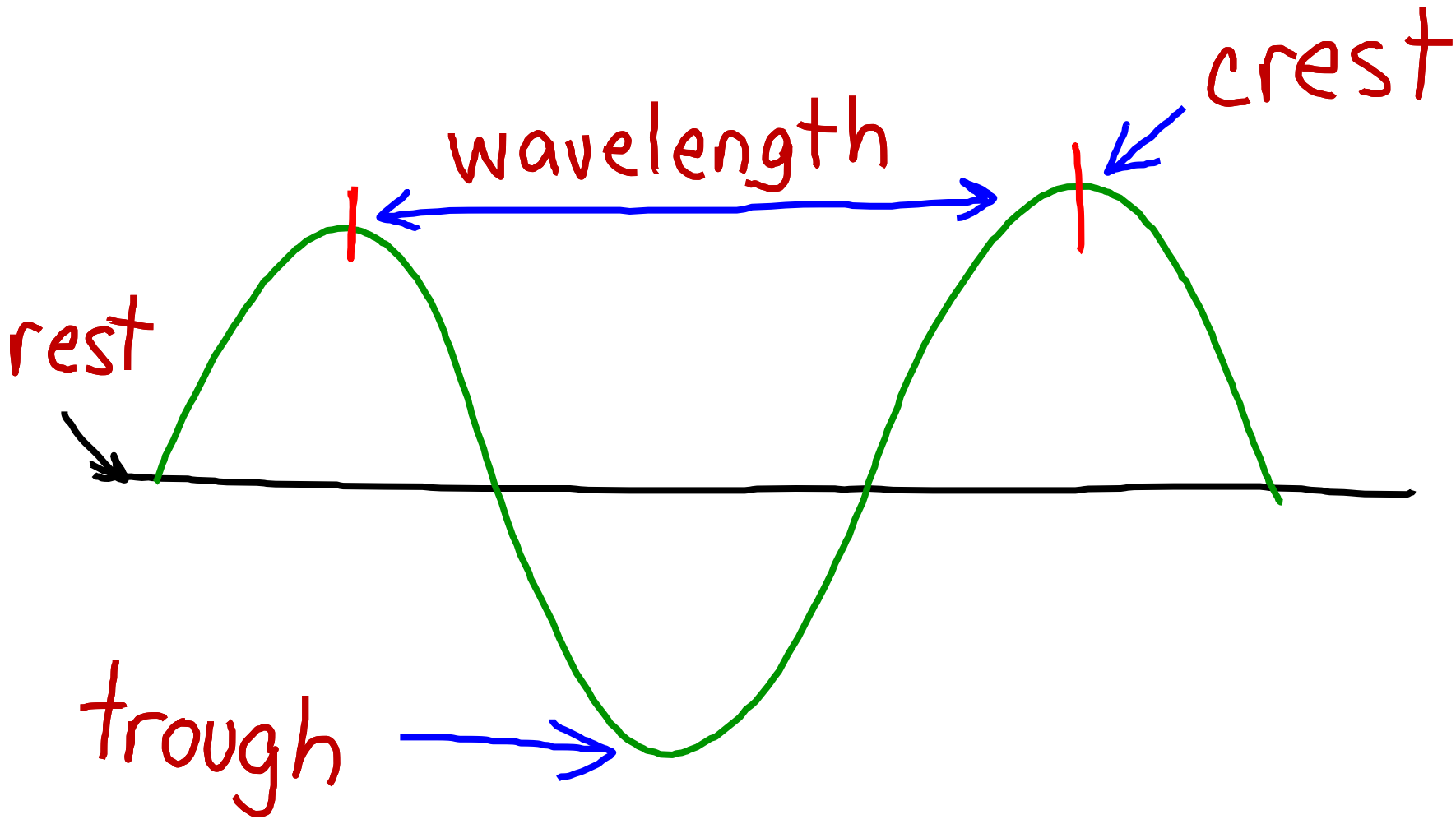

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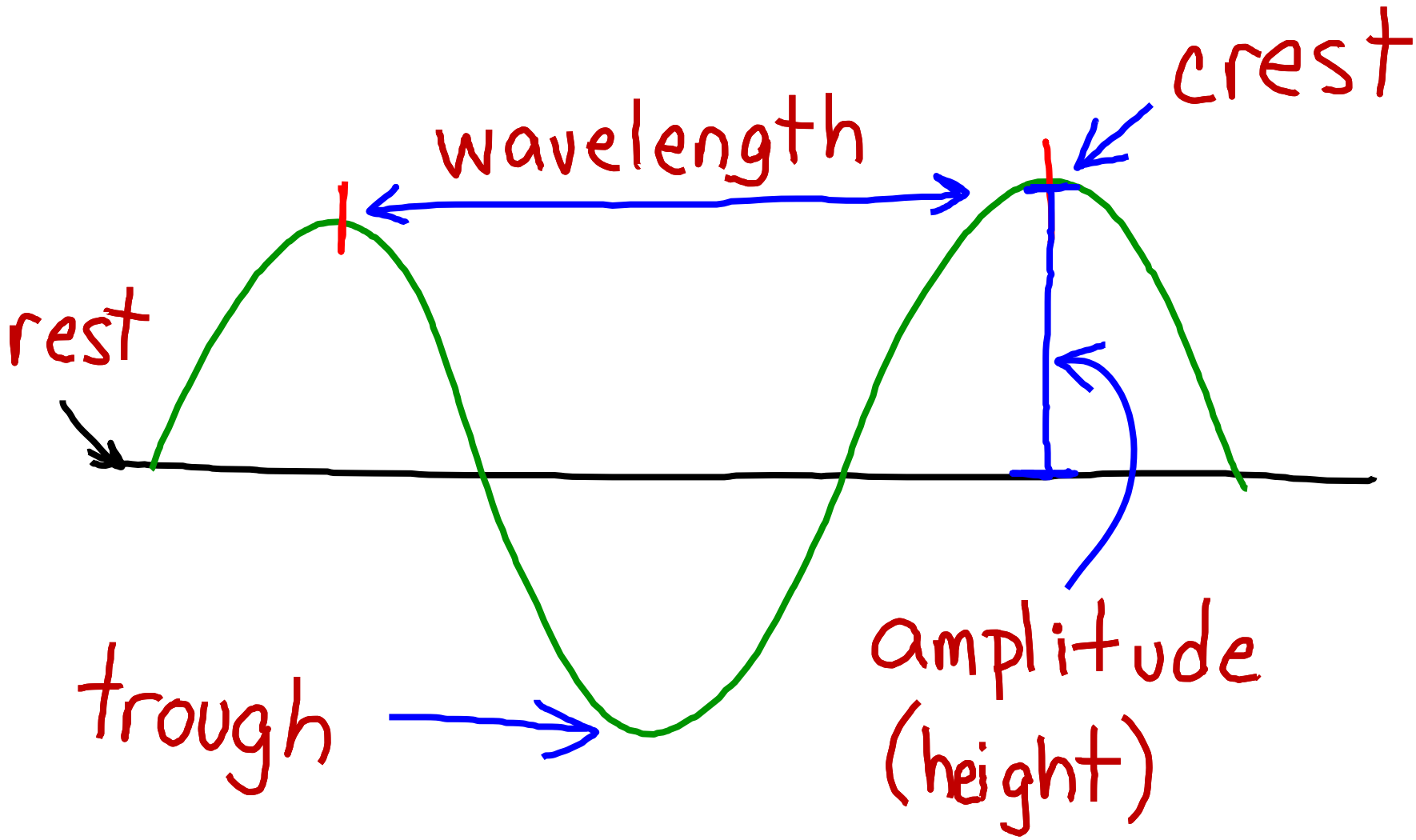
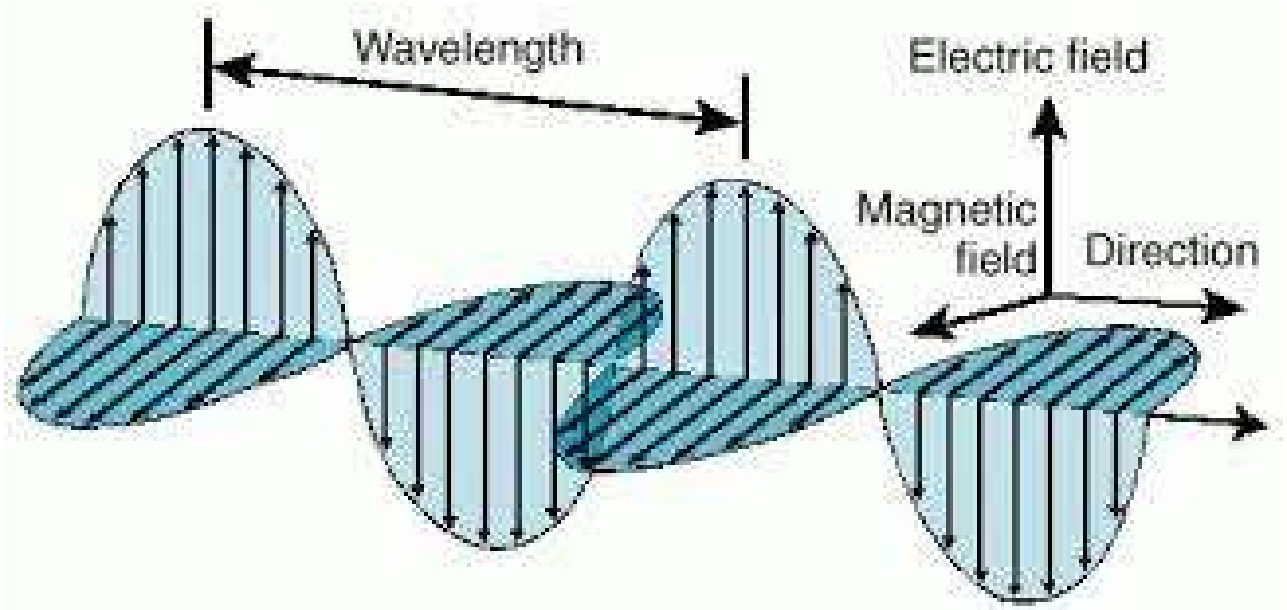


Electromagnetic Wave

wave in which electric and magnetic fields carry energy (*EMW*)



Transverse Wave

electric and magnetic fields travel at right angles

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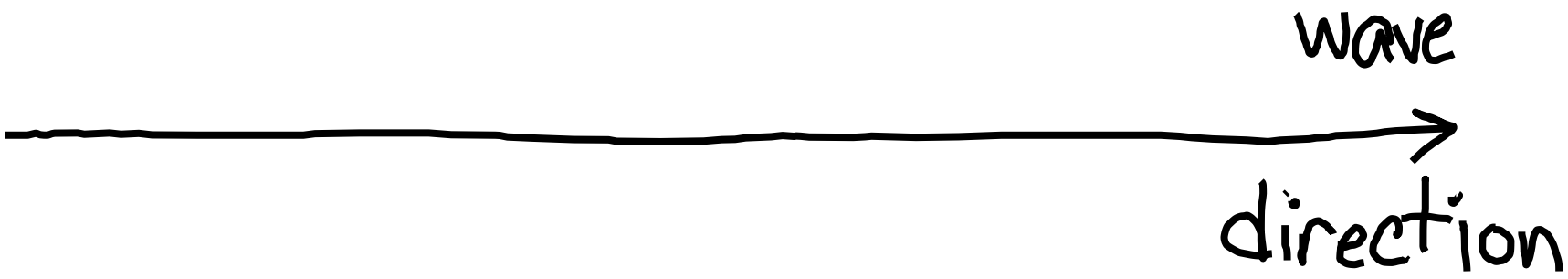

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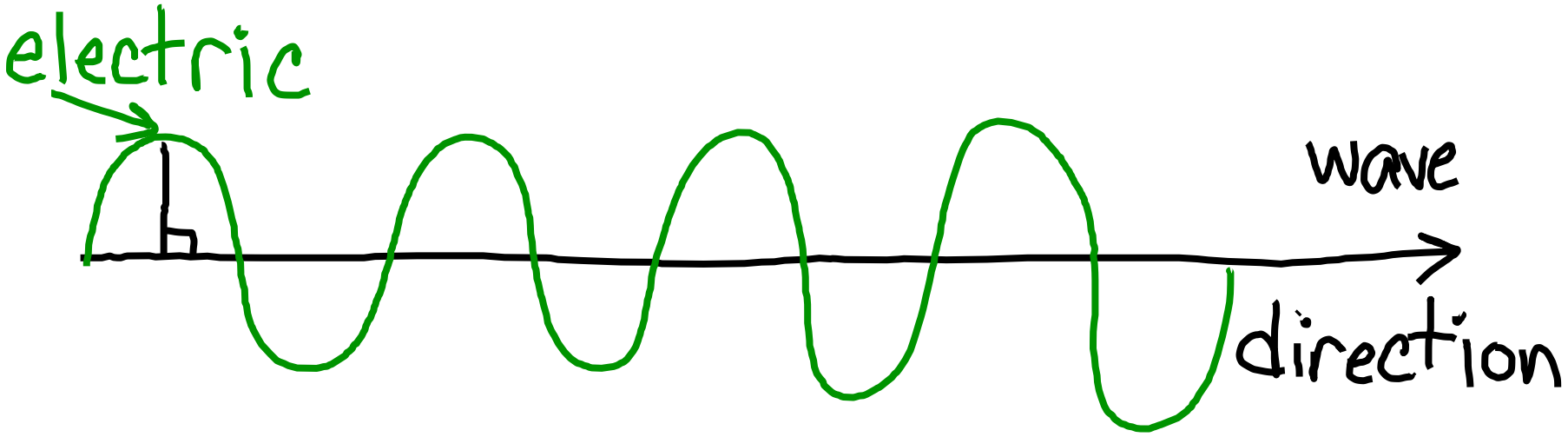

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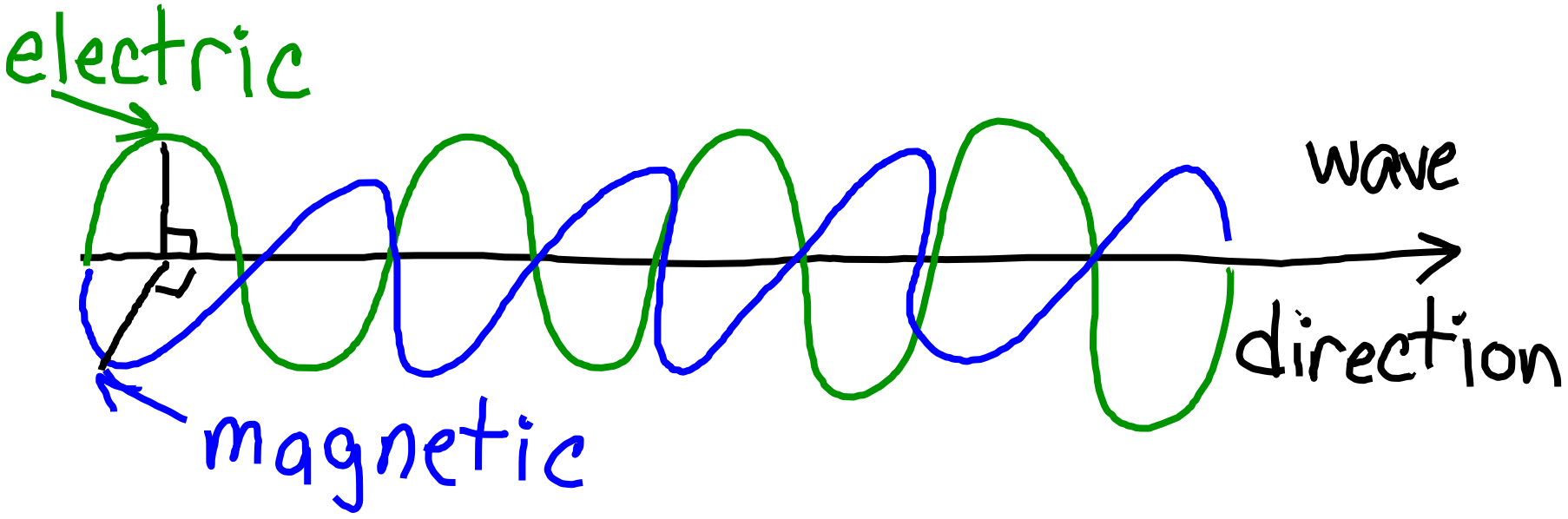
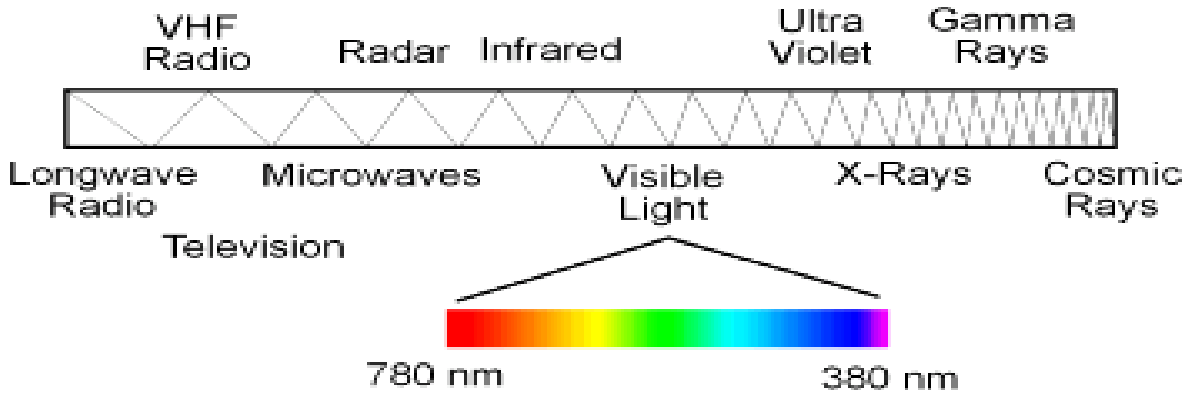


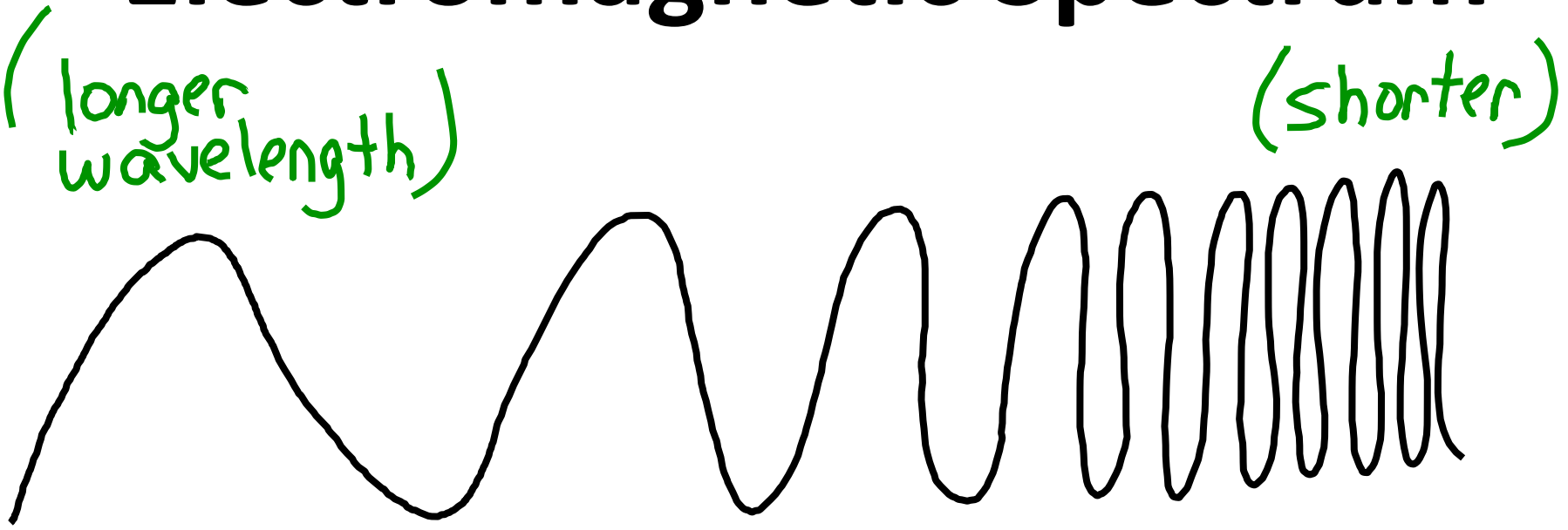
Electromagnetic Spectrum

arrangement of EMW in order of their wavelengths & frequencies

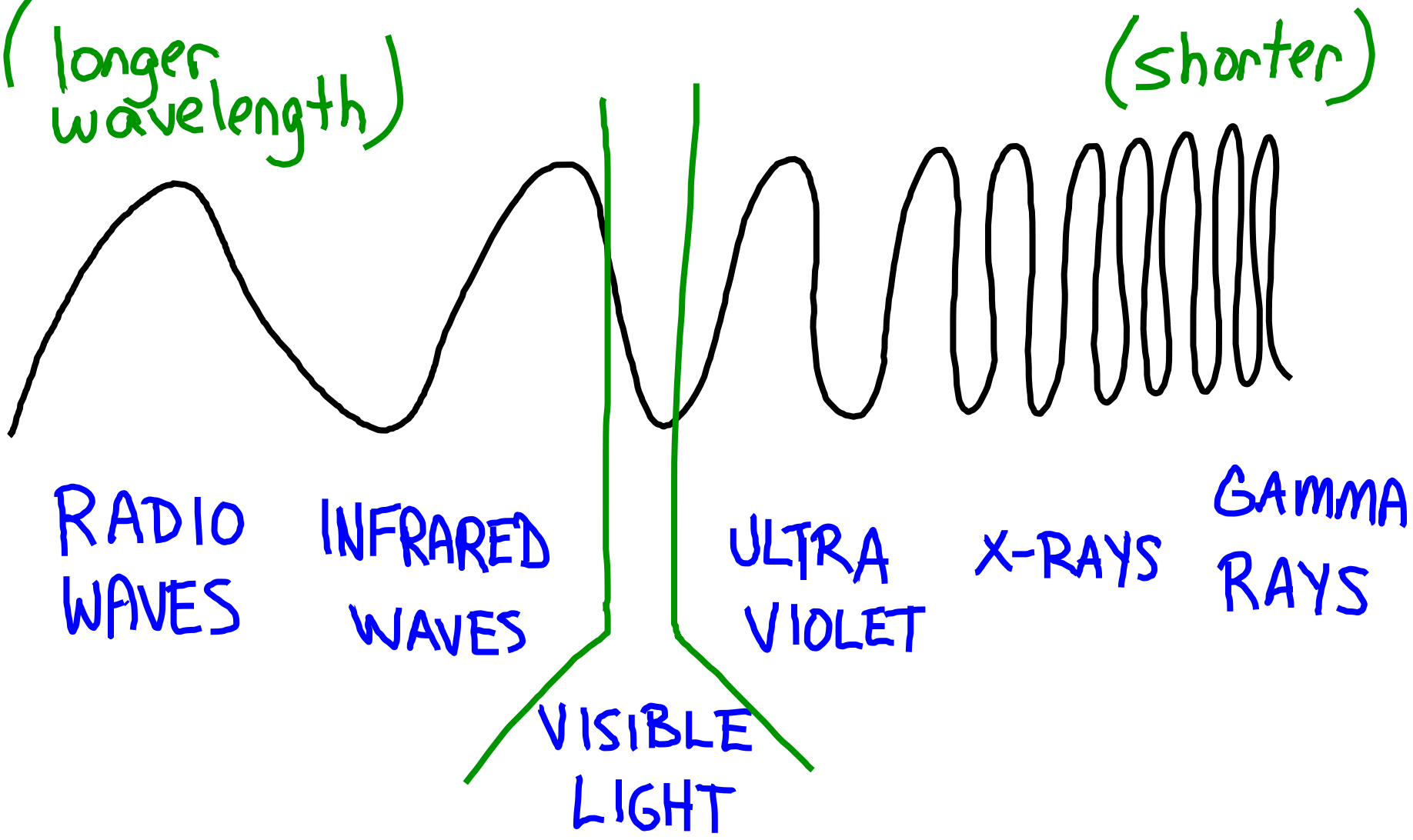
(# of waves / time)



Electromagnetic Spectrum

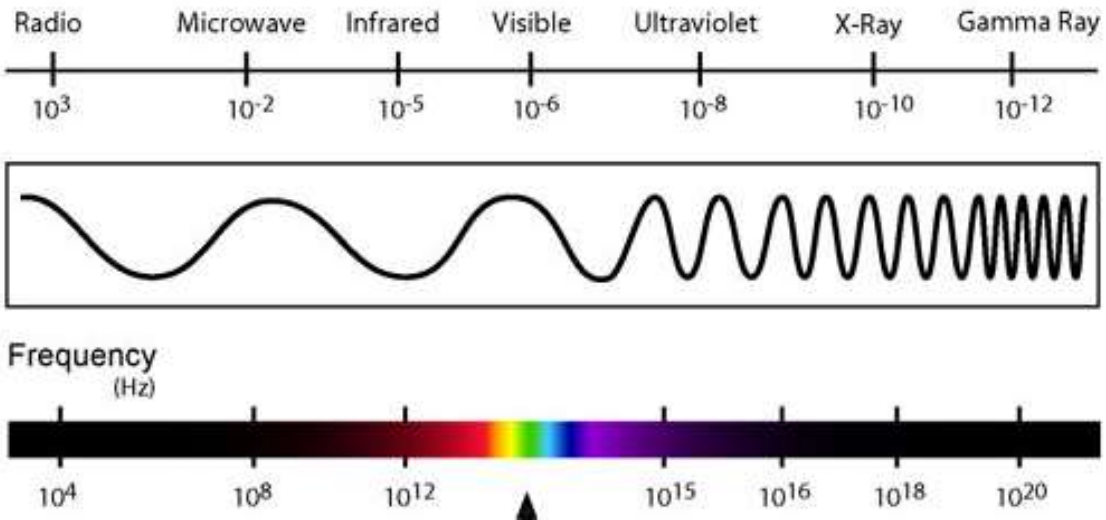


Electromagnetic Spectrum



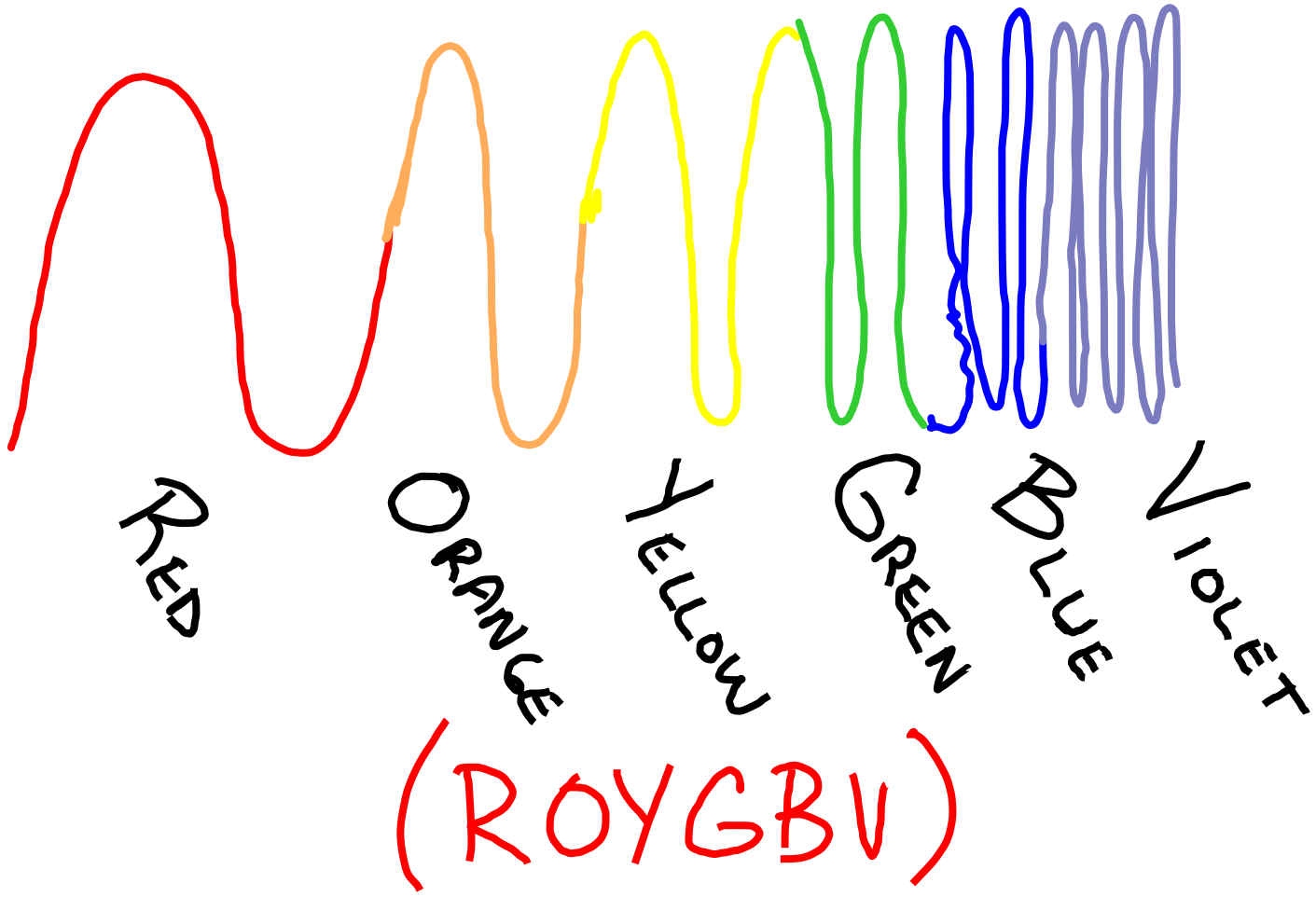
Visible Light

Energy in a range of the electromagnetic spectrum (EMS) that can be seen with our eyes



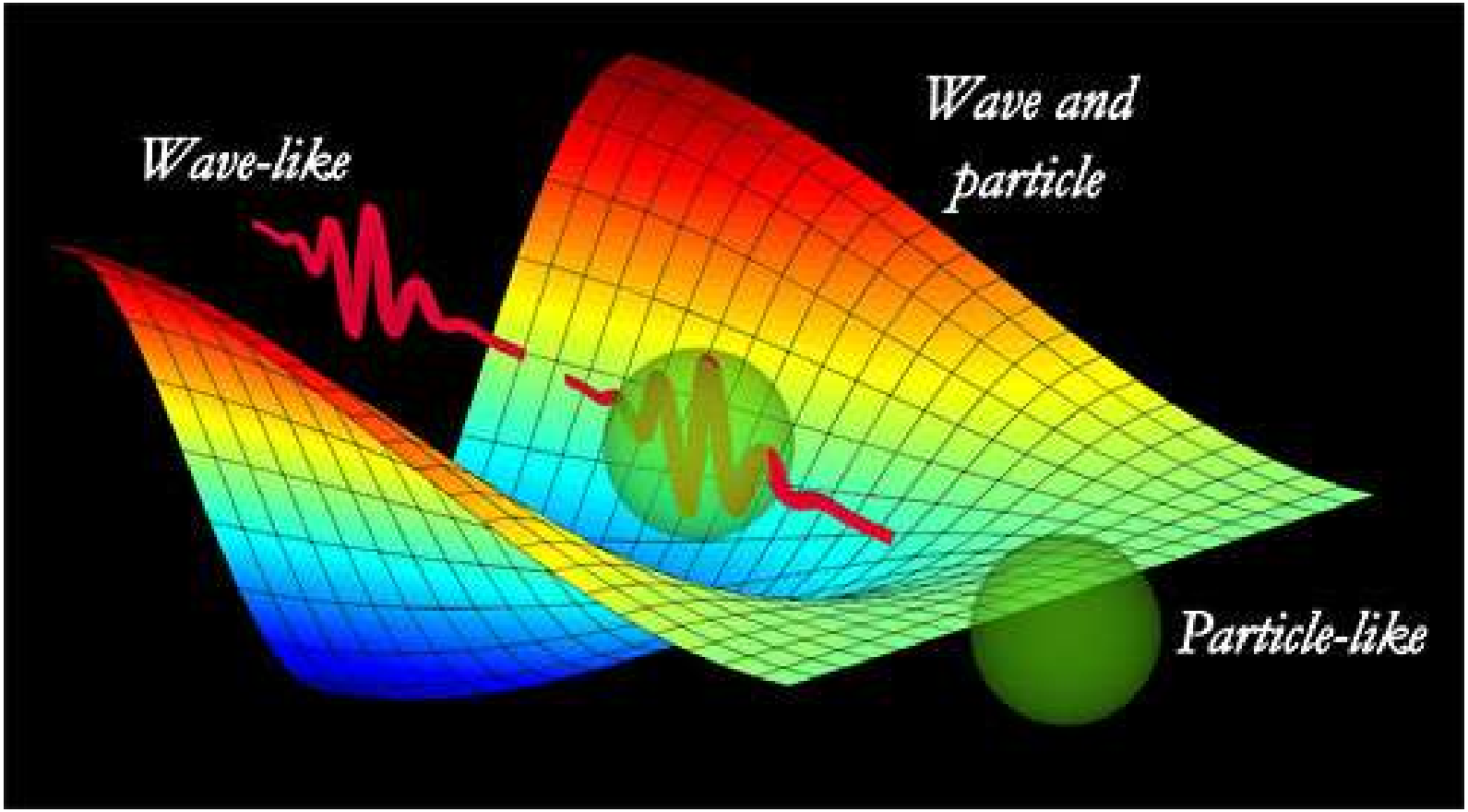
Visible Light

visible spectrum:



Photon

“particle” of light



3 Types of Visible Light

- **Incandescent** – produced from heat

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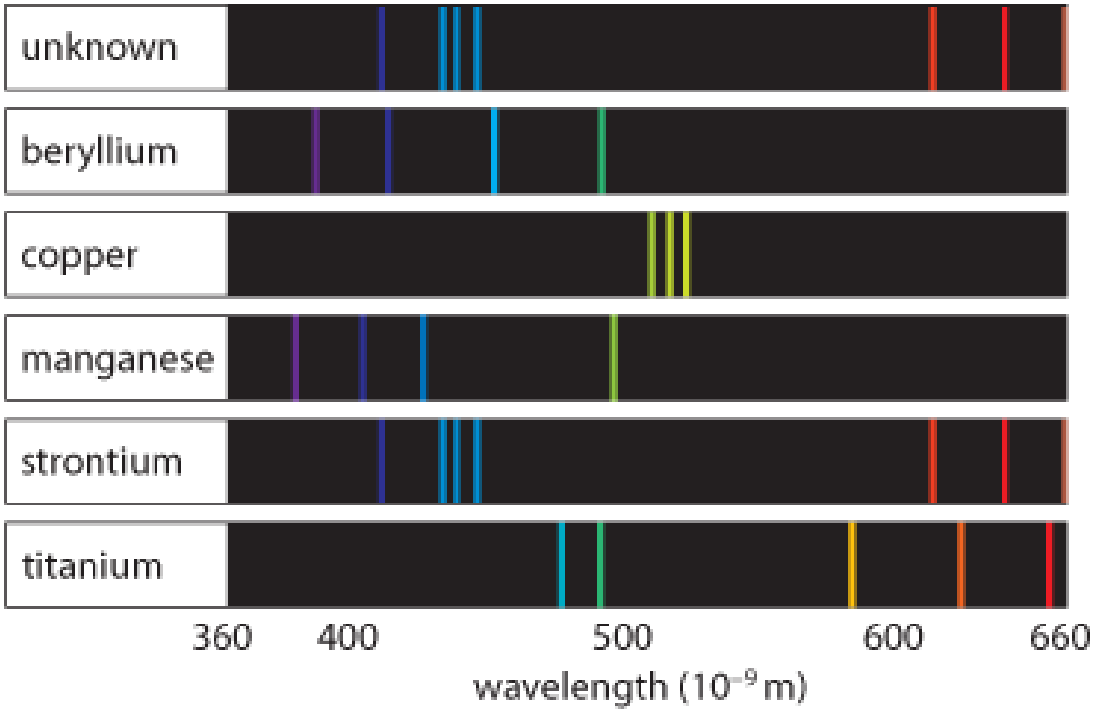
- **Incandescent** – produced from heat
- **Fluorescent** – UV light makes phosphors glow
- **Neon** – energized gas

Spectral Lines

wavelengths of light (fingerprint) emitted by a luminous body



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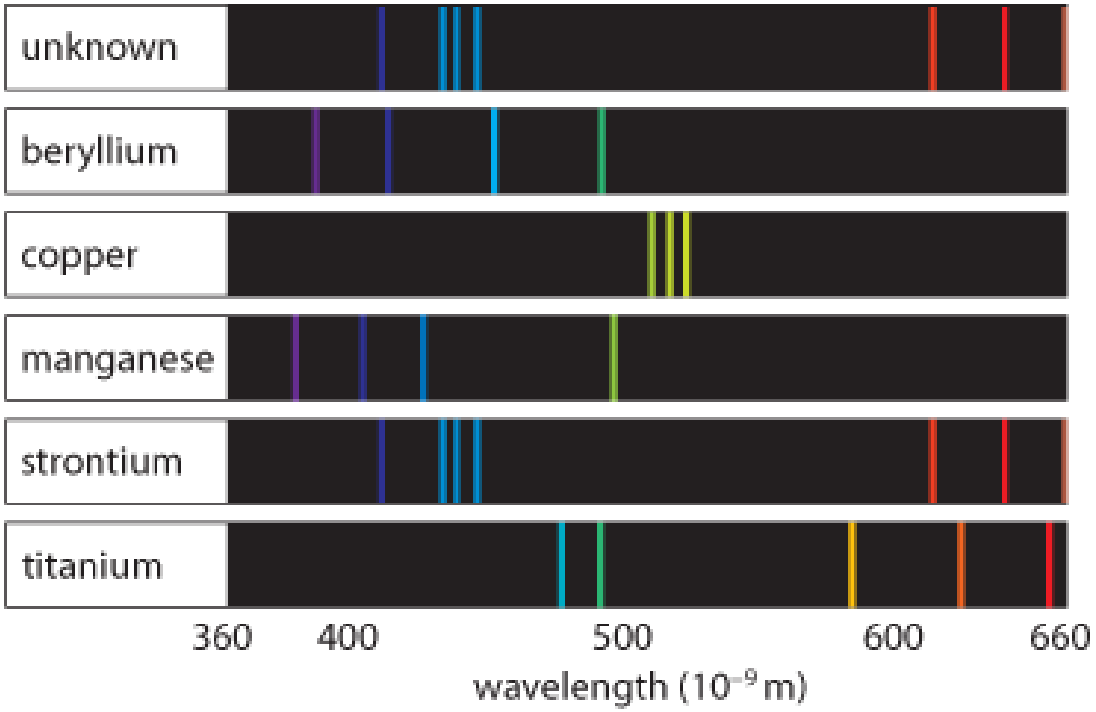
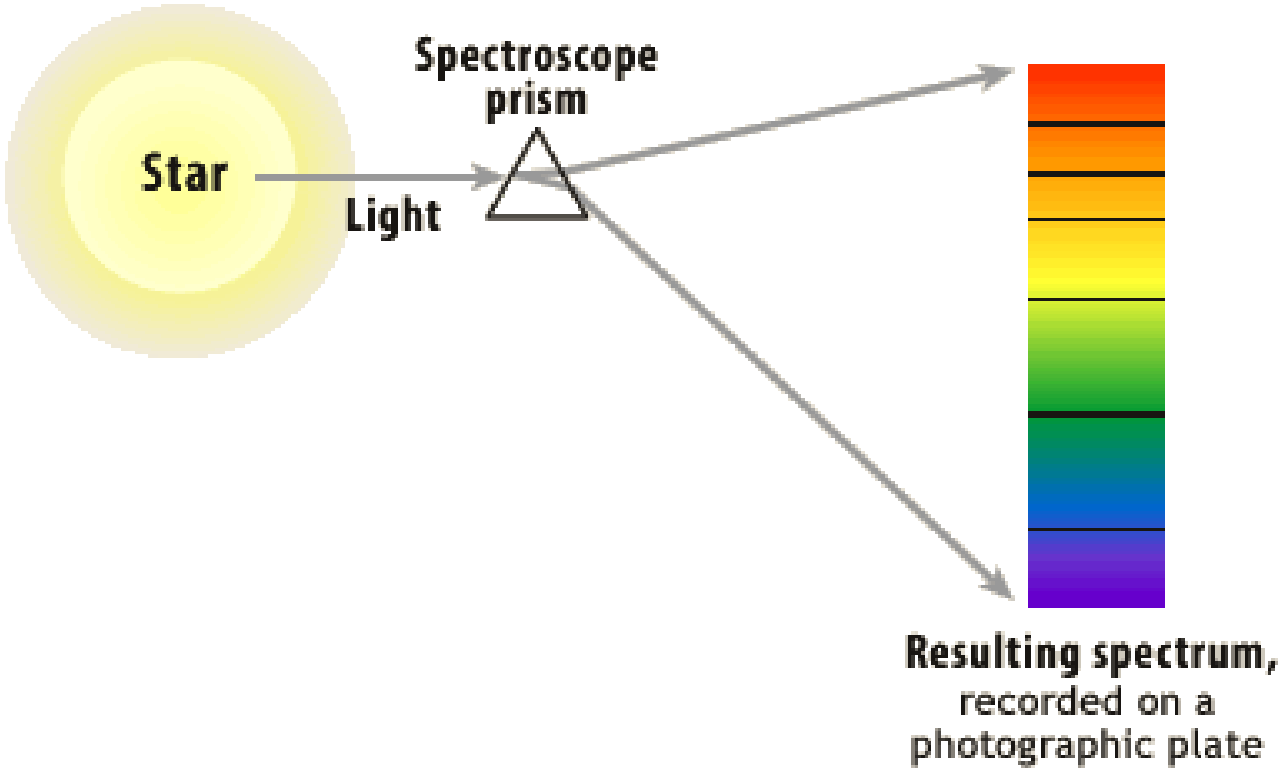


**** Used to identify elements***

Spectroscope

instrument used to observe spectral lines



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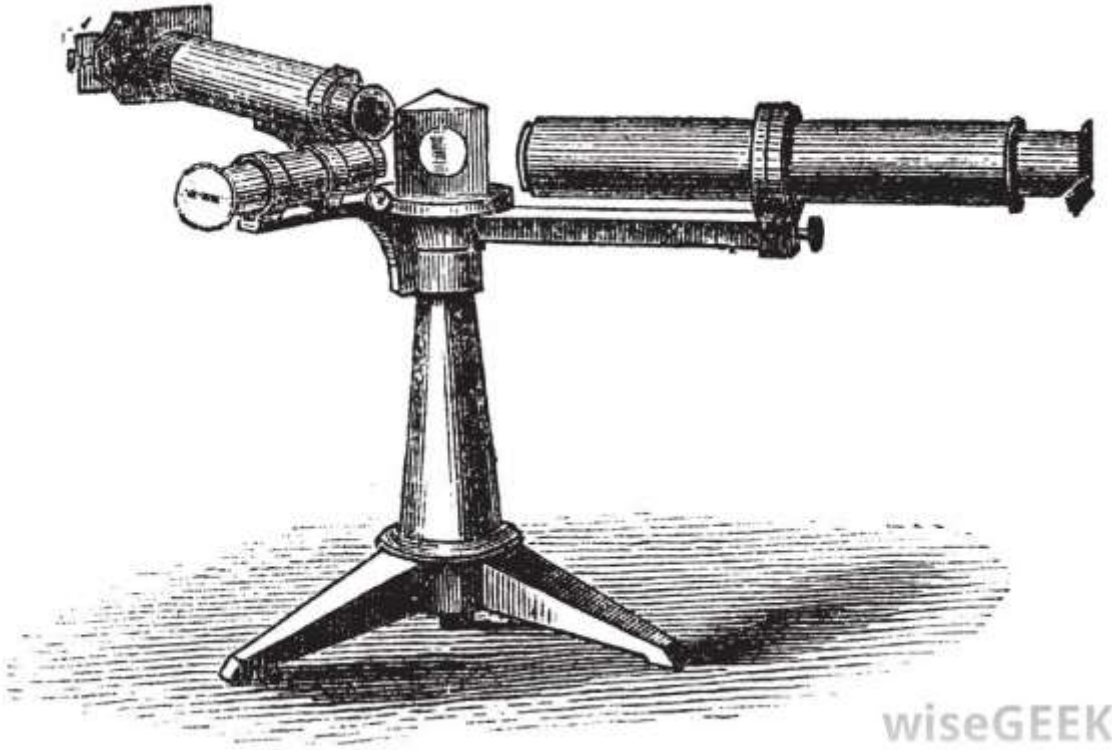

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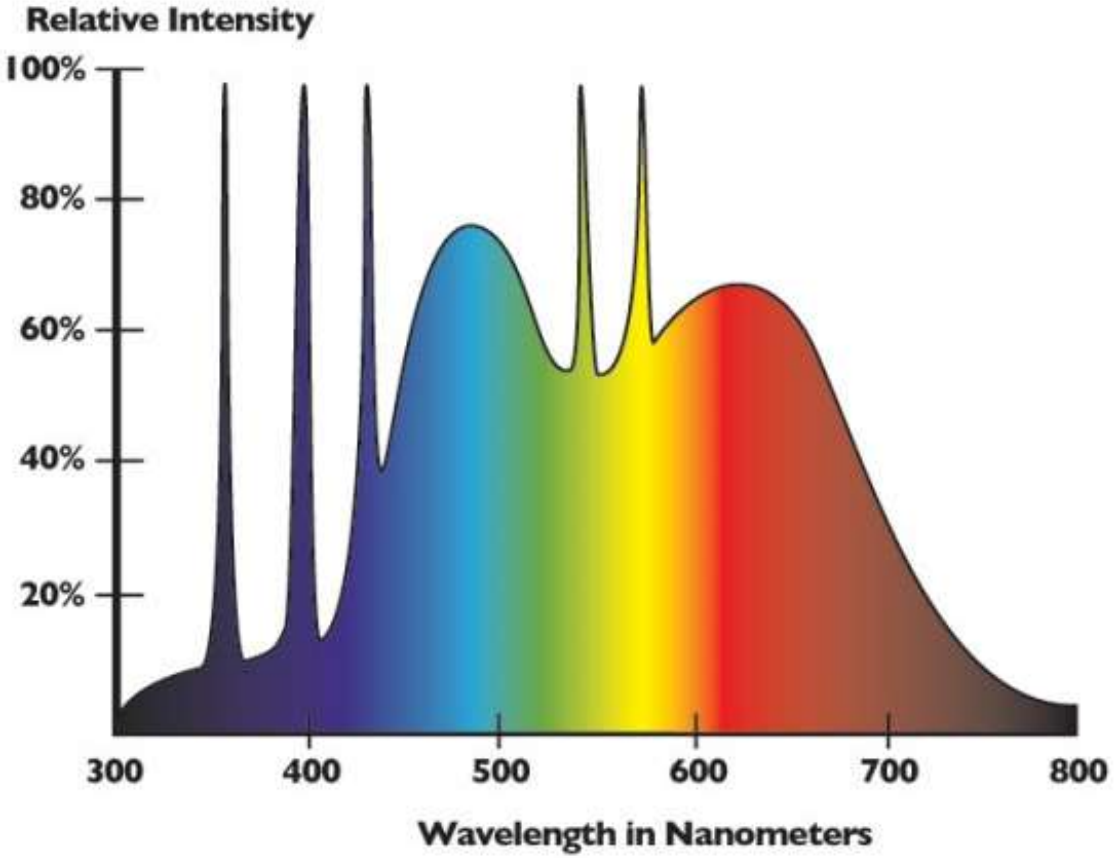
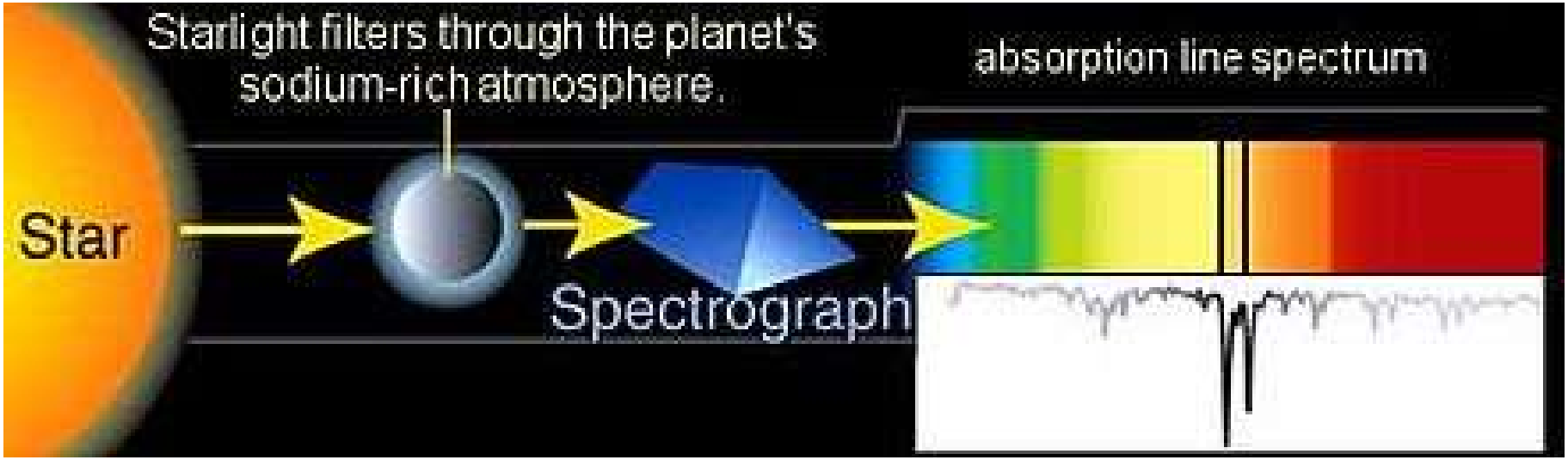
Spectral Analysis



Spectrum of **LifeLite**® Full Spectrum Daylight Lamp
color temperature: 5800 kelvin
color rendering index (CRI) 96

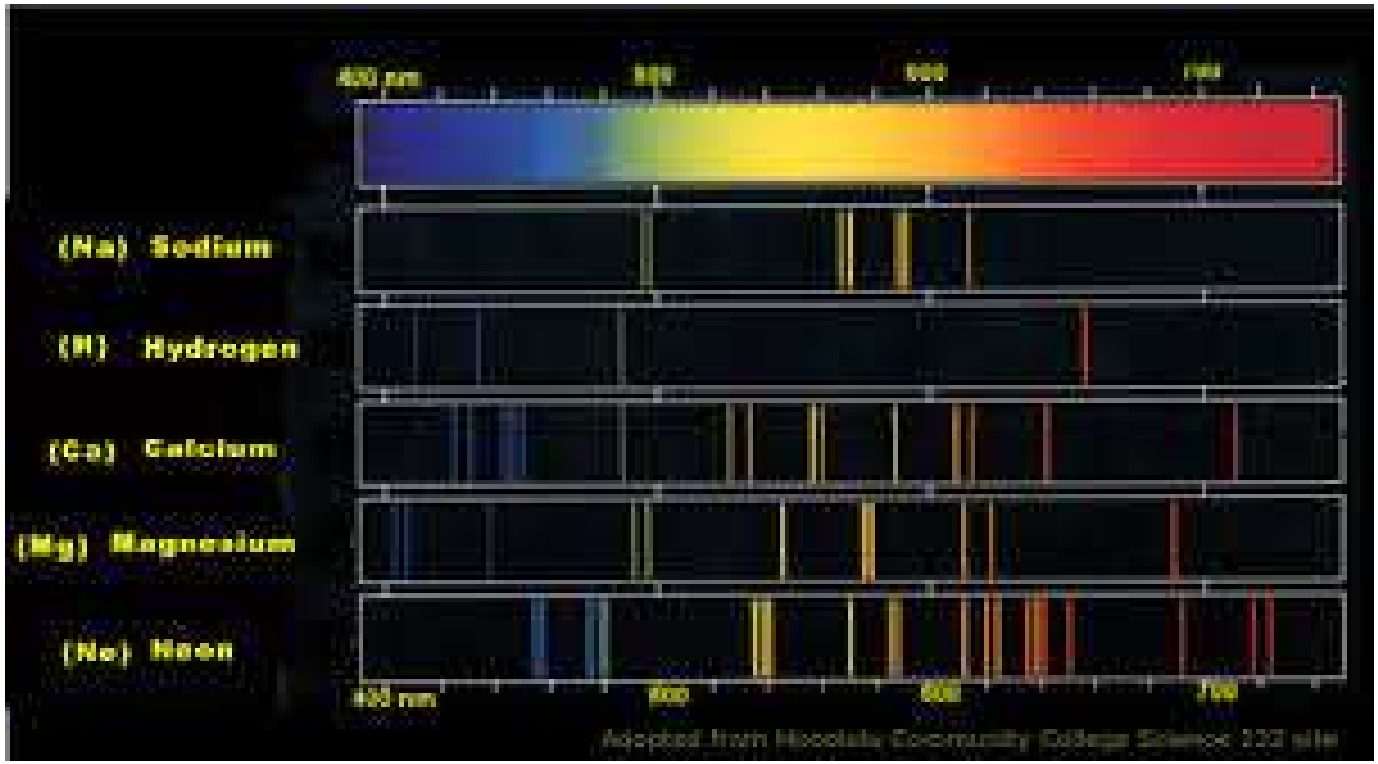
Spectral Analysis

- used to determine the composition of stars (and planets) far, far away



Spectral Analysis

-uses “spectral signature” of elements



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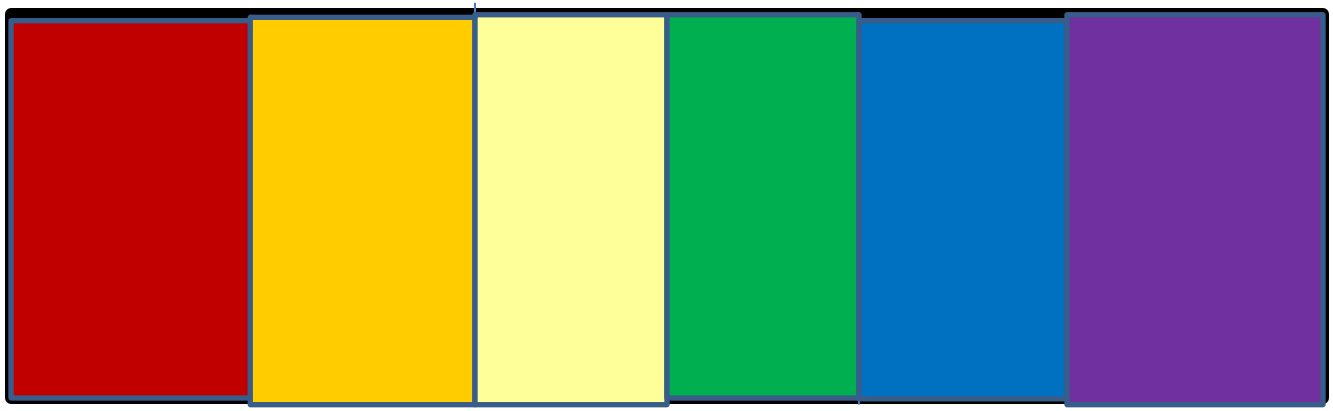

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