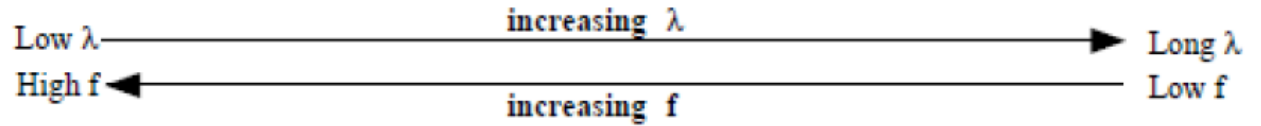
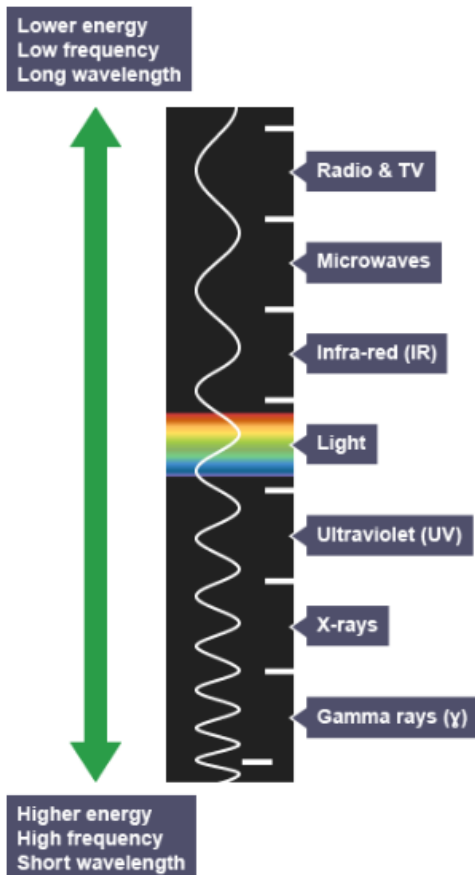


N5 WAVES & RADIATION

1. EM Spectrum

- ✓ All members of the EM Spectrum travel at the same speed $3 \times 10^8 \text{ms}^{-1}$. (300million metres per second)
- ✓ They are all **transverse waves**.

Although only the visible part can be viewed, all parts can be identified by their frequency or wavelength.



Gamma Ray	X-ray	Ultraviolet	Visible	Infrared	Microwave	Radio
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As the **frequency increases**

- ✓ Energy increases
- ✓ Wavelength decreases

This makes gamma rays the most dangerous for living cells and radio waves the safest.

However, the high energy associated with gamma rays can be used in medical applications such as sterilising surgical instruments.

2. ELECTROMAGNETIC SPECTRUM

Revision Questions for Next week

Now complete the EM Spectrum Key Area questions on the past paper bank on google classroom.

2. Industrial and Medical Applications

EM Wave	Detector	Source	Application
Radio	Telescope	Transmitter	Radar
Microwave	Aerial	Transmitter	Mobile phones
Infrared	Photodiode	Lamp	TV remote
Visible light	Eyes	Various	Fibre optics
Ultraviolet	Fluorescent pigments	The Sun	Reduce acne
X-ray	Photographic film	Particle accelerators	Crystallography
Gamma ray	GM Tube	Radioactive nuclei	Tracers