

# Electromagnetic Spectrum

**1.** What is the electromagnetic spectrum?

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**2.** List the types of waves that make up the electromagnetic spectrum in order from longest to shortest wavelength.

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**3.** What is the relationship between frequency and wavelength in the electromagnetic spectrum?

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**4.** Describe the relationship between the energy of electromagnetic waves and their frequency.

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**5.** What is the speed of light in a vacuum, and what is its symbol?

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**6.** How does the speed of light in a vacuum compare to the speed of light in other mediums?

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**7.** Describe the main characteristics of radio waves, including their uses.

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**8.** How are microwaves used in everyday life, and what are their dangers?

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**9.** What are the applications and risks associated with infrared radiation.

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**10.** What is the role of ultraviolet (UV) radiation in the formation of vitamin D in the human body and its potential dangers.

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**11.** Describe the properties and uses of visible light in everyday life.

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**12.** What are the primary uses of X-rays, and what safety precautions should be taken when using them?

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**13.** What are the applications and hazards of gamma rays in medical imaging and radiation therapy.

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**14.** Explain how the atmosphere affects the transmission of different types of electromagnetic waves.

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**15.** What happens to substances that absorb electromagnetic radiation?

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