

Wavelength Quiz PDF

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Which waves are used in medical imaging? (Select all that apply)

- Radio waves
- X-rays
- Gamma rays
- Sound waves

Which part of the electromagnetic spectrum has the shortest wavelength?

- Radio waves
- Microwaves
- Ultraviolet
- Gamma rays

Which type of wave requires a medium to travel through?

- Light waves
- Radio waves
- Sound waves
- Gamma rays

Which of the following waves is part of the electromagnetic spectrum?

- Sound waves
- Ocean waves
- Radio waves
- Seismic waves

What is the speed of light in a vacuum?

- 3×10^6 m/s
- 3×10^8 m/s

- 3×10^{10} m/s
- 3×10^{12} m/s

What is the relationship between wavelength and frequency?

- Directly proportional
- Inversely proportional
- Unrelated
- Equal

What does the amplitude of a wave measure?

- The distance between wave crests
- The height of the wave
- The speed of the wave
- The frequency of the wave

Which of the following are types of electromagnetic waves? (Select all that apply)

- X-rays
- Sound waves
- Microwaves
- Infrared

Which of the following statements are true about light waves? (Select all that apply)

- They require a medium to travel
- They can travel through a vacuum
- They are part of the electromagnetic spectrum
- They have a constant speed in a vacuum

What are characteristics of waves? (Select all that apply)

- Wavelength
- Mass
- Frequency
- Amplitude

What is the unit of measurement for wavelength?

- Hertz
- Meters
- Joules
- Seconds

Which of the following are true about the electromagnetic spectrum? (Select all that apply)

- It includes visible light
- It consists only of waves that can be seen by the human eye
- It ranges from radio waves to gamma rays
- It includes sound waves

Who is known for the wave-particle duality theory?

- Isaac Newton
- Albert Einstein
- Niels Bohr
- James Clerk Maxwell

What factors affect the speed of a wave? (Select all that apply)

- Medium through which it travels
- Wavelength
- Frequency
- Amplitude