

## Light Waves Quiz PDF

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**Which scientist is known for the prism experiments that demonstrated the spectrum of visible light?**

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

**What phenomenon explains the bending of light as it passes from air into water?**

- Reflection
- Refraction
- Diffraction
- Interference

**Which of the following are part of the electromagnetic spectrum? (Select all that apply)**

- Gamma rays
- X-rays
- Sound waves
- Infrared

**What device is used to measure the intensity of light?**

- Spectrometer
- Photometer
- Oscilloscope
- Thermometer

**What are the effects of light diffraction? (Select all that apply)**

- Light spreads around obstacles
- Light bends at interfaces

- Light changes speed
- Light forms interference patterns

**Which applications utilize light waves? (Select all that apply)**

- Fiber optics
- Lasers
- Nuclear reactors
- Spectroscopy

**Which of the following are properties of light waves? (Select all that apply)**

- Wavelength
- Frequency
- Mass
- Amplitude

**What is the range of wavelengths for visible light?**

- 100-400 nm
- 400-700 nm
- 700-1000 nm
- 1000-1300 nm

**What type of wave is a light wave?**

- Longitudinal
- Transverse
- Mechanical
- Surface

**Which color of visible light has the shortest wavelength?**

- Red
- Green
- Blue
- Violet

**Which phenomena can occur when light interacts with matter? (Select all that apply)**

- Absorption
- Reflection
- Transmission
- Evaporation

**Which property of light is related to its brightness?**

- Wavelength
- Frequency
- Amplitude
- Polarization

**What is the approximate speed of light in a vacuum?**

- 150,000 km/s
- 300,000 km/s
- 450,000 km/s
- 600,000 km/s

**Which statements about wave-particle duality are true? (Select all that apply)**

- Light behaves only as a wave
- Light behaves only as a particle
- Light exhibits both wave-like and particle-like properties
- This concept is fundamental in quantum mechanics