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Waves,sound,and light

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| **Across****3.** which a system oscillates when not subjected to a continuous or repeated external force.**6.** series above a fundamental note and may be heard with it.**7.** common unit of frequency is the hertz (Hz), corresponding to one crest per second.**13.** he process in which two or more light, sound, or electromagnetic waves of the same frequency combine to reinforce or cancel each other**14.** an electromagnetic wave of a frequency between about 104 and 1011 or 1012 Hz, as used for long-distance communication**15.** typically accompanied by interference between the wave forms produced.**21.** stream of such photons used for their penetrating power in radiography, radiology, radiotherapy, and scientific research.**22.** he range of wavelengths or frequencies over which electromagnetic radiation extends.**24.** the maximum extent of a vibration or oscillation, measured from the position of equilibrium.**27.** is the characteristic of a sound that is primarily a psycho-physiological correlate of physical strength (amplitude).**28.** a sound is determined by the rate of vibration, or frequency, of the sound wave.**29.** a typical example: "the science or art of ordering tones or sounds in succession, in combination, and in temporal relationships**30.**  involve the transport of energy without the transport of matte**31.**  light rays which are longer than light but shorter than radio waves. Electromagnetic radiation with a wavelength between **32.** The change in direction of a wave, such as a light or sound wave, away from a boundary the wave encounters.**33.** penetrating electromagnetic radiation of a kind arising from the radioactive decay of atomic nuclei. **34.**  is a region in a longitudinal wave where the particles are closest together. **35.** one of the waves that are propagated by simultaneous periodic variations of electric and magnetic field intensity **36.** system of satellites, computers, and receivers that is able to determine the latitude and longitude of a receiver on Earth by calculating the time difference for signals from different satellites to reach the receiver. | **Down****1.** hat are propagated by simultaneous periodic variations of electric and magnetic field intensity **2.** ncrease in amplitude of oscillation of an electric**4.** prolongaprolongation of a sound; resonance.**5.** ncrease in amplitude of oscillation of an electric**8.** the range of wavelengths **9.** distance between one peak or crest of a wave and the next peak or crest. **10.** a form of electromagnetic (EM) radiation, as are radio waves, infrared radiation, ultraviolet radiation, X-rays and microwaves.**11.** in the part of the electromagnetic spectrum where wavelengths are just shorter than those of ordinary, visible violet light but longer than those of x-rays.**12.** s a wave that is an oscillation of matter, and therefore transfers energy through a medium.**16.** energy that travels by waves or particles, particularly electromagnetic radiation such as heat or x-rays.**17.** an increase (or decrease) in the frequency of sound, light, or other waves as the source and observer move toward (or away from) each other**18.** that is a part of the harmonic series above a fundamental note and may be heard with it.**19.** oscillates perpendicular to the axis along which the wave travels**20.** a sound or series of sounds caused by the reflection of sound waves from a surface back to the listener.**23.** vibrates in response to sound waves; the tympanic membrane.**25.** a high-frequency electromagnetic wave modulated in amplitude or frequency to convey a signal.**26.** is a lens that possesses at least one surface that curves inwards |